

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-K**

- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2021
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from _____ to _____

Commission file number 001-00812

RAYTHEON TECHNOLOGIES CORPORATION

(Exact name of registrant as specified in its charter)

Delaware
(State or Other Jurisdiction of Incorporation or Organization)

06-0570975
(I.R.S. Employer Identification No.)

870 Winter Street, Waltham, Massachusetts 02451
(Address of principal executive offices) (Zip Code)

(781) 522-3000

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common Stock (\$1 par value) (CUSIP 75513E 101)	RTX	New York Stock Exchange
2.150% Notes due 2030 (CUSIP 75513E AB7)	RTX 30	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer	<input checked="" type="checkbox"/>	Accelerated Filer	<input type="checkbox"/>
Non-Accelerated Filer	<input type="checkbox"/>	Smaller Reporting Company	<input type="checkbox"/>
		Emerging Growth Company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the voting Common Stock held by non-affiliates at June 30, 2021 was approximately \$128,558,489,983, based on the New York Stock Exchange closing price for such shares on that date. For purposes of this calculation, the Registrant has assumed that its directors and executive officers are affiliates.

At January 31, 2022, there were 1,492,330,987 shares of Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Definitive Proxy Statement for its 2022 Annual Meeting of Shareowners are incorporated by reference in Part II and III of this Form 10-K.

INDEX

PART I		
Item 1.	Business	4
Item 1A.	Risk Factors	13
Item 1B.	Unresolved Staff Comments	27
Item 2.	Properties	27
Item 3.	Legal Proceedings	28
Item 4.	Mine Safety Disclosures	28
PART II		
Item 5.	Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	29
Item 6.	Reserved	30
Item 7.	Management’s Discussion and Analysis of Financial Condition and Results of Operations	31
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	59
Item 8.	Financial Statements and Supplementary Data	61
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	121
Item 9A.	Controls and Procedures	121
Item 9B.	Other Information	121
Item 9C.	Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	121
PART III		
Item 10.	Directors, Executive Officers and Corporate Governance	122
Item 11.	Executive Compensation	123
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	123
Item 13.	Certain Relationships and Related Transactions, and Director Independence	124
Item 14.	Principal Accountant Fees and Services	124
PART IV		
Item 15.	Exhibits, Financial Statement Schedules	125
Item 16.	Form 10-K Summary	131

[SIGNATURES](#)

Raytheon Technologies Corporation and its subsidiaries’ names, abbreviations thereof, logos, and products and services designators are all either the registered or unregistered trademarks or tradenames of Raytheon Technologies Corporation and its subsidiaries. Names, abbreviations of names, logos, and products and services designators of other companies are either the registered or unregistered trademarks or tradenames of their respective owners. References to internet web sites in this Form 10-K are provided for convenience only. Information available through these web sites is not incorporated by reference into this Form 10-K.

PART I

ITEM 1. BUSINESS

General

Raytheon Technologies Corporation is an aerospace and defense company that provides advanced systems and services for commercial, military and government customers worldwide. The terms “we,” “us,” “our,” “Raytheon Technologies,” “RTC” and the “Company” mean Raytheon Technologies Corporation, unless the context indicates another meaning. We serve commercial and government customers in both the original equipment and aftermarket parts and services segments of the aerospace industry. Our defense business serves both domestic and international customers as a prime contractor or subcontractor on a broad portfolio of defense and related programs for military and government customers. Raytheon Technologies, formerly known as United Technologies Corporation (UTC), was incorporated in Delaware in 1934 and represents the combination of UTC’s aerospace businesses and Raytheon Company through the Separation Transactions and Distributions and Raytheon Merger completed in April 2020, as described in more detail below.

The following description of our business should be read in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” within Item 7 of this Form 10-K, including the information contained therein under the heading “Business Overview.”

Separation Transactions and Distributions; Raytheon Merger. On April 3, 2020, UTC completed the separation of its business into three independent, publicly traded companies – UTC, Carrier Global Corporation (Carrier) and Otis Worldwide Corporation (Otis) (such separations, the “Separation Transactions”). UTC distributed all of the outstanding shares of Carrier common stock and all of the outstanding shares of Otis common stock to UTC shareowners who held shares of UTC common stock as of the close of business on March 19, 2020, the record date for the distributions (the “Distributions”) effective at 12:01 a.m., Eastern Time, on April 3, 2020. The historical results of Carrier and Otis are presented as discontinued operations and, as such, have been excluded from both continuing operations and segment results for all periods presented. Immediately following the completion of the Separation Transactions and the Distributions, on April 3, 2020, UTC and Raytheon Company completed their all-stock merger of equals transaction (the “Raytheon Merger”), pursuant to which Raytheon Company became a wholly-owned subsidiary of UTC and UTC was renamed “Raytheon Technologies Corporation.”

Business Segments

Our operations are classified into four principal business segments: Collins Aerospace Systems, Pratt & Whitney, Raytheon Intelligence & Space and Raytheon Missiles & Defense, with each segment comprised of groups of similar operations.

Collins Aerospace Systems. Collins Aerospace Systems (Collins Aerospace) is a leading global provider of technologically advanced aerospace and defense products and aftermarket service solutions for aircraft manufacturers, airlines, and regional, business and general aviation, as well as for defense and commercial space operations. Collins Aerospace’s product lines include integrated avionics systems, aviation systems, communications systems, navigation systems, electric power generation, management and distribution systems, environmental control systems, flight control systems, air data and aircraft sensing systems, engine control systems, engine components, engine nacelle systems, including thrust reversers and mounting pylons, interior and exterior aircraft lighting, aircraft seating and cargo systems, evacuation systems, landing systems, including landing gear, wheels and braking systems, hoists and winches, fire and ice detection and protection systems, actuation systems, and propeller systems. Collins Aerospace also designs, manufactures, and supports cabin interior, oxygen systems, food and beverage preparation, storage and galley systems, lavatory and wastewater management systems. Collins Aerospace solutions support human space exploration with environmental control and power systems and extravehicular activity suits and support government and defense customer missions by providing airborne intelligence, surveillance and reconnaissance systems, test and training range systems, crew escape systems, and simulation and training solutions. Collins Aerospace also provides connected aviation solutions and services through worldwide voice and data communication networks and solutions. Aftermarket services include spare parts, overhaul and repair, engineering and technical support, training and fleet management solutions, asset management services and information management services.

Collins Aerospace sells aerospace and defense products and services to aircraft manufacturers, airlines and other aircraft operators, the U.S. and foreign governments, defense contractors, maintenance, repair and overhaul providers, and independent distributors around the world. Collins Aerospace’s largest commercial customers are Boeing and Airbus with combined sales, prior to discounts and incentives, of 18%, 21% and 27% of total Collins Aerospace segment sales in 2021, 2020 and 2019, respectively.

In 2021, Collins Aerospace was awarded significant contracts for Airbus A320 Enhanced Vision Systems, Bombardier fleetwide connectivity solutions, and aircraft data access hardware for an undisclosed airline. In the defense area, Collins Aerospace was awarded significant contracts for wheel and carbon brake systems for the B-52 modernization program, NP2000

propeller systems for 26 C-130H aircraft for the U.S. Air National Guard and Air Force Reserve, and AN/PCR-162 ground radios for the Handheld, Manpack and Small Form Fit (HMS) program. Collins Aerospace continued its significant product development activities, including for major systems on the A321XLR, the Boeing 777X, the Irkut MC-21, the Dassault 6X Falcon, and the Xian MA700, as well as systems in support of the Boeing T-7A trainer and the Boeing VC-25B. Collins Aerospace also received numerous contract awards for buyer-furnished equipment installation for interiors, avionics, and wheels and brakes, and strategically important contract awards for its FlightSense® full life-cycle support services. In November 2021, Collins Aerospace completed its previously announced acquisition of FlightAware, a digital aviation company that operates flight tracking and data platforms. In 2021, Collins Aerospace's F-16 Performance Base Logistics (PBL) program won the Secretary of Defense PBL-of-the-year award.

Pratt & Whitney. Pratt & Whitney is among the world's leading suppliers of aircraft engines for commercial, military, business jet and general aviation customers. Pratt & Whitney's Commercial Engines and Military Engines businesses design, develop, produce and maintain families of large engines for wide- and narrow-body and large regional aircraft for commercial customers and for fighter, bomber, tanker and transport aircraft for military customers. Pratt & Whitney's small engine business, Pratt & Whitney Canada (P&WC), is among the world's leading suppliers of engines powering regional airlines, general and business aviation, as well as helicopters. Pratt & Whitney also produces, sells and services military and commercial auxiliary power units. Pratt & Whitney provides fleet management services and aftermarket maintenance, repair and overhaul services in all of these segments.

Pratt & Whitney sells products and services principally to aircraft manufacturers, airlines and other aircraft operators, aircraft leasing companies and the U.S. and foreign governments. Pratt & Whitney's largest commercial customer by sales is Airbus, with sales, prior to discounts and incentives, of 31%, 30% and 31% of total Pratt & Whitney segment sales in 2021, 2020 and 2019, respectively.

Pratt & Whitney produces the PW1000G Geared Turbofan (GTF) engine family, the first of which, the PW1100G-JM, entered into service in January 2016. The PW1000G GTF engine has demonstrated a significant reduction in fuel burn and noise levels and lower environmental emissions when compared to legacy engines. The PW1100G-JM engine is offered on the Airbus A320neo family of aircraft. PW1000G GTF engine models also power the Airbus A220 passenger aircraft and Embraer's E-Jet E2 family of aircraft and have been certified by the Russian civil aviation authority to power the Irkut MC-21 passenger aircraft. In addition, P&WC's PW800 engine has been selected to exclusively power Gulfstream's G400, G500 and G600 business jets, as well as to power Dassault's Falcon 6X business jet, which is scheduled to enter into service in 2022.

Pratt & Whitney is under contract to produce and sustain the F135 engine for the U.S. government's F-35 Joint Program Office to power the single-engine F-35 Lightning II aircraft (commonly known as the Joint Strike Fighter) produced by Lockheed Martin. F135 propulsion system configurations are used for the U.S. Air Force's F-35A, the U.S. Marine Corps' F-35B and the U.S. Navy's F-35C jets. F135 engines are also used on F-35 aircraft purchased by Joint Strike Fighter partner countries and other countries through foreign military sales arrangements. Pratt & Whitney is also under contract to build engines for the U.S. Air Force's B-21 long-range strike bomber and to develop next-generation adaptive engines for the U.S. Air Force.

The development of new engines and improvements to current production engines present important growth opportunities for Pratt & Whitney. In view of the risks and costs associated with developing new engines, Pratt & Whitney has entered into collaboration arrangements in which revenues, costs and risks are shared with third parties. At December 31, 2021, the interests of third-party collaboration participants in Pratt & Whitney-directed jet engine programs ranged, in the aggregate per program, from 13% to 49%. See "Note 1: Basis of Presentation and Summary of Accounting Principles" within Item 8 of this Form 10-K for a description of our accounting for collaboration arrangements. Pratt & Whitney also continues to enhance its programs through performance improvement measures and product base expansion, utilizing similar collaboration arrangements.

In 2021, Pratt & Whitney reached significant milestones on the GTF engine program, including the first flight of the GTF Advantage engine for the A320neo family. The GTF Advantage configuration further extends the economic and environmental benefits of the existing GTF engine, as it reduces fuel consumption by an additional 1 percent, extending the engine's lead as the most efficient powerplant for the A320neo family. The GTF family now powers more than 1,100 aircraft across 58 airlines and three aircraft platforms: Airbus A320neo family, Airbus A220 and Embraer E-Jets E2. Also in 2021, Pratt & Whitney's V2500 program achieved 250 million flight hours. Pratt & Whitney was announced as the engine provider on the Dassault Falcon 6X and Gulfstream G400, representing two new platforms for its PW800 engine. In addition, Pratt & Whitney received a significant number of contract awards for the F135 program, which powers all three variants of the F-35 Lightning II fighter aircraft and achieved several F135 production milestones, including the delivery of the 800th production engine and continuing to add more F135 engine maintenance, repair, overhaul and upgrade (MRO&U) global capacity by activating MRO&U facilities, or depots, in the Netherlands and Australia. Significant activity continued on development programs, including testing the first XA101 engine as part of the Adaptive Engine Transition Program.

Raytheon Intelligence & Space. Raytheon Intelligence & Space (RIS) is a global leading developer and provider of integrated space, communication and sensor systems for advanced missions in all domains, and cyber and software solutions to intelligence, defense, federal and commercial customers. These systems and solutions include end-to-end space solutions, data processing systems, multi-domain intelligence solutions, electronic warfare solutions, including high-energy laser weapons systems, secure sensor solutions, command and control systems, modernization services, and advanced cyber analytics, systems defense and services.

RIS serves as a prime contractor or major subcontractor on contracts with the U.S. Intelligence Community, U.S. Department of Defense (DoD), Department of Homeland Security, the Federal Aviation Administration (FAA), National Aeronautics and Space Administration, and other international and classified customers.

In 2021, RIS continued to invest in advancing its products and services, as well as developing next generation capabilities to meet evolving customer missions. RIS achieved significant advancements in key capabilities across its portfolio, including laser technologies; intelligence surveillance and reconnaissance electro-optical/infrared (EO/IR) radar frequency products; tactical airborne radars for current and future manned and unmanned aircraft; classified space mission systems; offensive and defensive cyber solutions; and the Next Generation Jammer system. RIS continued to grow its classified business, receiving a number of significant contracts. In November 2021, RIS completed its previously announced acquisition of SEAKR Engineering, a supplier of advanced space electronics. Also in December 2021, RIS completed its previously announced divestiture of its global training and services business.

Raytheon Missiles & Defense. Raytheon Missiles & Defense (RMD) is a leading designer, developer, integrator producer and sustainer of integrated air and missile defense systems; defensive and combat solutions; large land- and sea-based radars; ballistic and hypersonic missile defense systems; and naval and undersea sensor solutions for the U.S. and foreign government customers. RMD's integrated air and missile defense systems include the proven Patriot air and missile defense system and its Lower Tier Air and Missile Defense Sensor (LTAMDS), the first in a family of radars known as GhostEye™, as well as next-generation radar systems to defeat advanced threats. Its defensive solutions include counter-unmanned aircraft systems and ship defense systems. Its combat solutions include precision munitions, missiles, hypersonics, high power microwave and other weapons. RMD's naval and undersea solutions include combat and ship electronic and sensing systems, as well as undersea sensing and effects solutions. Ballistic and hypersonic missile defense systems include portable radar systems and a portfolio of effectors. Its sustainment solutions include maintenance, depot support, training and predictive analytics services.

RMD serves as a prime contractor or major subcontractor on numerous programs with the U.S. DoD, including the U.S. Navy, U.S. Army, Missile Defense Agency, and U.S. Air Force, and international governments.

In 2021, RMD achieved key advancements in, or received contract awards for, the following programs, which drove its financial performance and positioned it for future growth: GhostEye, the Lower Tier Air and Missile Defense Sensor (LTAMDS); the Advanced Medium Range Air-to-Air Missile (AMRAAM); the Standard Missile Family (Standard Missile 2 (SM-2), Standard Missile 3 (SM-3) and Standard Missile 6 (SM-6)); Patriot Engineering Services; the Qatar National Advanced Surface-to-Air Missile System (NASAMS); the Air and Missile Defense Radar (AMDR)/SPY-6; Poland Patriot; the Kingdom of Saudi Arabia Transportable Radar Surveillance and Control Model 2 (KSA TPY-2); the Air Intercept Missile (AIM-9X); and Phalanx SeaRAM. Major new awards in 2021 include a contract to develop the Missile Defense Agency's (MDA) Next Generation Inceptor (NGI) as a strategic partner of Northrop Grumman. In addition, RMD was selected by the U.S. Air Force for the Long Range Stand Off (LRSO) Weapon System Engineering and Manufacturing Development contract. Also, in partnership with Northrop Grumman, RMD successfully completed the first flight test for the scramjet-powered Hypersonic Air-breathing Weapon Concept (HAWC) program. The HAWC program is a joint Defense Advanced Research Projects Agency (DARPA) and U.S. Air Force effort that seeks to develop and demonstrate critical technologies to enable an effective and affordable air-launched hypersonic cruise missile.

Other Matters Relating to Our Business

As worldwide businesses, our operations can be affected by a variety of economic, industry and other factors, including those described in this section, in Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations," in Item 1, "Cautionary Note Concerning Factors That May Affect Future Results," and in Item 1A, "Risk Factors" in this Form 10-K.

Coronavirus Disease 2019 (COVID-19) Pandemic. The COVID-19 pandemic continues to negatively affect the global economy, our business and operations, and the industries in which we operate. Government, business and individual actions in response to COVID-19 have resulted in continued disruption to air travel and commercial activities and significant restrictions and limitations on businesses, particularly within the aerospace and commercial airline industries. While commercial air travel in certain areas appears to be recovering, it continues to lag in other areas and remains below pre-pandemic levels. Overall, the ongoing disruption from the pandemic continues to adversely affect our airline and airframer customers and their demand for

the products and services of our Collins Aerospace and Pratt & Whitney businesses. In addition, the COVID-19 pandemic and continuing economic recovery continues to negatively impact the global supply chain and distribution capabilities and we have experienced negative impacts from supply chain pressures. The pandemic continues to cause product and labor shortages, delivery delays, and increased costs of raw materials, labor and supplier products and services around the world. We are working with our suppliers and subcontractors to mitigate delays in our receipt of necessary raw materials, components and other supplies and to reduce supply chain costs.

Our RIS and RMD businesses, although experiencing some negative impacts, including from the supply chain pressures and labor shortages discussed above, have not experienced significant business disruptions as a result of the COVID-19 pandemic.

For additional information related to the COVID-19 pandemic, see Item 1A. “Risk Factors” in this Form 10-K.

Sales and Customers

We have substantial U.S. government sales, which we conduct through all four of our business segments. RIS and RMD together represent a significant portion of those sales. In addition, as a global company, all four of our business segments have substantial international sales.

U.S. Government Sales. Our U.S. government sales were as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Sales to the U.S. government ⁽¹⁾	\$ 31,177	\$ 25,962	\$ 9,094
Sales to the U.S. government as a percentage of Total Net Sales ⁽¹⁾	48 %	46 %	20 %

(1) Excludes foreign military sales through the U.S. government. See “Note 22: Segment Financial Data” within Item 8 of this Form 10-K for additional information.

International Sales. Our sales to international customers, based on customer end use location, were as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Total international sales ⁽¹⁾	\$ 24,377	\$ 22,027	\$ 23,952
Total international sales as a percentage of Total Net Sales ⁽¹⁾	38 %	39 %	53 %

(1) Includes foreign military sales through the U.S. government. See “Note 22: Segment Financial Data” within Item 8 of this Form 10-K for additional information.

Backlog. Backlog, which is equivalent to our remaining performance obligations (RPO) for our sales contracts, represents the aggregate dollar value of firm orders for which products have not been provided or service has not been performed and excludes unexercised contract options and potential orders under ordering-type contracts (e.g., indefinite-delivery, indefinite-quantity (IDIQ) type contracts).

Total backlog was \$156 billion and \$150 billion as of December 31, 2021 and 2020, respectively. Approximately 70% of our consolidated backlog as of December 31, 2021 is not expected to be realized as sales in the next twelve months.

Defense backlog primarily relates to backlog with government customers and is included within our total backlog. At December 31, 2021 and 2020, our defense backlog was approximately 41% and 45%, respectively, of total backlog.

Competition

All of our businesses are subject to significant competition. Our businesses compete on a variety of factors such as price, delivery schedule, past performance, reliability, customer service, product development, innovation and technology. Many of our competitors have substantial financial resources and significant technological capabilities. Further, some non-U.S. competitors receive government research and development assistance, marketing subsidies and other assistance for their products beyond the assistance that may be available to us as a U.S. company. In addition, the competitive landscape in the industry segments we serve continues to evolve with trends such as increased vertical integration by competitors and customers and the emergence of more commercial competitors on defense development programs.

Our aerospace businesses compete with numerous domestic and foreign manufacturers, customers and companies that obtain regulatory agency approval to manufacture spare parts. Customer selections of aircraft engines, components and systems can also have a significant impact on future sales of parts and services. In addition, the U.S. government’s and other governments’ policies of purchasing parts from suppliers other than the original equipment manufacturer affect military spare parts sales. Some competitors may offer substantial discounts and other financial incentives, performance and operating cost guarantees, and participation in financing arrangements in an effort to compete for the aftermarket associated with these products.

Our defense businesses compete with numerous U.S. and foreign companies in most defense and government electronics, space, information technology and technical services and support segments. We frequently partner on defense programs with our major suppliers, some of whom are, from time to time, competitors on other programs.

People

As a global technology and innovation-driven company, we depend on a highly skilled workforce. Attracting, developing, advancing and retaining the best talent is critical for us to execute our strategy and grow our business. We strive to advance a diverse, equitable and inclusive work environment. Individuals with technical, engineering, and science backgrounds, experience, or interests are particularly important for us to succeed in the industries in which we compete. In 2021, we renamed the compensation committee of the RTC Board of Directors the Human Capital & Compensation Committee and designated the committee to provide oversight of human capital management.

Workforce Demographics. As of December 31, 2021, our global employee population consisted of a total of approximately 174,000 employees, including approximately 58,000 engineers and approximately 30,000 employees represented by labor unions and other employee representative bodies. Our employees are located in 54 countries, with 72% of our employees located in the U.S.

Diversity, Equity and Inclusion (DE&I). We believe a work environment where all individuals are respected, valued and supported enables them to focus on developing the most innovative solutions to our industry's greatest challenges. We have established a DE&I advisory board of senior leaders. We review diversity in talent development and promotion, employee compensation practices and succession planning, and embed DE&I training into our leadership development programs. We have nine diverse employee resource groups. We also invest in a more diverse workforce by supporting science, technology, engineering and mathematics initiatives for women and students of color, and providing opportunities and support to military veterans. As of December 31, 2021, women represented 25% of our global workforce and 30% of our global executives, and people of color represented 31% of our U.S. employee population and 17% of our U.S. executives. In addition, based on those employees who self-identified, veterans represented 12% of our U.S. employee population.

Talent Acquisition, Development and Retention; Employee Health and Safety. We continuously monitor the hiring, retention and management of our employees by business and function with a focus to attract, develop, engage, advance and retain the best talent in the industry. We invest in our workforce through internal and external education, training and development programs and tuition assistance benefits. We also provide market competitive compensation and benefits. We recognize and reward performance during our annual review process. We regularly conduct succession planning to ensure that we continue to cultivate the leadership pipeline of talent needed to execute our business strategy. We solicit employee feedback on RTC's performance as an employer via confidential surveys in the pre-hire, active and exit stages of employment, and use those results to improve our workplace and employee experience. These surveys cover various topics related to employee engagement and satisfaction.

We have industry-leading health and safety programs to help maintain a safe work environment for all employees and mitigate workplace incidents, risks and hazards. We review and monitor our performance and encourage employee input to identify opportunities to reduce incidents. Moreover, we have industry-leading ethics and compliance programs to help mitigate associated employee risks. We also provide health and wellness benefits for our employees. We continue to employ safety measures in our facilities in light of the ongoing COVID-19 pandemic, require all employees to be fully vaccinated against COVID-19 subject to applicable laws, and continue to enable remote working for those employees who are able. In addition, we are implementing new workplace initiatives to provide our employees with more flexibility, such as different work environment assignments (onsite, remote or hybrid), as appropriate, which will continue after the COVID-19 restrictions ease.

Additional information regarding our human capital strategy is available in our Diversity, Equity and Inclusion Report that can be found on our company website. Information on our website, including our Diversity, Equity and Inclusion Report, is not incorporated by reference into this Form 10-K.

For information on the risks related to our human capital resources, see Item 1A, "Risk Factors" in this Form 10-K.

Research and Development and Operations

Our innovative products and services incorporate advanced technologies. As a result, we invest substantial amounts in research and development (R&D) activities using our own funds and under contractual arrangements with our customers, to enhance existing products and services and develop future technologies to meet our customers' changing needs and requirements, as well as to address new business opportunities.

We manufacture and service our products in over 235 manufacturing, production or overhaul facilities in approximately 30 countries, including the U.S. In addition, RTC has offices in another 9 countries.

Intellectual Property

We maintain a portfolio of patents, trademarks, copyrights, trade secrets, licenses and franchises related to our businesses. We rely on a combination of these rights, along with nondisclosure agreements, information technology (IT) security systems, internal controls and compliance systems and other measures to protect our intellectual property. The U.S. government and foreign governments have licenses to certain of our intellectual property, including certain patents, which are developed or used in the performance of government contracts. Commercial customers also have licenses to certain of our intellectual property largely in connection with the sale of our products. While our intellectual property rights in the aggregate are important to the operation of each of our businesses, we do not believe that our business would be materially affected by the expiration of any particular intellectual property right or termination of any particular intellectual property patent license agreement.

Suppliers and Raw Materials

We are dependent upon the availability of materials and major components and the performance of our suppliers and subcontractors. Some of our products require relatively scarce raw materials. We generally have not experienced significant difficulties in procuring the necessary raw materials, components and other supplies for our products. However, the COVID-19 pandemic continues to negatively impact the global supply chain, as discussed above. Our inability to procure the necessary raw materials, components and other supplies for our products could negatively affect our results of operations, financial condition or liquidity. In addition, a significant prolonged increase in inflation could negatively impact the cost of materials and components, particularly with respect to our commercial business operations within Collins Aerospace and Pratt & Whitney. We continuously monitor potential supply chain issues and work with our suppliers and subcontractors to mitigate delays in our receipt of necessary raw materials, components and other supplies, and reduce costs, particularly in light of the COVID-19 pandemic's impact on global supply chain. In addition, we monitor supplier liquidity and work continuously with our supply base to ensure an adequate source of supply and to reduce costs. We pursue cost reductions through a number of mechanisms, including consolidating or re-sourcing our purchases, entering long-term agreements, reducing the number of suppliers, strategic global sourcing and competitions among suppliers. In some instances, we depend upon a single source of supply or participate in commodity markets that may be subject to allocations of limited supplies by suppliers. Like other users in the U.S., we are largely dependent upon foreign sources for certain raw materials, such as cobalt, tantalum, chromium, rhenium and nickel. We have a number of ongoing programs to manage this dependence and the accompanying risk, including long-term agreements and the conservation of materials through scrap reclamation and new manufacturing processes. In addition, in some cases, we must comply with specific procurement requirements, which may limit the suppliers and subcontractors we may utilize.

Regulatory Matters

Our businesses are subject to extensive regulation in the industries we serve. We deal with numerous U.S. government agencies and entities, including but not limited to all of the branches of the U.S. Department of Defense (DoD), the Federal Aviation Administration (FAA), and the Department of Homeland Security. Similar government authorities exist in all of the countries in which we do business.

U.S. Government Contracts. As previously discussed, the U.S. government is our largest customer, representing a substantial majority of our total defense sales. U.S. government contracts are subject to termination by the government, either for convenience or for default in the event of our failure to perform under the applicable contract. In the case of a termination for convenience, we would normally be entitled to reimbursement for our allowable costs incurred, termination costs and a reasonable profit. If terminated by the government as a result of our default, we could be liable for payments made to us for undelivered goods or services, additional costs the government incurs in acquiring undelivered goods or services from another source and any other damages it suffers. Our U.S. government contracts generally are subject to the Federal Acquisition Regulation (FAR), which sets forth policies, procedures and requirements for the acquisition of goods and services by the U.S. government; department-specific regulations that implement or supplement the FAR, such as the DoD's Defense Federal Acquisition Regulation Supplement (DFARS); and other applicable laws and regulations. These regulations impose a broad range of requirements, many of which are unique to government contracting, including various procurement, import and export, security, contract pricing and cost, contract termination and adjustment, audit and product integrity requirements. A contractor's failure to comply with these regulations and requirements could result in reductions to the value of contracts, contract modifications or termination, cash withholds on contract payments, forfeiture of profits, and/or the assessment of civil or criminal penalties and fines, and could lead to suspension or debarment, for cause, from U.S. government contracting or subcontracting for a period of time.

For further discussion of risks related to government contracting, including on-going litigation associated with U.S. government audits and investigations, see Item 1A, "Risk Factors" and Item 3, "Legal Proceedings," in this Form 10-K and "Note 19: Commitments and Contingencies" within Item 8 of this Form 10-K.

Commercial Aerospace Product Regulation. Our commercial aerospace products are subject to regulations by the FAA, foreign aviation administration authorities and international regulatory bodies, including on production and quality systems, airworthiness and installation approvals, repair procedures and continuing operational safety. In addition, commercial aerospace regulations and regulator approaches differ across jurisdictions and changes in such regulations and implementing legislation can impact our operations.

Environmental Regulation. Our operations are subject to and affected by environmental regulation by federal, state and local authorities in the U.S. and regulatory authorities with jurisdiction over our international operations, including with respect to the discharge, treatment, storage, disposal and remediation of hazardous substances and wastes. We use hazardous substances and generate hazardous wastes in some of our operations and have incurred, and will likely continue to incur, costs associated with environmental compliance activities and management of remediation matters at sites with pollutants. A portion of these costs are eligible for future recovery through the pricing of our products and services under our contracts with the U.S. government. In addition, we have been identified as a potentially responsible party under the Comprehensive Environmental Response Compensation and Liability Act, also known as the Superfund law, or state law counterparts to the Superfund law, for a number of sites. The nature and extent of environmental concerns vary from site to site and our share of responsibility varies from sole responsibility to very little responsibility. We also manage various government-owned facilities on behalf of the U.S. government. At such facilities, environmental compliance and remediation costs have historically been primarily the responsibility of the U.S. government, and we have relied (and continue to rely consistent with best practices) upon the U.S. government funding to pay such costs. We do not anticipate that compliance with current provisions or requirements relating to the protection of the environment or that any payments we may be required to make for cleanup liabilities will have a material adverse effect on our cash flows, competitive position, results of operations, financial condition or liquidity. Environmental matters are further addressed in “Note 1: Basis of Presentation and Summary of Accounting Principles” and “Note 19: Commitments and Contingencies” within Item 8 of this Form 10-K.

Most of the U.S. laws governing environmental matters include criminal provisions. If we were convicted of a violation of the federal Clean Air Act or Clean Water Act, the facility or facilities involved in the violation could be deemed ineligible to be used in performing any U.S. government contract we are awarded until the Environmental Protection Agency thereafter certifies that the condition giving rise to the violation has been corrected. In addition, we could be affected by future foreign or domestic laws or regulations imposed in response to concerns over climate change. Changes in environmental and climate change laws or regulations, including laws relating to greenhouse gas emissions, could lead to new or additional investment in product designs and could increase environmental compliance expenditures, including increased energy and raw materials costs.

For further discussion of risks related to environmental and climate matters and other government regulations, see Item 1A, “Risk Factors” in this Form 10-K.

Other Applicable Regulations. We conduct our businesses through subsidiaries and affiliates worldwide. As a result, our businesses and operations are subject to both U.S. and non-U.S. government laws, regulations and procurement policies and practices, including regulations relating to import-export controls, tariffs, taxes, investment, exchange controls, anti-corruption, and cash repatriation. Our international sales are also subject to varying currency, political and economic risks.

Cautionary Note Concerning Factors That May Affect Future Results

This Form 10-K contains statements which, to the extent they are not statements of historical or present fact, constitute “forward-looking statements” under the securities laws. From time to time, oral or written forward-looking statements may also be included in other information released to the public. These forward-looking statements are intended to provide management’s current expectations or plans for our future operating and financial performance, based on assumptions currently believed to be valid, and are not statements of historical fact. Forward-looking statements can be identified by the use of words such as “believe,” “expect,” “expectations,” “plans,” “strategy,” “prospects,” “estimate,” “project,” “target,” “anticipate,” “will,” “should,” “see,” “guidance,” “outlook,” “goals,” “objectives,” “confident,” “on track” and other words of similar meaning. Forward-looking statements may include, among other things, statements relating to future sales, earnings, cash flow, results of operations, uses of cash, share repurchases, tax payments and rates, research and development spending, cost savings, other measures of financial performance, potential future plans, strategies or transactions, credit ratings and net indebtedness, other anticipated benefits to RTC of the Rockwell Collins acquisition, the Raytheon Merger or the Separation Transactions, including estimated synergies and customer cost savings resulting from the Raytheon Merger and the anticipated benefits and costs of the Separation Transactions and other statements that are not solely historical facts. All forward-looking statements involve risks, uncertainties and other factors that may cause actual results to differ materially from those expressed or implied in the forward-looking statements. For those statements, we claim the protection of the safe harbor for forward-looking statements contained in the U.S. Private Securities Litigation Reform Act of 1995. Such risks, uncertainties and other factors include, without limitation:

- the effect of changes in economic, capital market and political conditions in the U.S. and globally and any changes therein, including financial market conditions, fluctuations in commodity prices, inflation, interest rates and foreign currency exchange rates, and geopolitical risks;
- the effect of and risks relating to the coronavirus disease 2019 (COVID-19) pandemic on RTC’s business, supply chain, operations and the industries in which it operates, including the decrease in global air travel and disruption to business and other commercial activities, the impact on the demand for RTC’s products and services, the disruption to global supply and distribution capabilities which have impacted supplies required for RTC’s performance and have led to labor shortages and increased labor costs, the financial condition of RTC’s customers and suppliers, challenges relating to employee health, safety, and availability and workplace and facility operations, and the timing and extent of the recovery from COVID-19 and the impact on such recovery from new COVID-19 variants and outbreaks, vaccine-related issues and other future developments;
- risks associated with U.S. government sales, including changes or shifts in defense spending due to budgetary constraints, spending cuts resulting from sequestration or the allocation of funds to governmental responses to COVID-19, a continuing resolution, a government shutdown, or otherwise, and uncertain funding of programs;
- challenges in the development, production, delivery, and support of RTC advanced technologies and new products and services, as well as the challenges of operating in RTC’s highly-competitive industries;
- risks relating to RTC international operations from, among other things, changes in trade policies, foreign currency fluctuations, economic conditions, political factors, sales methods, and U.S. or local government regulations;
- the condition of the aerospace industry;
- risks relating to RTC’s reliance on U.S. and non-U.S. suppliers and commodity markets, including delays and disruptions in the delivery of materials and services to RTC or its suppliers and price increases;
- the scope, nature, timing and challenges of managing acquisitions, investments, divestitures and other transactions, including the realization of synergies and opportunities for growth and innovation, the assumption of liabilities and other risks and incurrence of related costs and expenses;
- compliance with legal, environmental, regulatory and other requirements, including, among other things, export and import requirements such as the International Traffic in Arms Regulations and the Export Administration Regulations, anti-bribery and anticorruption requirements, such as the Foreign Corrupt Practices Act, industrial cooperation agreement obligations, and procurement and other regulations in the U.S. and other countries in which RTC and its businesses operate;
- the outcome of pending, threatened and future legal proceedings, investigations and other contingencies, including those related to U.S. government audits and disputes or otherwise;
- factors that could impact RTC’s ability to engage in desirable capital-raising or strategic transactions, including its capital structure, levels of indebtedness, capital expenditures and research and development spending, and the availability of credit, credit market conditions and other factors;
- uncertainties associated with the timing and scope of future repurchases by RTC of its common stock or declarations of cash dividends, which may be discontinued, accelerated, suspended or delayed at any time due to various factors, including market conditions and the level of other investing activities and uses of cash;
- risks relating to realizing expected benefits from RTC strategic initiatives such as cost reduction, restructuring, digital transformation and other operational initiatives;

- risks relating to the integration of the legacy businesses of UTC and Raytheon Company in connection with the Raytheon Merger, and the realization of the anticipated benefits of those transactions;
- risks of additional tax exposures due to new tax legislation or other developments in the U.S. and other countries in which RTC and its businesses operate;
- the ability of RTC to attract, train and retain qualified personnel and maintain its culture and high ethical standards, and ability of our personnel to continue to operate our facilities and businesses around the world;
- risks relating to a RTC product safety failure or other failure affecting RTC's or its customers' or suppliers' products or systems;
- risks relating to cyber-attacks on RTC's information technology infrastructure, products, suppliers, customers and partners, threats to RTC facilities and personnel, as well as other events outside of RTC's control such as public health crises, damaging weather or other acts of nature;
- the effect of changes in accounting estimates for our programs on our financial results;
- the effect of changes in pension and other postretirement plan estimates and assumptions and contributions;
- risks relating to an impairment of goodwill and other intangible assets;
- the effects of climate change and changing or new climate-related regulations, customer and market demands, products and technologies; and
- the intended qualification of (1) the Raytheon Merger as a tax-free reorganization and (2) the Separation Transactions and other internal restructurings as tax-free to UTC and former UTC shareowners, in each case, for U.S. federal income tax purposes.

In addition, this Form 10-K includes important information as to risks, uncertainties and other factors that may cause actual results to differ materially from those expressed or implied in the forward-looking statements. See "Note 19: Commitments and Contingencies" within Item 8 of this Form 10-K, the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" under the headings "Business Overview," "Critical Accounting Estimates," "Results of Operations," and "Liquidity and Financial Condition," within Item 7 of this Form 10-K, and the sections titled Item 1A, "Risk Factors" and Item 3, "Legal Proceedings," of this Form 10-K. This Form 10-K also includes important information as to these factors in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" under the headings "Restructuring Costs," "Environmental Matters" and "Governmental Matters," within Item 7 of this Form 10-K, and in the "Business" section under the headings "General," "Description of Business by Segment" and "Other Matters Relating to Our Business as a Whole." The forward-looking statements speak only as of the date of this report or, in the case of any document incorporated by reference, the date of that document. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law. Additional information as to factors that may cause actual results to differ materially from those expressed or implied in the forward-looking statements is disclosed from time to time in our other filings with the Securities and Exchange Commission (SEC).

ITEM 1A. RISK FACTORS

Our business, operating results, financial condition and liquidity can be impacted by the factors set forth below, any one of which could cause our actual results to vary materially from recent results or from our anticipated future results.

INDUSTRY RISKS

Our Business May be Adversely Affected by Changes in Global Economic, Capital Market and Political Conditions. Our business, operating results, financial condition and liquidity may be adversely affected by changes in global economic conditions and geopolitical risks, including credit market conditions, the inflationary environment in the United States and internationally, levels of consumer and business confidence, commodity prices, supply chain challenges, exchange rates, potential changes in policy positions or priorities, levels of government spending and deficits, the availability and cost of labor, the threat environment, trade policies, political conditions, actual or anticipated default on sovereign debt, and other challenges that could affect the global economy. Given the current inflationary pressures both in the U.S. and in other countries in which we operate, we have and may continue to experience labor and material cost increases at a rate higher than what we have experienced in recent years. Due to the nature of our government and commercial aerospace businesses, and the customer and supplier contracts within those businesses, we may not be able to increase our contract value or pricing to offset these cost increases, in particular on our fixed price contracts. Our operating profits and margins under our contracts could be adversely affected by these factors, particularly if the current inflationary pressures are prolonged. Similarly, expected increases in interest rates from recent historical lows in the U.S. and in other countries in which we operate could negatively impact financial markets and tighten the availability of, and increase the cost of capital for the Company, which could have an adverse effect on our operating results, financial condition and liquidity. Tightening of credit in financial markets also could adversely affect the ability of our customers and suppliers to obtain financing for significant purchases and operations, could result in a decrease in or cancellation of orders for our products and services, and could impact the ability of our customers to make payments. Similarly, such tightening of credit may adversely affect our supplier base and increase the potential for one or more of our suppliers to experience financial distress or bankruptcy. In addition, geopolitical risks could affect government priorities, budgets and policies, which could impact sales of defense and other products and services. Our global business is also adversely affected by decreases in the general level of economic activity, such as decreases in business and consumer spending, air travel, the financial strength of airlines and business jet operators, and government procurement.

The Coronavirus Disease 2019 (COVID-19) Pandemic Has Affected and Continues to Affect Our Business, Supply Chain, Operations and the Industries in which We Operate. The ongoing COVID-19 pandemic has negatively affected our business, supply chains, operations and the industries in which we operate. As a result of COVID-19, governments, businesses and individuals have taken actions such as instituting lockdowns, quarantines, border closings and other travel restrictions and requirements, adopting remote working and reducing business and leisure travel, which collectively led to an unprecedented decline in demand for commercial air travel. The unprecedented decrease in air travel adversely affected our airline and airframer customers and their demand for our products and services. Aircraft manufacturers reduced production rates and cancelled new airframer programs, and, as a result, demand for our original equipment manufacturer (OEM) products decreased. In addition, significant declines in aircraft flight hours resulted in reduced demand for our aftermarket parts and services. Airlines and airline leasing companies deferred maintenance services and delayed and cancelled aircraft purchases, negatively impacting our related revenues. Some airlines accelerated retirement of certain aircraft, eliminating demand for our spare parts and our continuing aftermarket services and negatively impacting our related aftermarket revenues. A significant portion of our long-term support contracts are driven by actual usage, and therefore, our related revenues have decreased. Some airlines experienced bankruptcies, and some of our major customers were unable to make timely payment to us. As a result of these developments, we experienced goodwill impairment charges, credit losses on receivables and contract assets, and unfavorable contract adjustments, among other financial impacts, predominantly in 2020. In addition, the border closings, lockdowns and labor shortages resulting from COVID-19, as well as the continuing economic recovery, negatively impacted global supply and distribution capabilities. Decreases in the availability of supplies, increases in the cost of supplies, and delivery issues have caused shortages and delays, as well as increased costs, for the procurement of raw materials, components and other supplies required for our performance. Moreover, on September 24, 2021, in furtherance of an executive order, the U.S. Safer Federal Workforce Task Force issued guidance requiring federal contractors and subcontractors to comply with COVID-19 safety protocols, including requiring certain employees to be fully vaccinated against COVID-19 except in limited circumstances. The implementation of this mandate may result in attrition, including attrition of critically skilled labor and difficulty in securing future labor needs, for our workforce, as well as the workforces of our subcontractors, suppliers and customers. The mandate is currently subject to various legal proceedings. As a result, the impact of mandate on our operations and performance, as well as on our subcontractors, suppliers and customers, is uncertain. However, if ultimately required, the mandate could affect our performance on contracts, particularly due to disruptions in subcontractor or supplier performance or deliveries, and have a material adverse effect on our results of operations. We also experienced challenges from the need to protect employee health and safety, workplace disruptions and restrictions on the movement of people and goods as a result of COVID-19. The global economic, supply and demand uncertainties caused by COVID-19 remain. In 2021, new COVID-19

variants emerged and caused additional outbreaks, and there were issues related to availability, distribution and acceptance of vaccines against COVID-19. Commercial air traffic demand, while improving in certain areas, has not recovered to pre-pandemic levels, and the timing of any such recovery remains uncertain. Due to the continued effects of COVID-19 and related uncertainty, we expect to continue to experience the challenges described above for an uncertain period of time into the future.

In addition, due to the uncertain nature of the COVID-19 pandemic, we may face new challenges in the future that we had not experienced previously. For example, we provide aircraft financing commitments, in the form of debt or lease financing, to commercial aerospace customers, who might experience a greater need to utilize our commitments due to the lasting impacts of COVID-19. If one or more customers exercise financing commitments, we will need to divert cash to satisfy them, and these customers may be unable to make payments on a timely basis, or at all. Our customers may also experience decreases in production or delays if they fail to comply or lose personnel as a result of existing or new vaccine mandates, which could decrease demand for our products and services. Moreover, if developments in the COVID-19 pandemic cause significant portions of our workforce or our suppliers' workforces to be unable to work effectively – due to facilities closures, illness, quarantines, government actions including new or continuing government-mandated safety protocols or other restrictions – such business disruptions could hinder or delay our production capabilities, could otherwise impede our ability to perform on our obligations to our customers, and may also result in increased costs to us. Developments in the COVID-19 pandemic may affect our ability to hire, develop and retain our talented and diverse workforce, and to maintain our corporate culture. We continue to conduct talent searches for fully vaccinated replacements for positions vacated due to the vaccine mandate, and it is critical that we find and train new qualified personnel. The COVID-19 pandemic also may materially impact U.S. government sales, including changes or shifts in defense spending due to budgetary constraints, the allocation of funds to governmental responses to COVID-19, a failure to complete the government budget process resulting in a Continuing Resolution (CR) or a government shutdown, or otherwise, and uncertain funding of programs. COVID-19 has impacted and may further impact the broader economies of affected countries, including negatively impacting economic growth, and creating volatility and unpredictability in financial and capital markets, foreign currency exchange rates, and interest rates. These impacts and the resulting volatility and disruption to the global capital markets may increase the cost of capital and may adversely impact access to short-term and long-term capital for the Company and our suppliers and customers including heightened counter party risks associated with foreign exchange hedging transactions, interest rate swaps and solvency of revolving credit facility banks.

Any of these factors, depending on the severity and duration of the COVID-19 pandemic and its effects, could have a material adverse effect on our business, results of operations, financial condition and liquidity. The ultimate duration and financial impact of the COVID-19 pandemic is unknown at this time. The extent of such impact depends on future developments, which are highly uncertain and cannot be predicted in the short- or long-term, including new information which may emerge concerning the scope, severity and duration of the COVID-19 pandemic, as well as any worsening of the pandemic, the effect of additional variants and whether additional outbreaks of the pandemic will continue to occur, the efficacy, acceptance, distribution and availability of vaccines, new or continued actions to contain the pandemic's spread or treat its impact, and governmental, business and individual personal actions taken in response to the pandemic (including restrictions and limitations on travel and transportation, and changes in leisure and business travel patterns and work environments) among others. Some of these actions and related impacts may be trends that continue in the future even after the pandemic no longer poses a significant public health risk.

Changes in U.S. Government Defense Spending Could Negatively Impact Our Financial Position, Results of Operations, Liquidity and Overall Business. U.S. government sales constitute a significant portion of our consolidated sales. Our U.S. government revenues largely result from contracts awarded under various U.S. government programs, primarily defense-related programs with the U.S. Department of Defense (DoD), and a broad range of programs with the U.S. Intelligence Community and other departments and agencies. Changes in U.S. government defense spending for various reasons, including as a result of potential changes in policy positions or priorities, could negatively impact our results of operations, financial condition and liquidity. Our programs are subject to U.S. government policies, budget decisions and appropriation processes which are driven by numerous factors including: (1) geopolitical events; (2) macroeconomic conditions; and (3) the ability of the U.S. government to enact relevant legislation, such as appropriations bills. In recent years, U.S. government appropriations have been affected by larger U.S. government budgetary issues and related legislation, and the U.S. government has been unable to complete its budget process before the end of its fiscal year, resulting in both governmental shutdowns and CRs providing only enough funds for U.S. government agencies to continue operating at prior-year levels. Further, if the U.S. government debt ceiling is not raised and the national debt reaches the statutory debt ceiling, the U.S. government could default on its debts. As a result, U.S. government defense spending levels are subject to a wide range of outcomes and are difficult to predict beyond the near-term due to numerous factors, including the external threat environment, future governmental priorities and the state of

governmental finances. Significant changes in U.S. government defense spending or changes in U.S. government priorities, policies and requirements could have a material adverse effect on our results of operations, financial condition and liquidity.

We Face Risks Relating to Our U.S. Government Contracts and the Mix of Our U.S. Government Contracts and Programs that Could Negatively Impact our Financial Condition, Results of Operations, Liquidity and Overall Business. The termination of one or more of our contracts, or the occurrence of performance delays, cost overruns, product failures, materials or components shortages, or contract definitization delays, could negatively impact our competitive position, results of operations, financial condition and liquidity. U.S. government contracts generally permit the government to terminate the contract, in whole or in part, without prior notice, at the U.S. government's convenience or for default based on performance. If one of our contracts is terminated for convenience, we would generally be entitled to payments for our allowable costs and would receive some allowance for profit on the work performed. If one of our contracts is terminated for default, we would generally be entitled to payments for work accepted by the U.S. government. A termination arising out of our default could expose us to liability and have a negative impact on our ability to obtain future contracts and orders. In addition, we are a subcontractor on some contracts and the U.S. government could terminate the prime contract for convenience or otherwise, without regard to our performance as a subcontractor. We can give no assurance that we would be awarded new U.S. government contracts to offset the revenues lost as a result of the termination of any of our contracts. In addition, because the funding of U.S. government programs is subject to congressional appropriations made on a fiscal year basis even for multi-year programs, programs are often only partially funded initially and may not continue to be funded in future years. Appropriation bills may be delayed, which may result in delays to funding, the collection of receivables and our contract performance due to lack of authorized funds to procure related products and services. Under certain circumstances, we may use our own funds to meet our customer's desired delivery dates or other requirements, but we may not be reimbursed. Further, if appropriations for one of our programs become unavailable, reduced or delayed, the U.S. government may terminate for convenience our contract or subcontract under that program. In addition, our U.S. government contracts typically involve the development, application and manufacture of advanced defense and technology systems and products aimed at achieving challenging goals. New technologies may be untested or unproven and in some instances, product requirements or specifications may be modified. As a result, we may experience technological and other performance difficulties, which may result in delays, setbacks, cost overruns or product failures, and could divert our attention or resources from other projects. Our failure to execute effectively on our development programs could impact our future sales opportunities. Additionally, in order to win certain U.S. government contracts, we may be required to invest in development prior to award as our customers demand more mature and proven solutions. These additional investments may not be worthwhile if we are not chosen for these awards.

Our U.S. government contracts are typically either fixed-priced contracts or cost reimbursement contracts. Fixed-price contracts are predominantly either firm fixed-price (FFP) contracts or fixed-price incentive (FPI) contracts. Under FFP contracts, we receive a fixed price irrespective of the actual costs we incur and we therefore carry the burden of any cost overruns. Under FPI contracts, we generally share with the U.S. government savings for cost underruns less than target costs and expenses for cost overruns exceeding target costs up to a negotiated ceiling price. We carry the entire burden of cost overruns exceeding the ceiling price amount under FPI contracts. Under cost reimbursable contracts, we are reimbursed for allowable costs and paid a fixed or performance-based fee, but we are generally not reimbursed for unauthorized costs exceeding a cost ceiling amount or costs not allowable under the contract or applicable regulations. If we are unable to control costs or if our initial cost estimates are incorrect, our profitability could be negatively affected, particularly under fixed-price development contracts. We may also experience cost underruns which would reduce contract value and related expected revenues, and we may be unable to expand the contract scope or secure additional work to offset the resulting lost revenues. While contracts for development programs with complex design and technical challenges are typically cost reimbursable, they can be FFP or FPI, which can significantly increase our risk of a potential negative profit adjustment, as development contracts by nature involve elements that have not been undertaken before and, thus, are highly subject to future unexpected cost growth. In addition, other contracts in backlog are for the transition from development to production, which includes starting and stabilizing a manufacturing and test line while the final design is still being validated. Moreover, over the past several years, the DoD has increased its use of Other Transaction Authority (OTA) contracts, under which it awards certain prototypes, research and production contracts without all of the procurement requirements that typically apply to DoD contracts, including justification of sole source awards. OTAs may use fixed-price contracts during all phases of the contract, or mandated contract cost sharing (e.g., one-third of program costs). They may also require non-traditional subcontractor participation and impose other requirements that differ from our other DoD contracts. Our business may be negatively impacted if we are unable to perform on our OTA contracts, including any applicable non-traditional requirements. Moreover, from time to time, we may begin performance under an undefinitized contract action with a not-to-exceed price prior to completing contract negotiations in order to support U.S. government priorities. Uncertainties in final contract price, specifications and terms, or loss of negotiating leverage associated with particularly long delays in contract definitization, may negatively affect our profitability. In addition, as discussed more fully below, our U.S. government contracts also require us to comply with extensive and evolving procurement rules and regulations and subject us to potential U.S. government audits, investigations, and disputes. We are also involved in programs that are classified by the U.S.

government, which have security requirements that place limits on our ability to discuss our performance on these programs, including any risks, disputes and claims.

Our International Operations Subject Us to Economic Risk As Our Results of Operations and Liquidity May Be Adversely Affected by Changes in Foreign Currency Fluctuations, Economic Conditions, Political Factors, Trade Policies, Sales Methods, and Changes in Local Government Regulation. We conduct our business on a global basis, with a significant portion of sales derived from international operations, including U.S. export sales. Changes in local and regional economic conditions, including fluctuations in exchange rates, may affect product demand and reported profits in our non-U.S. operations where transactions may be denominated in local currencies. In addition, currency fluctuations may affect the prices we pay suppliers for materials used in our products. As a result, our operating margins also may be negatively impacted by worldwide currency fluctuations that result in higher costs for certain cross-border transactions. In addition, a strengthening of the U.S. Dollar against other major foreign currencies could adversely affect our results of operations. Our financial statements are denominated in U.S. Dollars, and exchange rate fluctuations may cause translation gains or losses when translating non-U.S. operating unit financial statements. In addition, the majority of our commercial aerospace business sales are transacted in U.S. Dollars, while the majority of costs outside the U.S. are incurred in the applicable local currency; therefore, fluctuations in the exchange rate of the U.S. Dollar against the local currency could impact our results of operations. Pratt & Whitney Canada is especially susceptible to fluctuations in exchange rates for this reason. To manage certain exposures, we employ long-term hedging strategies associated with U.S. Dollar sales.

Our international sales and operations are subject to risks associated with local government laws, regulations and policies, including those related to tariffs, import quotas and other trade barriers, investments, taxation, exchange controls, capital controls, employment regulations, and cash repatriation. Our international sales and operations are also sensitive to changes in foreign national priorities, including government budgets, as well as to regional and local political and economic factors, including volatility in energy prices, political or civil unrest, changes in threat environments and political relations, geopolitical uncertainties, and changes in U.S. foreign policy. Government policies on international trade and investments, whether adopted by individual governments or regional trade blocs, can affect demand for our products and services, impact the competitive position of our products, impact our supply, and prevent us from being able to manufacture or sell products in certain countries. The implementation of more restrictive trade policies, including the imposition of tariffs, or the renegotiation of existing trade agreements by the U.S. or by countries where we sell large quantities of products and services or procure supplies of materials or components could negatively affect us. Ongoing geopolitical uncertainty and trends such as populism and economic nationalism, a government's adoption of "buy national" policies, or a government's limiting exports of a unique material, such as rare earth minerals, over which it controls a significant portion of the global supply, or retaliation by another government against any such policies, such as tariffs, could negatively affect us. Further, regime change in a major customer's government could decrease or eliminate its demand for our products and services, as well as adversely affect our supply of materials or components from that country. International transactions may involve increased financial and legal risks due to differing legal systems and customs and contract laws and regulations, and include contractual terms that differ from those of similar contracts in the U.S. or that may be interpreted differently in foreign countries. As discussed more fully below, our international sales also require us to comply with U.S. laws, regulations and policies, including the International Traffic in Arms Regulations (ITAR), the Export Administration Regulations (EAR), the Foreign Corrupt Practices Act (FCPA), and other anti-corruption, sanctions, and export laws and regulations. In addition, in certain foreign countries, our businesses engage non-employee sales representatives. Our use of and association with third-party foreign representatives and consultants for international sales and teaming with international subcontractors, partners and suppliers in connection with international programs expose us to various challenges including risks associated with the FCPA and local bribery laws and regulations. From time to time, we have disputes with such representatives regarding claimed commissions and other matters which can result in litigation or arbitration. In addition, we face risks related to the unintended or unauthorized use of our products.

We conduct business in numerous countries that carry high levels of currency, political, compliance and economic risk. We expect that sales to customers in these countries will continue to account for a significant portion of our commercial aerospace sales as our businesses evolve and as these and other developing nations and regions around the world increase their demand for our products, particularly our aerospace products. Operations in emerging market countries can present many risks, including volatility in gross domestic product and rates of economic growth, economic and government instability (particularly in certain Middle East countries) cultural differences (such as employment and business practices), the imposition of exchange and capital controls, and risks associated with exporting components manufactured in those countries for incorporation into finished products completed in other countries. While these factors and their impact are difficult to predict, any one or more of them could have a material adverse effect on our competitive position, results of operations, financial condition or liquidity. Of note, in 2019 the U.S. government suspended Turkey's participation in the F-35 Joint Strike Fighter program because Turkey accepted delivery of the Russian-built S-400 air and missile defense system. The U.S. has imposed, and may impose additional, sanctions on Turkey, as well as contractual restrictions on the use of Turkish sources for certain military programs, as a result of this or other political disputes. Turkish companies supply components, some of which are sole-sourced, to our aerospace

businesses for commercial and military engines and aerospace products, as well as to our defense businesses. Depending upon the scope and timing of U.S. sanctions or contractual prohibitions on Turkey and potential reciprocal actions, if any, such sanctions or actions could impact our sources of supply and could have a material adverse effect on our results of operations, financial condition or liquidity. In addition, in October 2020, the People's Republic of China (China) announced that it may sanction RTC in connection with a Foreign Military Sale to Taiwan of six MS-110 Reconnaissance Pods and related equipment manufactured by Collins Aerospace. Foreign Military Sales are government-to-government transactions that are initiated by, and carried out at the direction of, the U.S. government. To date, the Chinese government has not imposed sanctions on RTC or indicated the nature or timing of any future potential sanctions or other actions. If China were to impose sanctions or take other regulatory action against RTC, our suppliers, affiliates or partners, it could potentially disrupt our business operations. The impact of potential sanctions or other actions by China cannot be determined at this time. From time to time, our businesses have sold, and are expected to sell in the future additional defense products to Taiwan and we are unable to determine the potential impact, if any, of any future sanctions or other actions by China in response to these sales. Moreover, the Chinese government has generally expanded its ability to restrict China-related import, export and investment activities, which may have an adverse impact on our ability to conduct business or sell our commercial aerospace products in China. In addition, in connection with the current status of international relations with Russia, particularly in light of potential conflict between Russia and Ukraine, the U.S. government has stated it is considering imposing enhanced export controls on certain products and sanctions on certain industry sectors and parties in Russia. The governments of other jurisdictions in which we operate, such as the European Union and Canada, may also implement sanctions or other restrictive measures. These potential sanctions and export controls, as well as any responses from Russia, could adversely affect the Company and/or our supply chain, business partners or customers.

Our international business faces substantial competition from both U.S. companies and foreign companies. In some instances, foreign companies may be owned by foreign governments or may receive loans, marketing subsidies and other assistance from their governments that may not be available to U.S. companies or our foreign subsidiaries. In addition, foreign companies may be subject to fewer restrictions on technology transfer than U.S. companies.

Our international contracts, particularly for sales of defense products and services, may include offset or industrial cooperation obligations requiring specific local purchases, manufacturing agreements, technology transfer agreements or financial support obligations, sometimes in the form of in-country industrial participation (ICIP) agreements. Approvals of offset or ICIP thresholds and requirements may be subjective and time-consuming and may delay contract awards. Offset and ICIP requirements may, in certain countries, include the creation of a joint venture with a local company that may control the venture. Certain customers' demands are increasing for greater offset or ICIP commitment levels, higher-value content, including the transfer of technologies and capabilities, and local production and economic development.

As a result of the above factors, we could experience financial penalties and award and funding delays on international programs, our profitability on these programs could be negatively affected, and we could incur losses on these programs that could negatively impact our results of operations, financial condition and liquidity.

Our Financial Performance Is Dependent on the Condition of the Aerospace Industry. Our aerospace businesses constitute a substantial portion of our financial results, and the performance of those businesses is directly tied to economic conditions in the commercial aerospace industry, which is cyclical in nature. Capital spending and demand for aircraft engines, aerospace products and component aftermarket parts and services by commercial airlines, lessors, other aircraft operators and aircraft manufacturers are influenced by a wide variety of factors, including current and predicted traffic levels, load factors, aircraft fuel prices, labor issues, airline profits, airline consolidation, bankruptcies and restructuring activities, competition, the retirement of older aircraft, regulatory changes, terrorism and related safety concerns, general economic conditions, corporate profitability, cost reduction efforts and remaining performance obligations levels. In particular, tightening of credit in financial markets could adversely affect the ability of our customers and suppliers to obtain financing for significant purchases and operations, could result in a decrease in or cancellation of orders for our products and services, and could impact the ability of our customers to make payments. Similarly, such tightening of credit may adversely affect our supplier base and increase the potential for one or more of our suppliers to experience financial distress or bankruptcy. Any of these factors could reduce the sales and margins of our aerospace businesses. Other factors, including future terrorist actions, aviation safety concerns, pandemic health issues or major natural disasters, could also dramatically reduce the demand for commercial air travel, which could negatively impact the sales and margins of our aerospace businesses. For example, the COVID-19 pandemic has impacted, and continues to impact, our business, as described above. Additionally, because a substantial portion of product deliveries to commercial aerospace customers are scheduled for delivery beyond 2022, changes in economic conditions may cause customers to request that firm orders be rescheduled or canceled. At times, our aerospace businesses also enter into firm fixed-price or cost-share development contracts with commercial customers, which may require us to bear cost overruns related to unforeseen technical and design challenges that arise during the development and early production stages of the program. In addition, our aerospace businesses face intense competition from domestic and foreign manufacturers of new equipment, and

approved non-OEM aftermarket spare parts and repairs. Spare parts sales and aftermarket service trends are affected by similar factors, including usage, pricing, technological improvements, regulatory changes and the retirement of older aircraft. Furthermore, because of the lengthy research and development cycle involved in bringing products in these business segments to market, we cannot predict the economic conditions that will exist when any new product is ready to enter into service. A reduction in spending in the commercial aviation industry could have a significant effect on the demand for our products, which could have a material adverse effect on our competitive position, results of operations, financial condition or liquidity.

We Design, Manufacture and Service Products that Incorporate Advanced Technologies; The Introduction of New Products and Technologies Involves Risks and We May Not Realize the Degree or Timing of Benefits Initially Anticipated; Competition May Reduce Our Revenues and Segment Share and Limit Our Future Opportunities. We seek to achieve growth through the design, development, production, sale and support of innovative commercial aerospace and defense systems and products that incorporate advanced technologies. The product, program and service needs of our customers change and evolve regularly, and we invest substantial amounts in research and development efforts to pursue advancements in a wide range of technologies, products and services. Of particular note, Pratt & Whitney is currently producing and delivering the Geared Turbofan engine to power various aircraft. The level of orders received for the Geared Turbofan family of engines, coupled with a requirement to achieve mature production levels in a very short time frame, require significant additional manufacturing and supply chain capacity. If any of our production ramp-up efforts are delayed, if suppliers cannot timely deliver or perform to our standards, and/or if we identify or experience issues with in-service engines, we may not meet customers' delivery schedules, which could result in material additional costs, including liquidated damages or other liabilities that could be assessed under existing contracts.

Our ability to realize the anticipated benefits of our technological advancements depends on a variety of factors, including meeting development, production, certification and regulatory approval schedules; receiving regulatory approvals; execution of internal and external performance plans; availability of supplier and internally produced parts and materials; performance of suppliers and subcontractors; availability of supplier and internal facility capacity to perform maintenance, repair and overhaul services on our products; hiring and training of qualified personnel; achieving cost and production efficiencies; identification of emerging technological trends for our target end-customers (such as sustainable technologies, as described below); validation of innovative technologies; risks associated with the development of complex software; the level of customer interest in new technologies and products; and customer acceptance of products we manufacture or that incorporate technologies we develop. For example, our customers manufacture end products and larger aerospace systems that incorporate certain of our aerospace products. These systems and end products may also incorporate additional technologies manufactured by third parties and involve additional risks and uncertainties. As a result, the performance and industry acceptance of these larger systems and end products could affect the level of customer interest in and acceptance of our products in the marketplace. In addition, many of our products must adhere to strict regulatory and market-driven safety and performance standards in a variety of jurisdictions. The evolving nature of these standards, along with the long duration of development, production and aftermarket support programs, creates uncertainty regarding program profitability, particularly with our aircraft engine products. Development efforts divert resources from other potential investments in our businesses, and these efforts may not lead to the development of new technologies or products on a timely basis or meet the needs of our customers as fully as competitive offerings. In addition, the industries for our products or products that incorporate our technologies may not develop or grow as we anticipate. We or our customers, suppliers or subcontractors may encounter difficulties in developing and producing new products and services, and may not realize the degree or timing of benefits initially anticipated or may otherwise suffer significant adverse financial consequences. Due to the design complexity of our products or those of our customers or third party manufacturers that incorporate our products into theirs or our customers' products, we may experience delays in completing the development and introduction of new products or we may experience the suspension of production after these products enter into service due to safety concerns. Delays and/or suspension of production could result in increased development costs or deflect resources from other projects. In particular, we cannot predict with certainty whether, when and in what quantities our aerospace businesses will produce and sell aircraft engines, aircraft systems and components, and other products currently in development, pending required certifications or after entry into service.

We operate in highly competitive industries and our competitors may have more extensive or more specialized engineering, manufacturing, marketing and servicing capabilities than we do. Our contracts are typically awarded on a competitive basis. Our bids are based upon, among other items, the cost to provide the products and services. To generate an acceptable return on our investment in these contracts, we must be able to accurately estimate our costs to provide the services and deliver the products and to be able to complete the contracts in a timely manner. If we fail to accurately estimate our costs or the time required to complete a contract, the profitability of our contracts may be materially and adversely affected. Some of our contracts provide for liquidated damages in the event that we are unable to perform and deliver in accordance with the contractual specifications and schedule. In addition, we may face customer-directed cost reduction targets that could have a material adverse effect on the profitability of our contracts if these targets are not achieved when required. Moreover, we have seen highly competitive pricing, in which a bidder may anticipate making a substantial investment in a program in order to win

the work. In addition, with respect to DoD awards in particular, bid protests from unsuccessful bidders on new program awards are frequent. Generally, a bid protest will delay the start of contract activities, delay earnings, and could result in the award decision being overturned and require a re-bid of the contract. Highly competitive activity within the commercial aerospace industry has included substantial discounts and other financial incentives, performance and operating cost guarantees, and participation in financing arrangements, in order to secure both new engine business and the aftermarket revenues associated with these products. Furthermore, our competitors, including our customers, may develop competing technologies which gain industry acceptance in advance of or instead of our products, or meet particular in-demand technological needs before us or with technology that is superior to our existing or new technologies. For example, the enhanced focus on climate change has increased demand for more environmentally sustainable products and services, as described below. Our competitors may develop sustainable products or services that are available to our customers before our products or services, or that are adopted more readily than our products or services. In addition, our competitors or customers might develop new technologies or offerings that might cause our existing technologies and offerings to become obsolete or otherwise decrease demand for our offerings. In addition, the possibility exists that competitors or customers will develop aftermarket services and aftermarket parts for our products that attract customers and adversely impact our return on investment on new products. We also anticipate companies continuing to enhance their competitive position against our defense businesses as a result of continued domestic and cross-border defense industry consolidation and the expansion of competitors' capabilities throughout the supply chain through vertical integration. We are also facing heightened competition domestically and internationally from foreign and multinational firms. Additionally, some customers, including the DoD, are increasingly turning to commercial contractors, rather than traditional defense contractors, for information technology and other support work. If we are unable to continue to compete successfully against our current or future competitors in our core businesses, we may experience declines in revenues and industry segment share. Any of the foregoing could have a material adverse effect on our competitive position, results of operations, financial condition or liquidity.

OPERATIONAL RISKS

We Use a Variety of Raw Materials, Supplier-Provided Parts, Components, Sub-Systems and Contract Manufacturing Services, and Significant Shortages, Capacity Constraints, Production Disruptions or Price Increases Could Increase Our Operating Costs and Adversely Impact the Competitive Positions of Our Products. Our reliance on U.S. and non-U.S. suppliers (including third-party manufacturing suppliers, subcontractors and service providers) and commodity markets to secure raw materials, parts, components and sub-systems used in our products exposes us to volatility in the prices and availability of these materials and services. In many instances, we depend upon a single source of supply, manufacturing, services support or assembly, or participate in commodity markets that may be subject to allocations of limited supplies by suppliers. Our defense businesses are subject to specific procurement requirements that limit the types of materials they use, which may further limit the suppliers and subcontractors they may utilize. They also must require suppliers to comply with various DoD cybersecurity requirements. A disruption in deliveries from our suppliers, supplier capacity constraints, supplier production disruptions, supplier quality issues (such as issues with defects or fraudulent parts), closing, bankruptcy or financial difficulties of our suppliers, price increases due to inflation or otherwise, or decreased availability of raw materials or commodities, including as a result of war, natural disaster, health pandemic or other business continuity events, could have a material adverse effect on our ability to meet our commitments to customers or increase our operating costs. We believe that our supply management and production practices are based on an appropriate balancing of the foreseeable risks and the costs of alternative practices. Nonetheless, price increases, supplier capacity constraints, supplier production disruptions or the unavailability of some raw materials may have a material adverse effect on our competitive position, results of operations, financial condition or liquidity. For example, the COVID-19 pandemic has impacted, and continues to impact, our supply chain, as described above.

Due to the Nature of Our Products and Services, a Product Safety Failure or Other Failure Affecting Our or Our Customers' or Suppliers' Products or Systems Could Seriously Harm Our Business. Our products and services are highly sophisticated and specialized, involve complex advanced technologies, are often integrated with third-party products and services and are utilized for specific purposes that require precision, reliability and durability. Many of our products and services include both hardware and software that involve industrial machinery and intricate aviation and defense systems, including commercial and military jet engines, power and control systems and other aircraft parts, air and missile defense systems, and military sensors and command and control systems. Technical, mechanical and other failures may occur from time to time, whether as a result of manufacturing or design defect, operational process or production issue attributable to us, our customers, suppliers, third party integrators or others. In addition, our products could fail as a result of cyber-attacks, such as those that seize control and result in misuse or unintended use of our products, or other intentional acts. The impact of a catastrophic product or system failure or similar event affecting our or our customers' or suppliers' products or services could be significant, and could result in injuries or death, property damage, loss of strategic capabilities, loss of intellectual property, loss of reputation, and other significant negative effects. A product or system failure could lead to negative publicity, a diversion of management attention and damage to our reputation that could reduce demand for our products and services. It

could also result in product recalls and product liability and warranty claims (including claims related to the safety or reliability of our products) and related expenses, other service, repair and maintenance costs, significant damages and other costs, including fines and other remedies and regulatory and environmental liabilities. We may also incur increased costs, delayed payments, reputational harm or lost equipment or services revenue in connection with a significant issue with a third party's product with which our products are integrated. Further, our insurance coverage may not be adequate to cover all related costs and we may not otherwise be fully indemnified for them. Any of the foregoing could have a material adverse effect on our competitive position, results of operations, financial condition or liquidity.

Exports and Imports of Certain of Our Products are Subject to Various Export Control, Sanctions and Import Regulations and May Require Authorization from Regulatory Agencies of the U.S. or Other Countries. We must comply with various laws and regulations relating to the export and import of products, services and technology from and into the U.S. and other countries having jurisdiction over our operations. In the U.S., these laws and regulations include, among others, the EAR administered by the U.S. Department of Commerce, the ITAR administered by the U.S. Department of State, embargoes and sanctions regulations administered by the U.S. Department of the Treasury, and import regulations administered by the U.S. Department of Homeland Security and the U.S. Department of Justice. Certain of our products, services and technologies have military or strategic applications and are on the U.S. Munitions List of the ITAR and the Commerce Control List of the EAR or are otherwise subject to the EAR, or on the U.S. Munitions Import List and we are required to obtain licenses and authorizations from the appropriate U.S. government agencies before selling these products outside of the U.S. or importing these products into the U.S. U.S. foreign policy or foreign policy of other licensing jurisdictions may affect the licensing process or otherwise prevent us from engaging in business dealings with certain individuals, entities or countries. Any failure by us, our customers or our suppliers to comply with these laws and regulations could result in civil or criminal penalties, fines, seizure of our products, adverse publicity, restrictions on our ability to export or import our products, or the suspension or debarment from doing business with the U.S. government. Moreover, any changes in export control, sanctions or import regulations may further restrict the export of our products or services, and the possibility of such changes requires constant monitoring to ensure we remain compliant. Our ability to obtain required licenses and authorizations on a timely basis or at all is subject to risks and uncertainties, including changing U.S. government foreign policies or laws, delays in Congressional action, or geopolitical and other factors. If we are not successful in obtaining or maintaining the necessary licenses or authorizations in a timely manner, our sales relating to those approvals may be prevented or delayed, and revenue and profit previously recognized may be reversed. Any restrictions on the export or import of our products or product lines could have a material adverse effect on our competitive position, results of operations, financial condition or liquidity.

We Depend On the Recruitment and Retention of Qualified Personnel, and Our Failure to Attract, Train and Retain Such Personnel and to Maintain our Corporate Culture and High Ethical Standards Could Seriously Harm Our Business. Due to the specialized nature of our business, our future performance is highly dependent upon the continued services of our key technical personnel and executive officers, the development of additional management personnel, and the hiring of new qualified technical, manufacturing, marketing, sales and management personnel for our operations. Our defense business in particular requires qualified personnel with security clearances due to our classified programs. Competition for personnel is intense and we may not be successful in attracting, training or retaining qualified personnel with the requisite skills or security clearances. In addition, certain existing personnel may be required to receive various security clearances and substantial training in order to work on certain programs or perform certain tasks. Necessary security clearances may be delayed, which may impact our ability to perform on our U.S. government contracts. Further, we have experienced and may continue to experience personnel reductions as a result of the COVID-19 pandemic's impact on our business. In addition, a significant percentage of our current workforce is nearing or eligible for retirement. To the extent that we lose experienced personnel, it is critical that we develop other employees, hire new qualified personnel and successfully manage the transfer of critical knowledge. In addition, new qualified personnel may have different expectations from our current workforce, which could result in difficulties attracting and retaining new employees. Loss of key employees, increased attrition for various reasons, failure to attract new qualified employees or adequately train them, delays in receiving required security clearances, or delays in hiring key personnel could seriously harm our business. Moreover, we believe that a critical element of our ability to successfully attract, train and retain qualified personnel is our corporate culture, which we believe fosters innovation, collaboration, diversity and inclusion, and a focus on execution, all in an environment of high ethical standards. Our global operations may present challenges in maintaining these important aspects of our corporate culture. Any failure to maintain these elements of our corporate culture could negatively impact our ability to attract, train and retain essential qualified personnel who are vital to our business and the value of our company. Further, we rely on our key personnel to lead with integrity and to meet our high ethical standards that promote excellent performance and cultivate diversity, equity and inclusion. To the extent any of our key personnel were to behave in a way that is inconsistent with our values, including with respect to product safety or quality, legal or regulatory compliance, financial reporting or people management, we could experience a materially adverse impact to our reputation and our operating results.

Our Business and Financial Performance May Be Adversely Affected by Cyber-attacks on Information Technology Infrastructure and Products. Our business may be impacted by disruptions to our own or third-party information technology (IT) infrastructure, which could result from, among other causes, cyber-attacks on or failures of such infrastructure or compromises to its physical security. We also encounter attempts to infiltrate our products and services and sabotage or disable their use by our customers. Cybersecurity threats are evolving and include, but are not limited to, both attacks on our IT infrastructure and attacks on the IT infrastructure of our customers, suppliers, subcontractors and other third parties with whom we do business routinely, both on premises and in the cloud, attempting to gain unauthorized access to our confidential or other proprietary information, classified information, or information relating to our employees, customers and other third parties, or to disrupt our systems or the systems of third parties. Cybersecurity threats also include attacks targeting the security, integrity and/or availability of the hardware, software and information installed, stored or transmitted in our products, including after the purchase of those products and when they are incorporated into third-party products, facilities or infrastructure, and insider threat attacks. Such attacks could disrupt our systems or those of third parties (including mission critical systems), impact business operations, result in unauthorized release of confidential or otherwise protected information, and corrupt our data or that of third parties. We have experienced cyber-based attacks, and due to the evolving threat landscape, may continue to experience them going forward, potentially with more frequency. The threats we face vary from attacks common to most industries to more advanced and persistent, highly organized adversaries, including nation states, which target us and other defense contractors. We continue to make investments and adopt measures designed to enhance our protection, detection, response, and recovery capabilities, and to mitigate potential risks to our technology, products, services and operations from potential cybersecurity threats. However, given the unpredictability, nature and scope of cyber-attacks, it is possible that we are unable to prevent cyber attacks, that potential vulnerabilities could go undetected for an extended period, that we may be unsuccessful in defending an attack against those vulnerabilities, or that we may otherwise be unable to mitigate customer losses and other potential consequences of these attacks. In addition, some products and services that we provide to customers, particularly those related to public security, may raise potential liabilities related to privacy and intellectual property. In some cases we must rely on the safeguards put in place by our customers, suppliers, subcontractors and other third parties to protect against and report cyber threats. We could potentially be subject to production downtimes, operational delays, other detrimental impacts on our operations or ability to provide products and services to our customers, the compromise of confidential information, intellectual property or otherwise protected information, misappropriation, destruction or corruption of data, security breaches, other manipulation or improper use of our or third-party systems, networks or products, financial losses from remedial actions, loss of business, or potential liability, penalties, fines and/or damage to our reputation, any of which could have a material adverse effect on our competitive position, results of operations, financial condition or liquidity. Some of these risks may be heightened due to the Company and its suppliers and other third parties operating with a significant number of employees working remotely. Due to the evolving nature of such risks, the impact of any potential incident cannot be predicted. Further, our insurance coverage may not be adequate to cover all related costs and we may not otherwise be fully indemnified for them.

Our Business and Financial Performance May Be Adversely Affected By Threats to Our Physical Security and Other Events Outside Our Control. We could encounter threats to our physical security, including our facilities and personnel, and threats from, workplace violence, civil unrest, terrorism or similar acts, any of which could disrupt our business. In addition, our business, and the businesses of our suppliers, subcontractors and service providers and customers, could be disrupted by public health crises, such as pandemics and epidemics, damaging weather or other acts of nature, cyber-attacks on IT infrastructure and products or other events outside of our control. For example, our business has been, and continues to be, impacted by the COVID-19 pandemic, as discussed above. Any such business disruption could subject us to production downtimes, operational delays, other detrimental impacts on our operations or ability to provide products and services to our customers, financial losses from remedial actions, the diversion of management's attention and resources, or loss of business, any of which could have a material adverse effect on our competitive position, results of operations, financial condition or liquidity. The impact of any such business disruption is difficult to predict.

We Depend On Our Intellectual Property, and Have Access to Certain Intellectual Property and Information of Our Customers and Suppliers; Infringement or Failure to Protect Our Intellectual Property Could Adversely Affect Our Future Growth and Success. We rely on a combination of patents, trademarks, copyrights, trade secrets, nondisclosure agreements, IT security systems, internal controls and compliance systems and other measures to protect our intellectual property. We also rely on nondisclosure agreements, confidentiality obligations in contracts, IT security systems and other measures to protect certain customer and supplier information and intellectual property that we have in our possession or to which we have access. The U.S. government and foreign governments have licenses under certain of our intellectual property, including certain patents, which are developed or used in performance of government contracts. Governments may use or authorize others (including our competitors) to use such patents and intellectual property for government and other purposes. Governments may challenge the sufficiency of intellectual property rights we have granted in government contracts and attempt to obtain greater rights, which could reduce our ability to protect our intellectual property rights and to compete. In some instances, we have augmented our

technology base by licensing the proprietary intellectual property of others. Intellectual property obtained from third parties is also subject to challenge, invalidation, misappropriation or circumvention by third parties. In addition, we may not be able to obtain necessary licenses on commercially reasonable terms. In other instances, our ability to procure and perform government contracts requires us to obtain certain rights in the intellectual property of others through government grants. Governments may deny us the right to obtain such rights in the intellectual property of others, which may affect our ability to perform government contracts. Moreover, our efforts to protect intellectual property and proprietary rights may not be sufficient. We cannot be sure that our pending patent applications will result in the issuance of patents to us, that patents issued to or licensed by us in the past or in the future will not be challenged or circumvented by competitors, or that these patents will be found to be valid or sufficiently broad to preclude our competitors from introducing technologies similar to those covered by our patents and patent applications. Our ability to protect and enforce our intellectual property rights may be limited in certain countries outside the U.S. In addition, we may be the target of competitor or other third-party patent enforcement actions seeking substantial monetary damages or seeking to prevent our sale and marketing of certain of our products or services. Our competitive position also may be adversely impacted by limitations on our ability to obtain possession of, and ownership of necessary licenses concerning, data important to the development or provision of our products or service offerings, or by limitations on our ability to restrict the use by others of data related to our products or services. We may also be subject to disruptions, losses and liability resulting from various cybersecurity attacks or information technology failures, as described above. Any of these events or factors could have a material adverse effect on our competitive position, subject us to judgments, penalties and significant litigation costs, or temporarily or permanently disrupt our sales and marketing of the affected products or services. Any of the foregoing could have a material adverse effect on our competitive position, results of operations, financial condition or liquidity.

LEGAL, ENVIRONMENTAL AND REGULATORY RISKS

As a U.S. Government Contractor, We are Subject to Risks Relating to U.S. Government Audits, Investigations, and Disputes. We are subject to U.S. government investigations relating to our U.S. government contracts. Such U.S. government investigations often take years to complete and could result in administrative, civil or criminal liabilities, including repayments, fines, treble and other damages, forfeitures, restitution or penalties, or could lead to suspension or debarment of U.S. government contracting or of export privileges. For instance, if we or one of our business units were charged with wrongdoing in connection with a U.S. government investigation (including fraud, or violation of certain environmental or export laws, as further described below), the U.S. government could suspend us from bidding on or receiving awards of new U.S. government contracts pending the completion of legal proceedings. If convicted or found liable, the U.S. government could fine and debar us from new U.S. government contracting for a period generally not to exceed three years and could void any contracts found to be tainted by fraud. We also could suffer reputational harm if allegations of impropriety were made against us, even if such allegations are later determined to be unsubstantiated. Further, our U.S. government contracts are subject to audit and we have received audit reports recommending the reduction of certain contract prices because, for example, cost or pricing data disclosures or cost accounting practices used to price and negotiate those contracts may not have conformed to government regulations. Some of these audit reports recommend that certain payments be repaid, delayed, or withheld, and may involve substantial amounts, which could, if the audit reports' theories were to prevail in litigation, also have future impacts such as increasing the costs absorbed by our commercial businesses. We have made voluntary refunds in those cases we believe appropriate, have settled some allegations and, in some cases, continue to negotiate and/or litigate. We may be, and have been, required to make payments into escrow of disputed liabilities while the related litigation is pending. If the litigation is resolved in our favor, any such payments will be returned to us with interest. The Defense Contract Audit Agency (DCAA) and the Defense Contract Management Agency (DCMA) also review the adequacy of and our compliance with our internal control systems and policies, including our accounting, purchasing, government property, estimating, earned value management and material management accounting systems. Our final allowable incurred costs for each year are subject to audit and have from time to time resulted in disputes between us and the U.S. government, including DCMA claims to recover payments for alleged noncompliance with cost accounting standards. In some cases, the Department of Justice (DOJ) has convened grand juries to investigate possible irregularities in our costs. Any costs found to be improperly allocated to a specific contract will not be reimbursed by the U.S. government or must be refunded by us to the U.S. government if already reimbursed. An adverse outcome of any audit or investigation could result in civil and criminal penalties and fines, which could negatively impact our results of operations, financial condition and liquidity. In addition, if allegations of impropriety were made against us, we could suffer serious reputational harm, which could negatively affect our financial position, results of operations and liquidity.

We Are Subject to Litigation, Environmental, Anti-Corruption and Other Legal and Compliance Risks. We are subject to a variety of litigation and legal compliance risks. These risks relate to, among other things, product safety and reliability, personal injuries, intellectual property rights, contract-related claims, government contracts, taxes, environmental matters, export control, employment matters, competition laws and laws governing improper business practices. We or one of our businesses could be charged with wrongdoing as a result of such matters. If convicted or found liable, we could be subject to significant fines, penalties, repayments, or other damages (in certain cases, treble damages). Product recalls and product liability and warranty

claims can result in significant damages and costs, including fines as well as other harm to our business as discussed above. As a global business, we are subject to complex laws and regulations in the U.S. and in other countries in which we operate. Those laws and regulations may be interpreted in different ways. They may also change from time to time, as may related interpretations and other guidance. Changes in laws or regulations could result in higher expenses. Uncertainty relating to laws or regulations may also affect how we conduct our operations and structure our investments and could limit our ability to enforce our rights. For example, changes in climate change laws or regulations could lead to increased compliance expenditures and technological development costs, as described below.

We use hazardous substances and generate hazardous wastes in our operations. As a result, we are subject to potentially material liabilities related to personal injuries or property damage that may be caused by hazardous substance releases and exposures. Personal injury lawsuits may involve individual and purported class actions alleging that contaminants originating from our current or former products or operating facilities caused or contributed to medical conditions, including cancers incurred by employees, former employees, third-parties' employees or residents in the area, and environmental damage or diminution of real estate values. For example, we are investigating and remediating contamination related to past practices at a number of properties and, in some cases, have in the past been named as a defendant in related "toxic tort" claims. We are also subject to laws and regulations that: (1) impose requirements for the proper management, treatment, storage and disposal of hazardous substances and wastes; (2) restrict air and water emissions from our operations (including U.S. government-owned facilities we manage); and (3) require maintenance of a safe workplace. These laws and regulations can lead to substantial fines and criminal sanctions for violations, and may require the installation of costly equipment or operational changes to limit pollution emissions, decrease the likelihood of accidental hazardous substance releases, and/or reduce the risks of injury to people. We incur, and expect to continue to incur, capital and other expenditures to comply with these laws and regulations. A criminal violation of certain U.S. environmental statutes such as the Clean Air Act and Clean Water Act could result in suspension, debarment or disqualification by the U.S. Environmental Protection Agency (EPA). A facility determined to be in violation of the criminal provisions of these statutes can be prohibited from performing any U.S. government contract work until the violation has been corrected and the EPA approves the reinstatement of the facility. Even in litigation where we believe our liability is remote, there is a risk that a negative finding or decision in a matter involving multiple plaintiffs or a purported class action could have a material adverse effect on our competitive position, results of operations, financial condition or liquidity, in particular with respect to environmental claims in regions where we have, or previously had, significant operations. In addition, new laws, regulations, or governmental policies, sudden changes in the interpretation and enforcement of existing laws and regulations, the discovery of previously unknown contamination, or the imposition of new clean-up standards could require us to incur additional costs in the future that would have a negative effect on our results of operations, financial condition and liquidity.

In addition, the FCPA and other anti-bribery and -corruption laws generally prohibit companies and their intermediaries from making improper payments to U.S. and non-U.S. officials for the purpose of obtaining or retaining business. These laws apply to companies, individual directors, officers, employees and agents. U.S. companies also may be held liable for actions taken by strategic or local partners or representatives. The FCPA also imposes accounting standards and requirements on publicly traded U.S. corporations and their foreign affiliates, which are intended to prevent the diversion of corporate funds to the payment of bribes and other improper payments. Certain of our customer relationships outside of the U.S. are with governmental entities and are therefore subject to the FCPA and other anti-bribery and -corruption laws, including the anti-bribery and -corruption laws of non-U.S. countries. Our policies mandate compliance with these anti-bribery and -corruption laws. Despite meaningful measures that we undertake to ensure lawful conduct, which include training and internal control policies, these measures may not always prevent violations of the FCPA or similar laws. We have been subject to regulatory investigations for alleged violations of anti-bribery and -corruption laws, and could be subject to such investigations in the future, which could result in criminal and civil penalties, disgorgement, further changes or enhancements to our procedures, policies and controls, personnel changes or other remedial actions. Violations of these laws, or allegations of such violations, could disrupt our operations, cause reputational harm, involve significant management attention and result in a material adverse effect on our competitive position, results of operations, financial condition or liquidity.

Cybersecurity and data privacy and protection laws and regulations are evolving and present increasing compliance challenges, which may increase our costs, affect our competitiveness, cause reputational harm, and expose us to substantial fines or other penalties.

Our Business and Financial Performance May Be Adversely Affected by Climate Change, Including Related Changes in Regulations, Customer Demand, Technologies and Extreme Weather. Our business may be impacted by climate change and governmental and industry actions taken in response. Changes in environmental and climate change laws or regulations, including regulations on greenhouse gas emissions, carbon pricing, and energy taxes, could increase our operational and compliance expenditures and those of our suppliers, including increased energy and raw materials costs, and lead to new or additional investments in product designs and facility upgrades. In addition, we are seeing increasing demands for offerings

focused on addressing climate change, transitioning to lower emission technologies, including low to no carbon products and services, the use of alternative energy sources and other sustainable aviation technologies, and climate adaptation products and services. We are also seeing increasing focus on our environmental sustainability commitments with respect to our operations, products and suppliers. As a result, we anticipate that we will need to make additional investments in new technologies and capabilities and devote additional management and other resources in response to the foregoing. We may not realize the anticipated benefits of these investments and actions for a variety of reasons, including technological challenges, evolving government and customer requirements and our ability to anticipate them and develop in-demand technologies on a timely basis, and other risks related to the development of advanced technologies described above. In addition, certain technologies will be dependent upon government action, such as investments in infrastructure, creating appropriate market incentives and making certain raw materials available for development of certain technologies. Moreover we will rely on our suppliers to timely and effectively adapt and meet our evolving technological supply needs. We also face competition risks as our competitors also respond to advancing sustainable technologies. Our competitors may develop these in-demand technologies before we do, their new technologies may be deemed by our customers to be superior to technologies we may develop, and their technologies may otherwise gain industry acceptance in advance of or instead of our products. In addition, as we and our competitors develop increasingly sustainable technologies, demand for our older offerings may decrease or become nonexistent. Moreover, our business, the businesses of our suppliers, subcontractors, service providers, distributors and customers, and the industries in which we operate could be negatively impacted by increasing frequency and severity of extreme weather events caused by climate change, including hurricanes, tornadoes, floods, snow and ice storms, fires, heat waves, droughts and mud slides. These events could damage our and our suppliers' facilities, products and other assets, and cause disruptions to our business and operations, supply chain and distribution networks, and the businesses of our customers. Any of the foregoing could materially decrease our revenues and materially increase our costs and expenses.

FINANCIAL, TAX AND INSURANCE RELATED RISKS

We Use Estimates in Accounting For Many of Our Programs, and Changes in our Estimates Could Adversely Affect Our Future Financial Results. Accounting for long-term contracts and related assets requires estimates and judgments related to our progress toward completion and the long-term performance on the contract. Significant judgments include potential risks associated with the ability and cost to achieve program schedule, including customer-directed delays or reductions in scheduled deliveries, and technical and other specific contract requirements including customer activity levels and variable consideration based upon that activity. Due to the size and long-term nature of many of our contracts, the estimation of total revenues and cost at completion is complicated and subject to many variables. Management must make assumptions and estimates regarding contract revenue and cost (such as estimates of variable consideration, including award fees and penalties), including with respect to: (1) labor productivity and availability; (2) the complexity and scope of the work to be performed; (3) the availability and cost of materials; (4) the length of time to complete the performance obligation; (5) execution by our subcontractors; (6) the availability and timing of funding from our customer; (7) overhead cost rates; and (8) current and past service cost and frequency driven by estimated aircraft and engine utilization and estimated useful lives of components, among other variables. Because of the significance of management's judgments and estimation processes described above, it is likely that materially different amounts could be recorded if we used different assumptions or if the underlying circumstances were to change. Changes in underlying assumptions, circumstances or estimates may adversely affect our future results of operations and financial condition.

Significant Changes in Key Estimates and Assumptions, Such as Discount Rates and Expected Return on Plan Assets (EROA), as well as Our Actual Investment Returns on Our Pension Plan Assets and Other Actuarial Factors, Could Affect Our Earnings, Equity and Pension Contributions in Future Periods. We must determine our pension and other postretirement benefit (PRB) plans' expense or income, which involves significant judgment particularly with respect to our discount rate, EROA and other actuarial assumptions. These assumptions are evaluated annually at December 31 and when significant events require a mid-year remeasurement. They may change significantly due to changes in economic, legislative, regulatory, and/or demographic experience or circumstances. Changes in our assumptions or actual experience that differs from these assumptions could impact our pension and postretirement net periodic benefit (income) expense, the plans' funded status, and/or the required cash contributions to such plans, which could negatively impact our results of operations, financial condition or liquidity. Our plan assets are invested in accordance with our investment management objectives and are subject to market volatility and other conditions.

Additional Tax Expense or Additional Tax Exposures Could Affect Our Future Profitability. We are subject to income taxes in the United States and international jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes. In the ordinary course of our business, there are transactions and calculations where the ultimate tax determination is uncertain. Changes in tax laws and regulations, as well as changes and conflicts in related interpretations and other tax guidance, and fluctuations in taxable income could materially impact our tax receivables and liabilities and our deferred tax assets and deferred tax liabilities, as well as our income tax expense and tax payments. Additionally, in the

ordinary course of business we are subject to examinations by various tax authorities. In addition to ongoing examinations, there could be additional examinations launched in the future by governmental authorities in various jurisdictions, and existing examinations could be expanded. The final determination of tax audits and any related litigation could be materially different from our historical income tax provisions and accruals. Additionally, changes in the geographic mix of our sales could impact our tax liabilities and affect our income tax expense and profitability. The global and diverse nature of our operations means that these risks will continue to exist and additional examinations, proceedings and contingencies will arise from time to time. Our competitive position, results of operation, financial condition or liquidity may be affected by the outcome of examinations, proceedings and other contingencies that cannot be predicted with certainty.

Goodwill and Other Intangible Assets Represent a Significant Portion of Our Assets, and Any Impairment of These Assets Could Negatively Impact Our Results of Operations and Financial Condition. A significant portion of our assets consists of goodwill and other intangible assets, primarily recorded as the result of historical acquisitions or investments in businesses. We may subsequently experience unforeseen events that could adversely affect the value of our goodwill or intangible assets. Our goodwill and indefinite-lived intangible assets are subject to an impairment test annually and are also tested for impairment whenever facts and circumstances indicate that goodwill may be impaired. In the event of an impairment, any excess of the carrying value of these assets over the fair value must be written off in the period of determination. Finite-lived intangible assets are generally amortized over the useful life of such assets. Future determinations of significant impairments of goodwill or indefinite-lived intangible assets as a result of an impairment test or accelerated amortization of finite-lived intangible assets could have a negative impact on our results of operations and financial condition.

Quarterly Cash Dividends and Share Repurchases Are Subject to a Number of Uncertainties, and May Affect the Price of Our Common Stock. Quarterly cash dividends and share repurchases under our share repurchase program generally constitute components of our capital allocation strategy, which we fund through a combination of operating free cash flow, borrowings and proceeds from divestitures. However, we are not required to declare dividends or make any share repurchases under our share repurchase program. Dividends and share repurchases may be discontinued, accelerated, suspended or delayed at any time without prior notice. Even if not discontinued, the amount of such dividends and repurchases may be changed, and the amount, timing and frequency of such dividends and repurchases may vary from historical practice or from the company's stated expectations. Decisions with respect to dividends and share repurchases are subject to the discretion of our Board of Directors and will be based on a variety of factors. Important factors that could cause us to discontinue, limit, suspend, increase or delay our quarterly cash dividends or share repurchases include market conditions, the price of our common stock, the nature and timing of other investment opportunities, changes in our business strategy, the terms of our financing arrangements, our outlook as to the ability to obtain financing at attractive rates, the impact on our credit ratings, the availability of domestic cash and overall business expectations. The reduction or elimination of our cash dividend, or suspension or elimination of our share repurchase program could adversely affect the market price of our common stock. Additionally, there can be no assurance that any share repurchases will enhance shareowner value because the market price of our common stock may decline below the levels at which we repurchased shares of common stock, and short-term stock price fluctuations could reduce the program's effectiveness.

We Face Certain Significant Risk Exposures and Potential Liabilities That May Not Be Adequately Covered By Indemnity or Insurance. A significant portion of our business relates to designing, developing and manufacturing advanced aerospace, defense and technology systems and products. New technologies may be untested or unproven. In addition, we may incur significant liabilities that are unique to our products and services. In some, but not all, circumstances, we may be entitled to indemnification from our customers through contractual provisions, and we may obtain limitations of liability and additional defenses for various reasons including the qualification of our products and services by the Department of Homeland Security (DHS) under the SAFETY Act provisions of the Homeland Security Act of 2002. The insurance coverage we maintain or indemnification to which we may be contractually or otherwise entitled may not be adequate to cover all claims or liabilities. Accordingly, we may be forced to bear substantial costs resulting from risks and uncertainties of our business, which would negatively impact our results of operations, financial condition and liquidity. Any accident, failure of, or defect in our products and services, even if fully indemnified or insured, could negatively affect our reputation among our customers and the public, and make it more difficult for us to compete effectively. It could also affect the cost and availability of insurance in the future.

STRATEGIC INITIATIVE AND TRANSACTION RISKS

We May Be Unable to Realize Expected Benefits From Strategic Initiatives, and Our Profitability May Be Hurt or Our Business Otherwise Might Be Adversely Affected. In order to operate more effectively and efficiently, from time to time we undertake strategic and other operational initiatives. For example, we have announced plans to improve our business through a significant, multi-year digital transformation initiative. Under this initiative, we would leverage digital capabilities throughout the way in which we conduct our business and provide our products and services to customers, including how we design, build and maintain our products and services. Our ongoing new Customer Oriented Results Excellence (CORE) operating system deployment is another one of these initiatives. Other initiatives include the pursuit of advanced technologies and new business

acquisitions and subsequent integrations as described below. We also implement from time to time restructuring plans, which include or may result in workforce reductions, global facility reductions, procurement cost reduction activities, legal entity and operational reorganizations and other cost reduction initiatives. These strategic activities are complex and require the investment of resources including in personnel and systems. If we do not successfully manage our current or future strategic initiatives, expected efficiencies and benefits might be delayed or not realized, and our operations and business could be disrupted. In addition, certain U.S. government contracts and programs have begun to require digital engineering and other digital capabilities, and our inability to achieve these capabilities with respect to these programs timely may result in loss of revenues. Risks associated with workforce management issues include unfavorable political responses to such actions, unforeseen delays in the implementation of anticipated workforce reductions, additional unexpected costs, adverse effects on employee morale and the failure to meet operational targets due to the loss of employees or work stoppages. Any of the above factors may impair our ability to achieve anticipated benefits, or otherwise harm our business, or have a material adverse effect on our competitive position, results of operations, financial condition or liquidity.

We May Be Unable to Successfully Integrate the Legacy Businesses of United Technologies Corporation (UTC) and Raytheon and Realize the Anticipated Benefits of the Raytheon Merger. The success of the Raytheon Merger will depend, in part, on our ability to successfully combine and integrate UTC and Raytheon Company's legacy businesses, and realize the anticipated benefits, including synergies, cost savings, innovation and technological opportunities (including technology-driven revenue synergies) and operational efficiencies from the Raytheon Merger in a manner that does not materially disrupt existing customer, supplier and employee relations and does not result in decreased revenues due to losses of, or decreases in orders by, customers.

We may face material challenges to the continued integration of the two companies, including, without limitation:

- maintaining employee morale, retaining key management and other employees, and managing corporate culture;
- retaining existing business and operational relationships, including customers, suppliers and employees and other counterparties, and attracting new business and operational relationships;
- identifying and achieving revenue synergy opportunities among the legacy businesses; and
- consolidating corporate and administrative infrastructures and eliminating duplicative operations, including unanticipated issues in integrating information technology, communications and other systems.

The impact and extent of these challenges is uncertain and many of them have been exacerbated by the COVID-19 pandemic. Any one of them could result in delays, increased costs, decreases in the amount of expected revenues, reduced expected cash generation, and diversion of management's time and energy, which could materially affect our financial condition, results of operations and liquidity. In addition, we must continue to manage the integration of other companies, assets and businesses, including the integration of Rockwell Collins, which UTC acquired on November 26, 2018. These ongoing (and future) integrations may increase the complexity of, and challenges associated with, the integration of UTC and Raytheon Company's legacy businesses, which may make it more difficult for us to achieve the anticipated benefits of the Raytheon Merger fully, or within the anticipated time frame. The actual integration may result in additional and unforeseen expenses, and the anticipated benefits of the integration plan may not be realized on a timely basis. While we have assumed that a certain level of expenses would be incurred, many of the expenses that may be incurred are, by their nature, difficult to estimate accurately, and changes to the estimates could affect the total amount or timing of integration expenses. These expenses could exceed benefits expected to be realized in connection with the Raytheon Merger.

If We Fail to Manage Potential Future Acquisitions, Investments, Divestitures, Joint Ventures and Other Transactions Successfully, These Activities Could Adversely Affect Our Future Financial Results. In pursuing our business strategies, we continually review, evaluate and consider potential investments, acquisitions, divestitures, joint ventures and other teaming and collaborative arrangements. We undertake to identify opportunities that will complement our existing products and services or customer base, as well as expand our offerings and business opportunities into new areas that naturally extend from our core capabilities. In evaluating such transactions, we are required to make difficult judgments regarding the value of business opportunities, technologies and other assets, and the risks and cost of potential liabilities. Further, these transactions involve certain other risks and uncertainties including: (1) the risks involved with entering new markets; (2) the difficulty in integrating newly-acquired businesses and managing or monitoring other collaborative business arrangements; (3) challenges and failures in achieving strategic objectives and other expected benefits, which may result in certain liabilities to us for guarantees and other commitments; (4) unidentified issues not discovered in RTC's due diligence; (5) the diversion of our attention and resources from our operations and other initiatives; (6) the potential impairment of acquired assets; (7) the performance of underlying products, capabilities or technologies; and (8) the potential loss of key employees and customers of acquired businesses. In addition, future transactions may impact our deployment of capital, including dividends, stock repurchases, pension contributions, and investments.

We May Not Be Able to Engage in Desirable Capital-Raising or Strategic Transactions. Under current U.S. federal income tax law, a spin-off that otherwise qualifies for tax-free treatment can be rendered taxable to the parent corporation and its

stockholders as a result of certain post-spin-off transactions, including certain acquisitions of shares or assets of the parent corporation. To preserve the tax-free treatment of the Distributions, we may be limited in our ability to pursue certain equity issuances, strategic transactions, repurchases, or other transactions (including certain dispositions of assets) that we may otherwise believe to be in the best interests of our stockholders or that might increase the value of our business.

If Either Distribution, Together with Certain Related Transactions, Were to Fail to Qualify as a Transaction that is Generally Tax-Free, Including as a Result of Subsequent Acquisitions of Our Stock (Including Pursuant to the Raytheon Merger) or the Stock of Carrier or Otis, We Could Be Subject to Significant Tax Liabilities. We received (1) a private letter ruling from the Internal Revenue Service (IRS) regarding certain U.S. federal income tax matters relating to the Separation Transactions and Distributions and (2) an opinion of outside counsel regarding the qualification of certain elements of the Distributions under Section 355 of the Code. Although we intend for the Distributions generally to be tax-free for U.S. federal income tax purposes, there can be no assurance that they will so qualify. Even if the Distributions were to otherwise qualify as tax-free transactions under Sections 355 and 368(a)(1)(D) of the Code, either Distribution or both Distributions may result in taxable gain to us (but not our stockholders) under Section 355(e) of the Code if such Distribution(s) were deemed to be part of a plan (or series of related transactions) pursuant to which one or more persons acquire, directly or indirectly, shares representing a 50% or greater interest (by vote or value) in shares of Carrier, Otis, or us, as applicable. If the IRS were to determine that any post-Distribution acquisitions of Carrier stock, Otis stock, or our stock, as applicable, pursuant to such a plan (when aggregated with any pre-Distribution acquisitions of Carrier stock, Otis stock, or our stock, as applicable, pursuant to such a plan) would represent a 50% or greater interest in shares of Carrier, Otis, or us, as applicable, such determination could result in significant tax liabilities to us. For purposes of this test, even if the Raytheon Merger were treated as part of such plan, it did not result in an acquisition of a 50% or greater interest in our shares pursuant to a plan. Any such tax liabilities imposed on us may adversely affect an investment in us. In addition, with respect to certain Separation Transactions, we obtained tax rulings in certain non-U.S. jurisdictions and/or opinions of external tax advisors, in each case, regarding the tax treatment of such Separation Transactions. Notwithstanding the receipt of such tax rulings and opinions, there can be no assurance that the relevant taxing authorities will not assert that the tax treatment of the relevant Separation Transactions differs from the conclusions reached therein. In the event the relevant taxing authorities prevail with any challenge in respect of any relevant Separation Transaction, we would be subject to significant tax liabilities, which may adversely affect an investment in us. Further, under a tax matters agreement that we entered into with Carrier and Otis in connection with the Separation Transactions and Distributions, each of Carrier and Otis generally is required to indemnify us for any taxes we incur resulting from the Separation Transactions and/or the Distributions to the extent such amounts result from certain disqualifying actions by, or acquisition of equity securities of, Carrier or Otis, as applicable. Further, under the tax matters agreement, each of Carrier and Otis is generally required to indemnify us for a specified portion of any taxes we incur (a) arising as a result of the failure of either of the Distributions and certain related transactions to qualify as a transaction that is generally tax-free or a failure of any Separation Transaction that is intended to qualify as a transaction that is generally tax-free to so qualify, in each case, to the extent such amounts did not result from a disqualifying action by, or acquisition of equity securities of, Carrier, Otis, or us or (b) arising from certain audit or other adjustments to tax liabilities incurred with respect to Separation Transactions that were not intended to qualify as tax-free. In addition, under the tax matters agreement, each of Carrier and Otis is responsible for (i) a specified portion of any installment payment we are required to make pursuant to Section 965(h)(2) of the Code and (ii) specified taxes that exclusively relate to the Carrier business or the Otis business, as applicable. The amount of any such taxes for which we would be responsible may be significant, and if we were unable to obtain indemnification payments from Carrier or Otis to which we are entitled under the tax matters agreement and/or other agreements entered into in connection with the Separation Transactions and the Distributions, we would incur significant losses.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We have significant properties in approximately 30 countries, with approximately 540 significant properties comprising approximately 75 million square feet of productive space. Approximately 30% of our square footage related to our significant properties is leased, and 70% is owned. Approximately 60% of our square footage related to our significant properties is located in the United States.

Our fixed assets as of December 31, 2021 include manufacturing facilities and non-manufacturing facilities such as warehouses, laboratories, office space, and a substantial quantity of machinery and equipment, including general purpose machinery and equipment using special jigs, tools and fixtures and in many instances having automatic control features and special adaptations. The facilities, warehouses, machinery and equipment in use as of December 31, 2021 are in good operating condition, are well-maintained and substantially all are generally in regular use.

ITEM 3. LEGAL PROCEEDINGS

We are subject to a number of lawsuits, investigations and claims (some of which involve substantial amounts). For a discussion of contingencies related to certain legal proceedings, see “Note 19: Commitments and Contingencies” within Item 8 of this Form 10-K. Except as otherwise noted, while we are unable to predict the final outcome, based on information currently available, we do not believe that resolution of any of these matters will have a material adverse effect upon our competitive position, results of operations, financial condition or liquidity.

A further discussion of government contracts and related investigations, as well as a discussion of our environmental liabilities, can be found under the heading “Other Matters Relating to Our Business – Environmental Regulation” within Item 1. Business of this Form 10-K and in Item 1A. Risk Factors of this Form 10-K.

737 MAX Aircraft Litigation

Multiple lawsuits have been filed in U.S. courts relating to the October 29, 2018 Lion Air Flight 610 and the March 10, 2019 Ethiopian Airlines Flight 302 accidents. Collins Aerospace Systems (Collins Aerospace) sold certain aircraft parts and systems to The Boeing Company for the 737 MAX aircraft involved in these accidents. Certain of our Collins Aerospace businesses have been named, along with other third parties, as parties in many of these lawsuits. We are also fully supporting all ongoing governmental investigations and inquiries relating to the accidents. We do not expect that the lawsuits or governmental investigations or inquiries will have a material adverse effect on our results of operations, financial condition or liquidity.

ITEM 4. MINE SAFETY DISCLOSURE

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT’S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Raytheon Technologies’ common stock is listed on the New York Stock Exchange under the ticker symbol “RTX.” There were 43,342 registered shareowners at December 31, 2021. The information required by Item 5 with respect to securities authorized for issuance under equity compensation plans is contained within Item 12 of this Form 10-K.

Stock Performance Graph

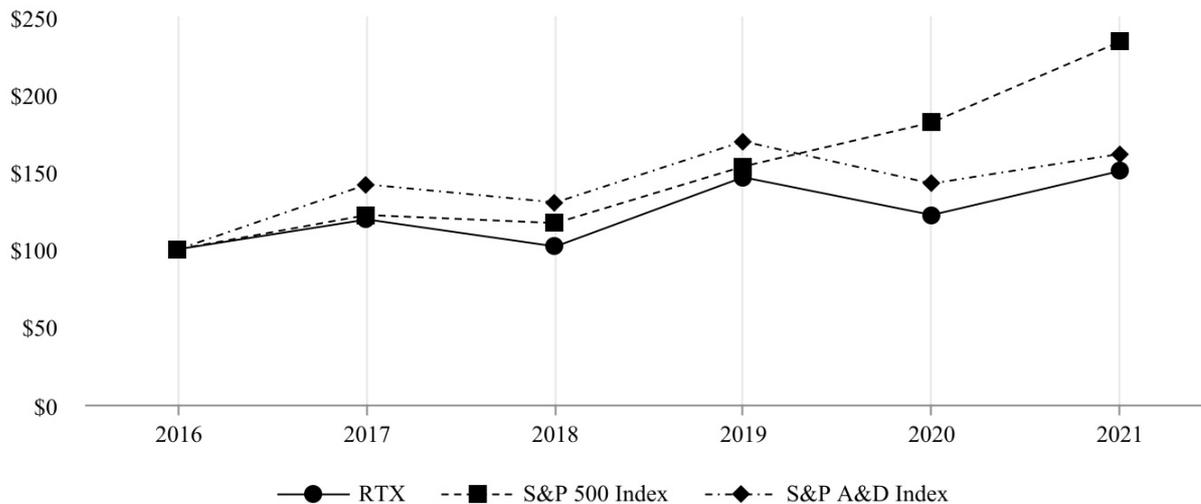
The following graph presents the cumulative total shareowner return for the five years ending December 31, 2021 for our common stock as compared to the Standard & Poor’s 500 Stock Index and the S&P Aerospace & Defense (A&D) Index. These figures assume that all dividends paid over the five-year period were reinvested, and that the starting value of each index and the investment in common stock was \$100.00 on December 31, 2016.

Comparison of Cumulative Five Year Total Return

Company/Index	Annual Return Percentage Years Ending				
	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021
Raytheon Technologies Common Stock	19.13	-14.66	43.82	-16.73	23.27
S&P 500 Index	21.83	-4.38	31.49	18.40	28.71
S&P Aerospace & Defense Index	41.38	-8.07	30.33	-16.06	13.22

Company/Index	Indexed Returns Years Ending					
	Base Period 12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021
Raytheon Technologies Common Stock	\$ 100.00	\$ 119.13	\$ 101.67	\$ 146.22	\$ 121.77	\$ 150.10
S&P 500 Index	100.00	121.83	116.49	153.17	181.35	233.41
S&P Aerospace & Defense Index	100.00	141.38	129.97	169.39	142.18	160.98

Comparison of Cumulative Five Year Total Return



Issuer Purchases of Equity Securities

The following table provides information about our purchases during the quarter ended December 31, 2021 of equity securities that are registered by us pursuant to Section 12 of the Exchange Act.

2021	Total Number of Shares Purchased (000's)	Average Price Paid per Share	Total Number of Shares Purchased as Part of a Publicly Announced Program (000's)	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program (dollars in millions)
October 1 - October 31	291	\$ 89.66	291	\$ 2,972
November 1 - November 30	1,927	85.58	1,927	2,807
December 1 - December 31	1,657	83.10	1,657	5,960
Total	3,875	\$ 84.83	3,875	

On December 7, 2021, our Board of Directors authorized a share repurchase program for up to \$6 billion of our common stock, replacing the previous program announced on December 7, 2020. Under the 2021 program, shares may be purchased on the open market, in privately negotiated transactions, under accelerated share repurchase programs, and under plans complying with Rules 10b5-1 and 10b-18 under the Exchange Act. We may also reacquire shares outside of the program from time to time in connection with the surrender of shares to cover taxes on vesting of restricted stock and as required under our employee savings plan. Our ability to repurchase shares is subject to applicable law. No shares were reacquired in transactions outside the program during the quarter ended December 31, 2021.

ITEM 6.

Reserved.

ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

BUSINESS OVERVIEW

We are a global premier systems provider of high technology products and services to the aerospace and defense industries. We operate in four principal business segments: Collins Aerospace Systems (Collins Aerospace), Pratt & Whitney, Raytheon Intelligence & Space (RIS) and Raytheon Missiles & Defense (RMD).

On April 3, 2020, United Technologies Corporation (UTC) (since renamed Raytheon Technologies Corporation) completed the separation of its business into three independent, publicly traded companies – UTC, Carrier Global Corporation (Carrier) and Otis Worldwide Corporation (Otis) (the Separation Transactions). UTC distributed all of the outstanding shares of Carrier common stock and all of the outstanding shares of Otis common stock to UTC shareowners who held shares of UTC common stock as of the close of business on March 19, 2020 (the Distributions). Immediately following the Separation Transactions and Distributions, on April 3, 2020, UTC and Raytheon Company completed their all-stock merger of equals transaction (the Raytheon Merger), pursuant to which Raytheon Company became a wholly-owned subsidiary of UTC and UTC was renamed Raytheon Technologies Corporation (RTC). UTC was determined to be the accounting acquirer in the Raytheon Merger, and as a result the financial statements of Raytheon Technologies for year ended December 31, 2020 include Raytheon Company’s financial position and results of operations for the period subsequent to the completion of the Raytheon Merger on April 3, 2020. The historical results of Carrier and Otis are presented as discontinued operations and, as such, have been excluded from both continuing operations and segment results for all periods presented. See “Note 3: Discontinued Operations” within Item 8 of this Form 10-K for additional information.

Unless the context otherwise requires, the terms “we,” “our,” “us,” “the Company,” “Raytheon Technologies,” and “RTC” mean United Technologies Corporation and its subsidiaries when referring to periods prior to the Raytheon Merger and to the combined company, Raytheon Technologies Corporation, when referring to periods after the Raytheon Merger. Unless the context otherwise requires, the terms “Raytheon Company,” or “Raytheon” mean Raytheon Company and its subsidiaries prior to the Raytheon Merger.

Industry Considerations

Our worldwide operations can be affected by industrial, economic and political factors on both a regional and global level. Our operations include original equipment manufacturer (OEM) and extensive related aftermarket parts and services related to our aerospace operations. Our defense business serves both domestic and international customers primarily as a prime contractor or subcontractor on a broad portfolio of defense and related programs for government customers. Our business mix also reflects the combination of shorter cycles in our commercial aerospace spares contracts and certain service contracts in our defense business primarily at RIS, and longer cycles in our aerospace OEM and aftermarket maintenance contracts and on our defense contracts to design, develop, manufacture or modify complex equipment. Our customers are in the public and private sectors, and our businesses reflect an extensive geographic diversification that has evolved with continued globalization.

Government legislation, policies and regulations, including regulations related to global warming, carbon footprint and fuel efficiency, can have a negative impact on our worldwide operations. Government and industry-driven safety and performance regulations, restrictions on aircraft engine noise and emissions, government imposed travel restrictions, and government procurement practices can impact our businesses.

Collins Aerospace and Pratt & Whitney serve both commercial and government aerospace customers. Revenue passenger miles (RPMs), available seat miles and the general economic health of airline carriers are key barometers for our commercial aerospace operations. Performance in the general aviation sector is closely tied to the overall health of the economy and is positively correlated to corporate profits. Many of our aerospace operations’ customers are covered under long-term aftermarket service agreements at both Collins Aerospace and Pratt & Whitney, which are inclusive of both spare parts and services.

RIS, RMD, and the defense operations of Collins Aerospace and Pratt & Whitney are affected by U.S. Department of Defense (DoD) budget and spending levels, changes in demand, changes in policy positions or priorities and the global political environment.

Business Transformation and Operational Excellence

We are leveraging the Raytheon Merger to undertake various strategic initiatives to transform the Company and increase our existing focus on operational excellence. These initiatives include our new Customer Oriented Results Excellence (CORE) operating system, significant investments in digital technologies across our business to enhance our products and services, and structural cost reduction initiatives. We are also continuing to develop advanced technologies, including through specific technology-focused business acquisitions.

Coronavirus Disease 2019 (COVID-19) Pandemic

The COVID-19 pandemic continues to negatively affect the global economy, our business and operations, supply chains, and the industries in which we operate. For a discussion of the risk factors associated with the COVID-19 pandemic, refer to Item 1A. Risk Factors within Part I of this Form 10-K. As a result of all of these factors, we expect our future operating results, particularly those of our Collins Aerospace and Pratt & Whitney businesses, to continue to be negatively impacted when compared to pre-COVID-19 (2019) results. Our RIS and RMD businesses, although experiencing some negative impacts, primarily from supply chain pressures and labor shortages, have not experienced significant business disruptions as a result of the COVID-19 pandemic.

While we believe that the long-term outlook for the aerospace industry remains positive due to the fundamental drivers of air travel demand, there continues to be uncertainty with respect to the point at which commercial air traffic capacity will return to and/or exceed pre-COVID-19 levels. We have seen indications that commercial air travel is recovering in certain areas of demand; however, other areas continue to lag. In addition, while global vaccination rates have increased, infection from COVID-19 variants have continued, which may impact the pace of the commercial aerospace recovery. Further, the commercial air travel recovery is tied to general economic conditions and may be impacted by inflation or government budget deficits, among other factors. However, we continue to estimate that a full recovery may occur in 2023 or 2024. As our commercial aerospace business recovers, we have seen increases in certain employee-related and discretionary costs, which had decreased in the aftermath of COVID-19 due to one-time cost reduction actions in 2020. A recovery may also impact our judgments around credit risk related to estimated credit losses.

In addition, in March 2021, Congress passed the American Rescue Plan Act of 2021 (ARPA) which included pension funding relief provisions. For further discussion, refer to the “FAS/CAS operating adjustment” subsection under the “Segment Review” section below. We continue to monitor for any further government guidance related to COVID-19 that may be issued.

On September 24, 2021, in furtherance of an executive order, the U.S. Safer Federal Workforce Task Force issued guidance requiring federal contractors and subcontractors to comply with COVID-19 safety protocols, including requiring certain employees to be fully vaccinated against COVID-19 except in limited circumstances. The implementation of this mandate may result in attrition, including attrition of critically skilled labor and difficulty in securing future labor needs, for our workforce, as well as the workforces of our subcontractors, suppliers and customers. The mandate is currently subject to various legal proceedings. As a result, the impact of mandate on our operations and performance, as well as on our subcontractors, suppliers and customers, is uncertain. However, if ultimately required, the mandate could affect our performance on contracts, particularly due to disruptions in subcontractor or supplier performance or deliveries, and have a material adverse effect on our results of operations.

Our expectations regarding the COVID-19 pandemic and ongoing recovery and their potential financial impact are based on available information and assumptions that we believe are reasonable at this time; however, the actual financial impact is highly uncertain and subject to a wide range of factors and future developments. New information may continue to emerge concerning the scope, severity and duration of the COVID-19 pandemic, as well as any worsening of the pandemic, the effect of additional variants, the efficacy, acceptance, distribution and availability of vaccines, new or continued actions to contain the pandemic’s spread or treat its impact, and governmental, business and individual actions taken in response to the pandemic (including restrictions and limitations on travel and transportation, and changes in leisure and business travel patterns and work environments) among others. Some of these actions and related impacts may be trends that continue in the future even after the pandemic no longer poses a significant public health risk.

Other Matters

Global economic and political conditions, changes in raw material and commodity prices, labor costs, interest rates, foreign currency exchange rates, energy costs, levels of air travel, the financial condition of commercial airlines, and the impact from natural disasters and weather conditions create uncertainties that could impact our businesses. With regard to political conditions, in July 2019, the U.S. government suspended Turkey’s participation in the F-35 Joint Strike Fighter program because Turkey accepted delivery of the Russian-built S-400 air and missile defense system. The U.S. has imposed, and may impose additional, sanctions on Turkey, as well as contractual restrictions on the use of Turkish sources on certain military programs, as a result of this or other political disputes. Turkish companies supply us with components, some of which are sole-sourced, primarily in our aerospace operations for commercial and military engines and aerospace products. Depending upon the scope and timing of U.S. sanctions or contractual prohibitions on Turkey and potential reciprocal actions, if any, such sanctions or actions could impact our sources of supply and could have a material adverse effect on our results of operations, cash flows or financial condition. In addition, in October 2020, the People’s Republic of China (China) announced that it may sanction RTC in connection with a possible Foreign Military Sale to Taiwan of six MS-110 Reconnaissance Pods and related equipment manufactured by Collins Aerospace. Foreign Military Sales are government-to-government transactions that are initiated by, and carried out at the direction of, the U.S. government. To date, the Chinese government has not imposed

sanctions on RTC or indicated the nature or timing of any future potential sanctions or other actions. If China were to impose sanctions or take other regulatory action against RTC, our suppliers, affiliates or partners, it could potentially disrupt our business operations. The impact of potential sanctions or other actions by China cannot be determined at this time.

We have direct commercial sales contracts for products and services to certain foreign customers, for which U.S. government review and approval have been pending. The U.S. government's approval of these sales is subject to a range of factors, including its foreign policies related to these customers, which are subject to continuing review and potential changes. Likewise, regulatory approvals previously granted for prior sales can be paused or revoked if the products and services have not yet been delivered to the customer. If we ultimately do not receive all of the regulatory approvals, or those approvals are revoked, it could have a material effect on our financial results. In particular, as of December 31, 2021, our Contract liabilities include approximately \$430 million of advance payments received from a Middle East customer on contracts for which we no longer believe we will be able to execute or obtain required regulatory approvals. These advance payments may become refundable to the customer if the contracts are ultimately terminated.

See Item 1A. Risk Factors within Part I of this Form 10-K for further discussion of these items.

FINANCIAL SUMMARY

We use the following key financial performance measures to manage our business on a consolidated basis and by business segment, and to monitor and assess our results of operations:

- Net Sales — a growth metric that measures our revenue for the current year;
- Operating Profit (Loss) — a measure of our profit (loss) for the year, before non-operating expenses, net and income taxes; and
- Operating Profit (Loss) Margin — a measure of our Operating profit (loss) as a percentage of Total Net Sales.

<i>(dollars in millions)</i>	2021	2020	2019
Total Net Sales	\$ 64,388	\$ 56,587	\$ 45,349
Operating profit (loss)	4,958	(1,889)	4,914
Operating profit (loss) margins	7.7 %	(3.3)%	10.8 %
Operating cash flow from continuing operations	\$ 7,142	\$ 4,334	\$ 5,821

In order to better assess the underlying performance of our business, we also focus on the change in organic net sales on both a consolidated basis and business segment basis, and the change in organic operating profit (loss) on a business segment basis, which allows for better year-over-year comparability. See Results of Operations below for our definition of the organic change in Net sales and Operating profit (loss), which are not defined measures under U.S. Generally Accepted Accounting Principles (GAAP) and may be calculated differently by other companies.

We also focus on backlog as a key financial performance measure of our forward-looking sales growth. Total backlog was \$156 billion and \$150 billion as of December 31, 2021 and 2020, respectively. Backlog, which is equivalent to our remaining performance obligations (RPO) for our sales contracts, represents the aggregate dollar value of firm orders for which products have not been provided or service has not been performed and excludes unexercised contract options and potential orders under ordering-type contracts (e.g., indefinite-delivery, indefinite-quantity (IDIQ) type contracts). Segment backlog does not include intercompany backlog. Backlog generally increases with bookings and/or orders and generally decreases as sales are recognized on these bookings and is affected by changes in foreign exchange rates, as well as contract cancellations and terminations, and cost underruns on cost-type contracts.

In addition, we maintain a strong focus on program execution and the prudent management of capital and investments in order to maximize operating income and cash. We focus on adjusted earnings per share (EPS) and measures to assess our cash generation and the efficiency and effectiveness of our use of capital, such as free cash flow (FCF), both of which are not defined measures under U.S. GAAP and may be calculated differently by other companies.

Considered together, we believe these metrics are strong indicators of our overall performance and our ability to create shareowner value. We feel these measures are balanced among long-term and short-term performance, efficiency and growth. We also use these and other performance metrics for executive compensation purposes.

A discussion of our results of operations and financial condition follows below in Results of Operations, Segment Review, and Liquidity and Financial Condition.

RESULTS OF OPERATIONS

As described in our "Cautionary Note Concerning Factors That May Affect Future Results" in this Form 10-K, our period-to-period comparisons of our results, particularly at a segment level, may not be indicative of our future operating results. The

following discussions of comparative results among periods, including the discussion of segment results, should be viewed in this context. As discussed further above in “Business Overview,” the results of RIS and RMD reflect the period subsequent to the completion of the Raytheon Merger on April 3, 2020. As such, the results of RIS and RMD for the second quarter of 2020 exclude results prior to the date of completion of the Raytheon Merger, the estimated impact of which is approximately \$400 million of sales and approximately \$45 million of operating profit. These amounts, in addition to the first quarter of 2021 results, have been excluded from the organic changes for the year ended December 31, 2021 disclosed throughout our Results of Operations discussion. In addition, as a result of the Separation Transactions and the Distributions, the historical results of Carrier and Otis are presented as discontinued operations and, as such, have been excluded from both continuing operations and segment results for all periods presented.

We provide the organic change in Net sales and Cost of sales for our consolidated results of operations as well as the organic change in Net sales and Operating profit (loss) for our segments. We believe that these non-GAAP measures are useful to investors because they provide transparency to the underlying performance of our business, which allows for better year-over-year comparability. The organic change in Net sales, Cost of sales and Operating Profit (loss) excludes acquisitions and divestitures, net, and the effect of foreign currency exchange rate translation fluctuations and other significant non-recurring and non-operational items (“Other.”). Additionally, the organic change in Cost of sales and Operating profit (loss) excludes restructuring costs, the FAS/CAS operating adjustment and costs related to certain acquisition accounting adjustments. Acquisition accounting adjustments include the amortization of acquired intangible assets related to acquisitions, the amortization of the property, plant and equipment fair value adjustment acquired through acquisitions and the amortization of customer contractual obligations related to loss making or below market contracts acquired.

Net Sales

<i>(dollars in millions)</i>	2021	2020	2019
Total Net Sales	\$ 64,388	\$ 56,587	\$ 45,349

The factors contributing to the total change year-over-year in Total Net Sales are as follows:

<i>(dollars in millions)</i>	2021	2020
Organic ⁽¹⁾	\$ 724	\$ (10,438)
Acquisitions and divestitures, net	6,961	21,662
Other	116	14
Total change	\$ 7,801	\$ 11,238

(1) See “Results of Operations” for definition of organic. A reconciliation of this measure to reported U.S. GAAP amounts is provided in the table above.

Net sales increased \$0.7 billion organically in 2021 compared to 2020 primarily due to higher organic sales of \$1.3 billion at Pratt & Whitney, partially offset by lower organic sales of \$0.6 billion at Collins Aerospace. The \$7.0 billion sales increase in Acquisitions and divestitures, net in 2021 compared to 2020, was primarily driven by the Raytheon Merger on April 3, 2020, partially offset by the sale of the Collins Aerospace military Global Positioning System (GPS) and space-based precision optics businesses in the third quarter of 2020 and the sale of our Forcepoint business in the first quarter of 2021.

Net sales decreased \$10.4 billion organically in 2020 compared to 2019 primarily due to lower sales of \$6.6 billion at Collins Aerospace and \$4.1 billion at Pratt & Whitney all principally driven by the economic and operating environment primarily due to the COVID-19 pandemic. The \$21.7 billion sales increase in Acquisitions and divestitures, net in 2020 compared to 2019, is primarily driven by the Raytheon Merger on April 3, 2020. Included in the change in Acquisitions and divestitures, net was the sale of the Collins Aerospace military GPS and space-based precision optics businesses sold in the third quarter of 2020, as further discussed in “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” within Item 8 of this Form 10-K.

See “Segment Review” below for further information by segment.

<i>(dollars in millions)</i>	2021	2020	2019	% of Total Net Sales		
				2021	2020	2019
Net sales						
Products sales	\$ 49,270	\$ 43,319	\$ 32,998	77 %	77 %	73 %
Services sales	15,118	13,268	12,351	23 %	23 %	27 %
Total Net Sales	\$ 64,388	\$ 56,587	\$ 45,349	100 %	100 %	100 %

Refer to “Note 22: Segment Financial Data” within Item 8 of this Form 10-K for the composition of external net sales by products and services by segment.

Net products sales grew \$6.0 billion in 2021 compared to 2020 primarily due to an increase in external products sales of \$3.7 billion at RMD and \$3.0 billion at RIS, both primarily due to the Raytheon Merger on April 3, 2020, and an increase in external products sales of \$1.0 billion at Pratt & Whitney, partially offset by a decrease in external products sales of \$1.3 billion at Collins Aerospace. Net services sales grew \$1.9 billion in 2021 compared to 2020 primarily due to an increase in external services sales of \$0.8 billion at RIS and \$0.4 billion at RMD, both primarily due to the Raytheon Merger on April 3, 2020, and an increase in external services sales of \$0.4 billion at Pratt & Whitney and \$0.3 billion at Collins Aerospace.

Net products sales grew \$10.3 billion in 2020 compared to 2019 primarily due to an increase in external products sales of \$18.4 billion due to the Raytheon Merger on April 3, 2020, partially offset by decreases in external products sales of \$5.3 billion at Collins Aerospace and \$2.8 billion at Pratt & Whitney. Net services sales grew \$0.9 billion in 2020 compared to 2019 primarily due to an increase in external services sales of \$3.4 billion due to the Raytheon Merger on April 3, 2020, partially offset by decreases in external services sales of \$1.3 billion at Pratt & Whitney and \$1.2 billion at Collins Aerospace.

Our sales to major customers were as follows:

<i>(dollars in millions)</i>	2021	2020	2019	% of Total Net Sales		
				2021	2020	2019
Sales to the U.S. government ⁽¹⁾	\$ 31,177	\$ 25,962	\$ 9,094	48 %	46 %	20 %
Foreign military sales through the U.S. government	5,546	4,585	1,571	9 %	8 %	3 %
Foreign government direct commercial sales	4,993	3,974	1,498	8 %	7 %	3 %
Commercial aerospace and other commercial sales	22,672	22,066	33,186	35 %	39 %	73 %
Total Net Sales	\$ 64,388	\$ 56,587	\$ 45,349	100 %	100 %	100 %

(1) Excludes foreign military sales through the U.S. government.

Cost of Sales

<i>(dollars in millions)</i>	2021	2020	2019
Total Cost of sales	\$ 51,897	\$ 48,056	\$ 34,598
Percentage of net sales	81 %	85 %	76 %

The factors contributing to the change year-over-year in total Cost of sales are as follows:

<i>(dollars in millions)</i>	2021	2020
Organic ⁽¹⁾	\$ (1,293)	\$ (4,432)
Acquisitions and divestitures, net	5,829	17,696
Restructuring	(363)	220
FAS/CAS operating adjustment	(643)	(965)
Acquisition accounting adjustments	345	939
Other	(34)	—
Total change	\$ 3,841	\$ 13,458

(1) See “Results of Operations” for definition of organic. A reconciliation of this measure to reported U.S. GAAP amounts is provided in the table above.

The organic decrease in total Cost of sales in 2021 compared to 2020 of \$1.3 billion was primarily due to a decrease in organic Cost of sales at Collins Aerospace primarily due to the sales decrease noted above, the benefit of cost reduction initiatives, and the absence of prior year significant unfavorable adjustments, and a decrease in organic Cost of sales at RMD primarily due to the absence of an unfavorable profit impact of \$516 million related to inventory reserves, contract asset impairments and

recognition of supplier related obligations for certain international contracts as further described in “Segment Review” below. These decreases in Cost of sales were partially offset by an increase in organic Cost of sales at Pratt & Whitney due to the organic sales increases noted above. The increase in Acquisitions and divestitures, net of \$5.8 billion in 2021 compared to 2020 is primarily driven by the Raytheon Merger on April 3, 2020, partially offset by the sale of the Collins Aerospace military GPS and space-based precision optics businesses in the third quarter of 2020 and the sale of our Forcepoint business in the first quarter of 2021 as further discussed in “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” within Item 8 of this Form 10-K.

The organic decrease in total Cost of sales in 2020 compared to 2019, of \$4.4 billion was primarily driven by the organic sales decreases noted above. The increase in Acquisitions and divestitures, net of \$17.7 billion for 2020 compared to 2019 was primarily driven by the Raytheon Merger on April 3, 2020. Included in the change in Acquisitions and divestitures, net is the sale of the Collins Aerospace military GPS and space-based precision optics businesses sold in the third quarter of 2020, and an unfavorable profit impact of \$516 million related to inventory reserves, contract asset impairments and recognition of supplier related obligations for certain international contracts at RMD as further described in “Segment Review” below. Included in Other cost of sales was an \$89 million impairment of commercial aircraft program assets at Pratt & Whitney in 2020 and amortization of the inventory fair value step-up associated with the Rockwell Collins acquisition of \$181 million at Collins Aerospace in 2019.

For further discussion on Restructuring costs see “Restructuring Costs” section below. For further discussion on FAS/CAS operating adjustment see “FAS/CAS operating adjustment” subsection under the “Segment Review” section below. For further discussion on Acquisition accounting adjustments, see “Acquisition accounting adjustments” subsection under the “Segment Review” section below.

<i>(dollars in millions)</i>	2021	2020	2019	% of Total Net Sales		
				2021	2020	2019
Cost of sales						
Products	\$ 41,095	\$ 38,137	\$ 26,910	64 %	67 %	59 %
Services	10,802	9,919	7,688	17 %	18 %	17 %
Total Cost of Sales	\$ 51,897	\$ 48,056	\$ 34,598	81 %	85 %	76 %

Net products Cost of sales increased \$3.0 billion in 2021 compared to 2020 primarily due to an increase in external products cost of sales at RIS and RMD principally due to the Raytheon Merger on April 3, 2020, and an increase in external product cost of sales at Pratt & Whitney, principally driven by the products sales increase noted above, partially offset by a decrease in external products Cost of sales at Collins Aerospace, principally driven by the products sales decrease noted above, the benefit of cost reduction initiatives and the absence of prior year significant unfavorable adjustments. Net services Cost of sales grew \$0.9 billion in 2021 compared to 2020 primarily due to an increase in external services Cost of sales at RIS and RMD principally due to the Raytheon Merger on April 3, 2020.

Net products Cost of sales grew \$11.2 billion in 2020 compared to 2019 primarily due to an increase in external products Cost of sales due to the Raytheon Merger on April 3, 2020, partially offset by decreases in external products Cost of sales at Collins Aerospace and Pratt & Whitney. Net services Cost of sales grew \$2.2 billion in 2020 compared to 2019 primarily due to an increase in external services Cost of sales due to the Raytheon Merger on April 3, 2020, partially offset by a decrease in external services Cost of sales at Collins Aerospace.

<i>(dollars in millions)</i>	Research and Development					
	2021		2020		2019	
Company-funded	\$ 2,732		\$ 2,582		\$ 2,452	
Percentage of net sales	4.2	%	4.6	%	5.4	%
Customer-funded ⁽¹⁾	\$ 4,485		\$ 4,111		\$ 2,283	
Percentage of net sales	7.0	%	7.3	%	5.0	%

(1) Customer-funded research and development costs are included in cost of sales in our Consolidated Statement of Operations.

Research and development spending is subject to the variable nature of program development schedules and, therefore, year-over-year fluctuations in spending levels are expected. The increase in company-funded research and development of \$0.2 billion in 2021 compared to 2020, was primarily driven by \$0.2 billion related to the Raytheon Merger on April 3, 2020. The increase in company-funded research and development of \$0.1 billion in 2020 compared to 2019, was primarily driven by \$0.6 billion related to the Raytheon Merger on April 3, 2020, partially offset by lower expenses of \$0.3 billion across various

commercial programs at Pratt & Whitney and \$0.2 billion across various commercial programs at Collins Aerospace, both principally driven by cost reduction measures in response to the economic environment primarily due to COVID-19.

The increase in customer-funded research and development of \$0.4 billion in 2021 compared to 2020, was primarily driven by \$0.6 billion related to the Raytheon Merger on April 3, 2020, partially offset by lower expenses of \$0.2 billion on various military and commercial programs at Pratt & Whitney and lower expenses of \$0.1 billion at Collins Aerospace primarily related to the sale of the military GPS and space-based precision optics businesses in the third quarter of 2020. The increase in customer-funded research and development of \$1.8 billion in 2020 compared to 2019, was primarily driven by \$1.7 billion related to the Raytheon Merger on April 3, 2020.

Selling, General and Administrative

<i>(dollars in millions)</i>	2021	2020	2019
Selling, general and administrative	\$ 5,224	\$ 5,540	\$ 3,711
Percentage of net sales	8.1 %	9.8 %	8.2 %

Selling, general and administrative expenses decreased \$0.3 billion in 2021 compared to 2020, primarily driven by the absence of \$0.4 billion of prior year charges related to increased estimates of expected credit losses due to customer bankruptcies and additional allowances for credit losses at our Pratt & Whitney and Collins Aerospace segments, lower costs of \$0.3 billion due to the sale of our Forcepoint business in the first quarter of 2021, and lower general and administrative restructuring costs of \$0.3 billion primarily related to restructuring actions taken at Collins Aerospace and Corporate in the prior year, partially offset by an increase in expenses of \$0.4 billion related to the Raytheon Merger, and higher employee-related costs.

Selling, general and administrative expenses increased \$1.8 billion in 2020 compared to 2019, primarily driven by \$1.6 billion related to the Raytheon Merger on April 3, 2020, excluding the impact of merger-related restructuring costs. The increase in selling, general and administrative expenses also includes higher expenses of \$0.4 billion related to increased estimates of expected credit losses primarily due to customer bankruptcies and additional allowances for credit losses at Pratt & Whitney and Collins Aerospace, higher general and administrative restructuring costs of \$0.3 billion, and lower expenses due to cost reduction initiatives.

We are continuously evaluating our cost structure and have implemented restructuring actions in an effort to keep our cost structure competitive. As appropriate, the amounts reflected above include the beneficial impact of previous restructuring actions on selling, general and administrative expenses. See “Note 14: Restructuring Costs” within Item 8 of this Form 10-K and Restructuring Costs, below, for further discussion.

Other Income, Net

<i>(dollars in millions)</i>	2021	2020	2019
Other income, net	\$ 423	\$ 885	\$ 326

Other income, net includes equity earnings in unconsolidated entities, royalty income, foreign exchange gains and losses, as well as other ongoing and nonrecurring items. The decrease in Other income, net of \$462 million in 2021 compared to 2020 was primarily due to the absence of \$595 million of gains on the sales of the Collins Aerospace businesses in the third quarter of 2020, a decrease of \$178 million of foreign government wage subsidies related to COVID-19 at Pratt & Whitney and Collins Aerospace and an accrual of \$147 million in the fourth quarter of 2021 related to the ongoing Department of Justice (DOJ) investigation into contract pricing matters at RMD, partially offset by a gain of \$269 million on the sale of RIS’s global training and services business in the fourth quarter of 2021, as further discussed in “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” within Item 8 of this Form 10-K. The remaining change was spread across multiple items with no common or significant driver.

The increase in Other income, net of \$559 million in 2020 compared to 2019, was primarily due to \$595 million of gains on the sales of the Collins Aerospace businesses, and \$225 million related to foreign government wage subsidies due to COVID-19 at Pratt & Whitney and Collins Aerospace, partially offset by a net unfavorable year-over-year impact of foreign exchange gains and losses of \$138 million.

Operating Profit (Loss)

<i>(dollars in millions)</i>	2021	2020	2019
Operating profit (loss)	\$ 4,958	\$ (1,889)	\$ 4,914
Operating profit (loss) margin	7.7 %	(3.3)%	10.8 %

The change in Operating profit (loss) of \$6.8 billion in 2021 compared to 2020 was primarily driven by the operating performance at our operating segments, including the impact of the Raytheon Merger, the absence of the \$3.2 billion goodwill impairment in the second quarter of 2020 related to two Collins Aerospace reporting units, and an increase in our FAS/CAS operating adjustment of \$690 million primarily as a result of the Raytheon Merger. Included in the increase in Operating profit was a decrease in restructuring costs of \$625 million primarily related to restructuring actions taken at our Collins Aerospace and Pratt & Whitney segments in the prior year and the absence of a prior year unfavorable profit impact of \$516 million related to inventory reserves, contract asset impairments and recognition of supplier related obligations for certain international contracts at RMD as further described in “Segment Review” below.

The change in Operating profit (loss) of \$6.8 billion in 2020 compared to 2019 was primarily driven by the operating performance at our segments as described below in “Segment Review” and the \$3.2 billion goodwill impairment in the second quarter of 2020 related to two Collins Aerospace reporting units. Included in the decrease in Operating profit (loss) was an increase in acquisition accounting adjustments of \$1.1 billion related to the Raytheon Merger, an increase in restructuring costs of \$527 million primarily related to restructuring actions taken at our Collins Aerospace segment and restructuring actions in connection with the Raytheon Merger on April 3, 2020 and an unfavorable profit impact of \$516 million related to inventory reserves, contract asset impairments and recognition of supplier related obligations for certain international contracts at RMD as further described in “Segment Review” below.

Non-service Pension Income

<i>(dollars in millions)</i>	2021	2020	2019
Non-service pension (income)	\$ (1,944)	\$ (902)	\$ (829)

The change in Non-service pension income of \$1.0 billion in 2021 compared to 2020 was primarily driven by the decrease in the discount rates at December 31, 2020 compared to the prior period, the Raytheon Company domestic defined benefit pension plan amendment described below and prior year pension asset returns exceeding our expected return on plan assets (EROA) assumption.

The change in Non-service pension income of \$73 million in 2020 compared to 2019 was primarily driven by the inclusion of Raytheon Company plans in 2020 as a result of the Raytheon Merger and a decrease in the interest rates at December 31, 2019 and during 2020 compared to December 31, 2018, partially offset by a decrease in the EROA assumption for the UTC plans in 2020 and a one-time curtailment gain of \$98 million in 2019. The one-time curtailment gain was due to the recognition of previously unrecognized prior service credits as a result of an amendment to the UTC domestic defined benefit plans to cease accrual of additional benefits for future service and compensation for non-union participants effective December 31, 2019.

In December 2020, we approved a change to the Raytheon Company domestic defined benefit pension plans for non-union participants to cease future benefit accruals based on an employee’s years of service and compensation effective December 31, 2022. The plan change does not impact participants’ historical benefit accruals. Benefits for service after December 31, 2022 will be based on a cash balance formula.

Interest Expense, Net

<i>(dollars in millions)</i>	2021	2020	2019
Interest expense	\$ 1,358	\$ 1,408	\$ 1,711
Interest income	(36)	(42)	(120)
Interest expense, net	\$ 1,322	\$ 1,366	\$ 1,591
Total average interest expense rate - average outstanding borrowings during the year:	4.1 %	4.0 %	3.6 %
Total average interest expense rate - outstanding borrowings as of December 31:	4.0 %	4.2 %	3.6 %

Interest expense, net in 2021 was relatively consistent with 2020. Included in Interest expense, net was a \$50 million unfavorable change in the mark-to-market fair value of marketable securities held in trusts associated with certain of our nonqualified deferred compensation and employee benefit plans, partially offset by a decrease in interest expense primarily due to the repayment of long-term debt. The average maturity of our long-term debt at December 31, 2021 was approximately 15 years.

Interest expense, net decreased \$225 million in 2020 as compared with 2019, primarily due to a decrease in interest expense principally driven by the repayment of long-term debt, partially offset by a decrease in interest income principally driven by interest income of \$63 million related to tax settlements in the prior year. The average maturity of our long-term debt at December 31, 2020 was approximately 14 years.

Income Taxes

	2021	2020	2019
Effective income tax rate	15.9 %	(24.4)%	10.1 %

The 2021 effective tax rate includes tax benefits of \$244 million associated with legal entity and operational reorganizations implemented in the third quarter of 2021, \$172 million associated with U.S. research and development credits and \$121 million associated with Foreign Derived Intangible Income (FDII), and tax charges of \$73 million associated with the revaluation of deferred taxes resulting from the increase in the United Kingdom (U.K.) corporate tax rate to 25% enacted in 2021 and effective in 2023. In the first quarter of 2021, we recorded \$148 million of tax charges associated with the sale of the Forcepoint business, and subsequently recognized a \$104 million tax benefit due to the revaluation of that tax benefit as a result of completing the divestiture of RIS's global training and services business for a gain in the fourth quarter of 2021.

The 2020 negative effective tax rate is a result of having tax expense of \$575 million on a loss from continuing operations before income taxes of \$2.4 billion. The loss from continuing operations before income taxes in 2020 includes the \$3.2 billion goodwill impairment, most of which was non-deductible for tax purposes. Tax expense includes net deferred tax charges of \$416 million resulting from the Separation Transactions and the Raytheon Merger primarily related to the impairment of deferred tax assets and the revaluation of certain international tax incentives, and incremental tax expense of \$177 million related to the disposal of businesses, including the sales of businesses at Collins Aerospace, the airborne tactical radios business at RIS and the entry into a definitive agreement to sell Forcepoint. Also included in the 2020 effective tax rate are tax benefits of \$142 million associated with U.S. research and development credits and \$83 million associated with FDII.

The 2019 effective tax rate includes tax benefits of \$290 million primarily associated with the conclusion of the audit by the Examination Division of the Internal Revenue Service (IRS) for the Company's 2014, 2015 and 2016 tax years and the filing by a subsidiary of the Company to participate in an amnesty program offered by the Italian Tax Authority. The 2019 effective tax rate also includes tax benefits of \$101 million related to U.S. research and development credits and \$138 million associated with FDII.

Provisions enacted in the Tax Cuts and Jobs Act of 2017 (TCJA) related to the capitalization for tax purposes of research and experimental expenditures became effective on January 1, 2022. If these provisions are not deferred beyond 2022, our tax payments will increase by an estimated \$2 billion in 2022; however, our effective tax rate will be favorably impacted.

For additional discussion of income taxes and the effective income tax rate, see "Income Taxes" within Critical Accounting Estimates, below, and "Note 13: Income Taxes" within Item 8 of this Form 10-K.

Net Income (Loss) from Continuing Operations Attributable to Common Shareowners

<i>(dollars in millions, except per share amounts)</i>	2021	2020	2019
Net income (loss) from continuing operations attributable to common shareowners	\$ 3,897	\$ (3,109)	\$ 3,510
Diluted earnings (loss) per share from continuing operations	\$ 2.58	\$ (2.29)	\$ 4.06

Net income from continuing operations attributable to common shareowners for 2021 includes the following:

- acquisition accounting adjustments primarily related to the Raytheon Merger of \$1.7 billion, net of tax, which had an unfavorable impact on diluted EPS from continuing operations of \$1.13;
- net debt extinguishment costs of \$524 million, net of tax, in connection with the early repayment of outstanding principal, which had an unfavorable impact on diluted EPS from continuing operations of \$0.35;
- tax benefits of \$244 million associated with legal entity and operational reorganizations implemented in the third quarter 2021, which had a favorable impact on diluted EPS from continuing operations of \$0.16;
- tax expense of \$148 million related to the sale of our Forcepoint business in the first quarter of 2021, which had an unfavorable impact on diluted EPS from continuing operations of \$0.10, and the subsequent revaluation of that tax benefit of \$104 million in the fourth quarter of 2021, due to the completion of the divestiture of RIS's global training and services business for a gain, which had a favorable impact on diluted EPS from continuing operations of \$0.07;
- accrual of \$147 million related to the ongoing DOJ investigation into contract pricing matters at RMD, which had an unfavorable impact on diluted EPS from continuing operations of \$0.10;

- restructuring charges of \$121 million, net of tax, which had an unfavorable impact on diluted EPS from continuing operations of \$0.08; and
- gain on the sale of our global training and services business within our RIS segment of \$126 million, net of tax, which had a favorable impact on diluted EPS from continuing operations of \$0.08.

Net loss from continuing operations attributable to common shareowners for 2020 includes the following:

- acquisition accounting adjustments primarily related to the Raytheon Merger of \$1.4 billion, net of tax, which had an unfavorable impact on diluted EPS from continuing operations of \$1.06;
- restructuring charges of \$598 million, net of tax, which had an unfavorable impact on diluted EPS from continuing operations of \$0.44;
- \$3.2 billion of primarily non-deductible goodwill and intangibles impairment charges related to our Collins Aerospace segment, which had an unfavorable impact on diluted EPS from continuing operations of \$2.37;
- significant unfavorable contract adjustments at Pratt & Whitney and Collins Aerospace of \$667 million, net of tax, which had an unfavorable impact on diluted EPS from continuing operations of \$0.49;
- \$415 million of tax charges in connection with the Separation Transactions, including the impairment of deferred tax assets not expected to be utilized, which had an unfavorable impact on diluted EPS from continuing operations of \$0.31;
- unfavorable profit impact at RMD of \$412 million, net of tax, related to certain direct commercial sales contracts for precision guided munitions with a certain Middle East customer, which had an unfavorable impact on diluted EPS from continuing operations of \$0.30;
- increased estimates of expected credit losses driven by customer bankruptcies and additional allowances for credit losses of \$300 million, net of tax, which had an unfavorable impact on diluted EPS from continuing operations of \$0.22; and
- gains on the sales of the Collins Aerospace businesses of \$240 million, net of tax, which had a favorable impact on diluted EPS from continuing operations of \$0.18.

Net income from continuing operations attributable to common shareowners for 2019 includes the following:

- acquisition accounting adjustments of \$704 million, net of tax, which had an unfavorable impact on diluted EPS from continuing operations of \$0.81;
- restructuring charges of \$186 million, net of tax, which had an unfavorable impact on diluted EPS from continuing operations of \$0.21;
- tax settlements and related interest income on tax settlements of \$341 million, which had a favorable impact on diluted EPS from continuing operations of \$0.39; and
- amortization on the inventory fair value step-up associated with the Rockwell Collins Acquisition of \$140 million, net of tax, which had an unfavorable impact on diluted EPS from continuing operations of \$0.16.

Net Income (Loss) from Discontinued Operations Attributable to Common Shareowners

(dollars in millions, except per share amounts)

	2021	2020	2019
Net income (loss) from discontinued operations attributable to common shareowners	\$ (33)	\$ (410)	\$ 2,027
Diluted earnings (loss) per share from discontinued operations	\$ (0.02)	\$ (0.30)	\$ 2.35

On April 3, 2020, we completed the separation of our commercial businesses, Carrier and Otis. Effective as of that date, the historical results of the Carrier and Otis segments were reclassified to discontinued operations for all periods presented. See “Note 3: Discontinued Operations” within Item 8 of this Form 10-K for additional information.

The change in Net income (loss) from discontinued operations attributable to common shareowners of \$377 million and the related change in diluted earnings (loss) per share from discontinued operations of \$0.28 in 2021 compared to 2020 was primarily due to higher prior year costs associated with the separation of our commercial businesses, including debt extinguishment costs of \$611 million, net of tax, in connection with the early repayment of outstanding principal, partially offset by prior year Carrier and Otis operating activity, as the Separation Transactions occurred on April 3, 2020.

The change in Net income (loss) from discontinued operations attributable to common shareowners of \$2.4 billion and the related change in diluted earnings (loss) per share from discontinued operations of \$2.65 in 2020 compared to 2019 was primarily due to prior year Carrier and Otis operating activity, as the Separation Transactions occurred on April 3, 2020, partially offset by higher prior year costs associated with the separation of our commercial businesses. Net income (loss) from discontinued operations for 2020 and 2019 includes \$888 million, net of tax, and \$1.3 billion, net of tax, respectively, of costs associated with the Company’s separation of its commercial businesses. Separation costs in 2020 primarily related to debt extinguishment costs of \$611 million in connection with the early repayment of outstanding principal.

Net Income (Loss) Attributable to Common Shareowners

<i>(dollars in millions, except per share amounts)</i>	2021	2020	2019
Net income (loss) attributable to common shareowners	\$ 3,864	\$ (3,519)	\$ 5,537
Diluted earnings (loss) per share from operations	\$ 2.56	\$ (2.59)	\$ 6.41

The changes in Net income (loss) attributable to common shareowners and diluted EPS from operations for 2021 compared to 2020 and for 2020 compared to 2019 were driven by the changes in continuing operations, as discussed above in Net Income (Loss) from Continuing Operations Attributable to Common Shareowners and the changes from discontinued operations, as discussed above in Net Income (Loss) from Discontinued Operations Attributable to Common Shareowners.

RESTRUCTURING COSTS

<i>(dollars in millions)</i>	2021	2020	2019
Restructuring costs	\$ 143	\$ 777	\$ 245

Restructuring actions are an essential component of our operating margin improvement efforts and relate to both existing operations and recent mergers and acquisitions. Charges generally arise from severance related to workforce reductions and facility exit costs associated with the consolidation of field and manufacturing operations and costs to exit legacy programs. We continue to closely monitor the economic environment and may undertake further restructuring actions to keep our cost structure aligned with the demands of the prevailing market conditions.

2021 Actions. During 2021, we recorded net pre-tax restructuring charges of \$137 million for restructuring efforts initiated in 2021, primarily related to severance costs in connection with ongoing cost reduction efforts, and to a much lesser extent, the exit and consolidation of facilities. We expect to incur additional restructuring charges of \$62 million to complete these actions. We are targeting to complete the majority of actions initiated in 2021 by 2022. We expect recurring pre-tax savings in continuing operations related to these actions to reach approximately \$140 million annually within one to two years. Approximately 60% of the total pre-tax charge will require cash payments, which we have funded and expect to continue to fund with cash generated from operations. During 2021, we had cash outflows of approximately \$20 million related to 2021 actions.

2020 Actions. During 2021, we reversed net pre-tax restructuring costs of \$23 million related to actions initiated in 2020. In 2020, we recorded net pre-tax restructuring charges of \$770 million for actions initiated in 2020. These costs primarily related to severance and restructuring actions at Pratt & Whitney and Collins Aerospace in response to the impact on our operating results related to the economic environment primarily caused by the COVID-19 pandemic, the Raytheon Merger, and the ongoing cost reduction efforts. Additional restructuring charges to complete these actions are expected to be de minimis. We expect recurring pre-tax savings in continuing operations related to these actions to reach approximately \$1.2 billion annually within two years of initiating these actions. Approximately 90% of the total pre-tax charge will require cash payments, which we have funded and expect to continue to fund with cash generated from operations. During 2021 and 2020, we had cash outflows of approximately \$220 million and \$400 million, respectively, related to the 2020 actions.

In addition, during 2021, we recorded \$29 million of net pre-tax restructuring costs for restructuring actions initiated in 2019 and prior. In 2020 and 2019, we recorded \$7 million and \$245 million, respectively, of net pre-tax restructuring costs for restructuring actions initiated in 2019 and prior. For additional discussion of restructuring, see "Note 14: Restructuring Costs" within Item 8 of this Form 10-K.

SEGMENT REVIEW

We operate in four principal business segments: Collins Aerospace Systems (Collins Aerospace), Pratt & Whitney, Raytheon Intelligence & Space (RIS) and Raytheon Missiles & Defense (RMD). The results of RIS and RMD reflect the period subsequent to the completion of the Raytheon Merger on April 3, 2020. The historical results of Carrier and Otis are presented as discontinued operations and, as such, have been excluded from both continuing operations and segment results for all periods presented.

For a detailed description of our businesses, see "Business" within Item 1 of this Form 10-K.

As previously announced, effective January 1, 2021, we reorganized certain product areas of our RIS and RMD businesses to more efficiently leverage our capabilities. The amounts and presentation of our business segments, including intersegment activity, set forth in this Form 10-K reflect this reorganization. The reorganization does not impact our previously reported Collins Aerospace Systems and Pratt & Whitney segment results, or our consolidated balance sheets, statements of operations or statements of cash flows.

We present a FAS/CAS operating adjustment outside of segment results, which represents the difference between the service cost component of our pension and postretirement benefit (PRB) expense under the Financial Accounting Standards (FAS) requirements of U.S. GAAP and our pension and PRB expense under U.S. government Cost Accounting Standards (CAS) primarily related to our RIS and RMD segments. While the ultimate liability for pension and PRB costs under FAS and CAS is similar, the pattern of cost recognition is different. Over time, we generally expect to recover the related RIS and RMD pension and PRB liabilities through the pricing of our products and services to the U.S. government. Collins Aerospace and Pratt & Whitney segments generally record pension and PRB expense on a FAS basis.

Segments are generally based on the management structure of the businesses and the grouping of similar operations, based on capabilities and technologies, where each management organization has general operating autonomy over diversified products and services. Segment Total Net Sales and Operating profit (loss) include intercompany sales and profit, which are ultimately eliminated within Eliminations and other, which also includes certain smaller non-reportable segments. Segment results exclude certain acquisition accounting adjustments, the FAS/CAS operating adjustment and certain corporate expenses, as further discussed below.

We provide the organic change in Net sales and Operating profit (loss) for our segments as discussed above in “Results of Operations”. We believe that these non-GAAP measures are useful to investors because they provide transparency to the underlying performance of our business, which allows for better year-over-year comparability. For Pratt & Whitney only, Other also includes the transactional impact of foreign exchange hedging at Pratt & Whitney Canada due to its significance to Pratt & Whitney’s overall operating results.

Given the nature of our business, we believe that Total Net Sales and Operating profit (loss) (and the related operating profit (loss) margin percentage), which we disclose and discuss at the segment level, are most relevant to an understanding of management’s view of our segment performance, as described below.

Total Net Sales. Total Net Sales by segment were as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Collins Aerospace Systems	\$ 18,449	\$ 19,288	\$ 26,028
Pratt & Whitney	18,150	16,799	20,902
Raytheon Intelligence & Space	15,180	11,069	—
Raytheon Missiles & Defense	15,539	11,396	—
Total segment	67,318	58,552	46,930
Eliminations and other ⁽¹⁾	(2,930)	(1,965)	(1,581)
Consolidated	\$ 64,388	\$ 56,587	\$ 45,349

(1) Includes the operating results of certain smaller non-reportable business segments. 2020 amounts include Forcepoint, LLC, which was acquired as part of the Raytheon Merger, and subsequently disposed of on January 8, 2021.

Operating Profit (Loss). Operating profit (loss) by segment was as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Collins Aerospace Systems	\$ 1,759	\$ 1,466	\$ 4,508
Pratt & Whitney	454	(564)	1,801
Raytheon Intelligence & Space	1,833	1,020	—
Raytheon Missiles & Defense	2,004	880	—
Total segment	6,050	2,802	6,309
Eliminations and other ⁽¹⁾	(133)	(107)	(140)
Corporate expenses and other unallocated items ⁽²⁾	(552)	(590)	(367)
FAS/CAS operating adjustment	1,796	1,106	—
Acquisition accounting adjustments ⁽³⁾	(2,203)	(5,100)	(888)
Consolidated	\$ 4,958	\$ (1,889)	\$ 4,914

(1) Includes the operating results of certain smaller non-reportable business segments. 2020 amounts include Forcepoint, LLC, which was acquired as part of the Raytheon Merger, and subsequently disposed of on January 8, 2021.

(2) Corporate expenses and other unallocated items in 2021 and 2020 include the net expenses related to the U.S. Army’s Lower Tier Air and Missile Defense Sensor (LTAMDS) project. No amounts were recorded in 2019.

(3) Acquisition accounting adjustments in 2020 includes the \$3.2 billion goodwill impairment loss in the second quarter of 2020 related to two Collins Aerospace reporting units. Refer to “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” in Item 8 of this Form 10-K for additional information.

Included in segment Operating profit (loss) are Estimate at Completion (EAC) adjustments, which relate to changes in Operating profit (loss) and margin due to revisions to total estimated revenues and costs at completion. These changes may reflect improved or deteriorated operating performance, as well as changes in facts and assumptions related to contract options, contract modifications, incentive and award fees associated with program performance, customer activity levels, and other customer-directed changes. For a full description of our EAC process, refer to “Note 1: Basis of Presentation and Summary of Accounting Principles” within Item 8 of this Form 10-K. Given that we have thousands of individual contracts and given the types and complexity of the assumptions and estimates we must make on an on-going basis and the nature of the work required to be performed under our contracts, we have both favorable and unfavorable EAC adjustments in the ordinary course.

We had the following aggregate EAC adjustments for the periods presented:

<i>(dollars in millions)</i>	2021	2020	2019
Gross favorable	\$ 1,286	\$ 994	\$ 419
Gross unfavorable	(1,176)	(1,637)	(488)
Total net EAC adjustments	\$ 110	\$ (643)	\$ (69)

As a result of the Raytheon Merger, RIS’s and RMD’s long-term contracts that are accounted for on a percentage of completion basis, were reset to zero percent complete as of the merger date because only the unperformed portion of the contract at the merger date represented an obligation of the Company. This had the impact of reducing gross favorable and unfavorable EAC adjustments for these segments in the short term, most notably in 2020. The change in net EAC adjustments of \$753 million in 2021 compared 2020 was primarily due to a favorable change in net EAC adjustments of \$635 million at Pratt & Whitney, due to the absence of significant unfavorable contract adjustments in the prior year, and a favorable change in net EAC adjustments of \$126 million at RIS and \$40 million at RMD, primarily due to the Raytheon Merger. This was partially offset by an unfavorable change in net EAC adjustments of \$48 million at Collins Aerospace spread across numerous individual programs with no individual or common significant driver.

The change in net EAC adjustments of \$574 million in 2020 compared 2019 was primarily due to an increase in net unfavorable EAC adjustments of \$544 million at Pratt & Whitney, principally due to the economic and operating environment primarily driven by the COVID-19 pandemic.

Significant EAC adjustments, when they occur, are discussed in each business segment’s discussion below.

Backlog and Defense Bookings. Total backlog was approximately \$156 billion and \$150 billion as of December 31, 2021 and 2020. Our backlog by segment, which does not include intercompany backlog, was as follows at December 31:

<i>(dollars in billions)</i>	2021	2020
Collins Aerospace Systems	\$ 24	\$ 23
Pratt & Whitney	85	78
Raytheon Intelligence & Space	18	19
Raytheon Missiles & Defense	29	29
Other	—	1
Total backlog	\$ 156	\$ 150

Included in total backlog is defense backlog of \$63 billion and \$67 billion as of December 31, 2021 and 2020, respectively. Our defense operations consist primarily of our RIS and RMD businesses and operations in the defense businesses within our Collins Aerospace and Pratt & Whitney segments. Defense bookings were approximately \$40 billion, \$31 billion and \$17 billion for 2021, 2020 and 2019 respectively.

Backlog, which is equivalent to our remaining performance obligations (RPO) for our sales contracts, represents the aggregate dollar value of firm orders for which products have not been provided or service has not been performed and excludes unexercised contract options and potential orders under ordering-type contracts (e.g., IDIQ type contracts). Backlog generally increases with bookings and generally decreases as sales are recognized on these bookings and is affected by changes in foreign exchange rates, as well as contract cancellations and terminations as discussed further below.

We believe defense bookings are an important measure of future performance for our defense operations and are an indicator of potential future changes in these operations’ Total Net Sales, because we cannot record revenues under a new contract without first having a booking in the current or a preceding period. Defense bookings generally represent the dollar value of new external defense contracts awarded to us during the reporting period and include firm orders for which funding has not been appropriated.

Defense bookings exclude unexercised contract options and potential orders under ordering-type contracts (e.g., IDIQ type contracts), and are reduced for contract cancellations and terminations of bookings recognized in the current period. We reflect contract cancellations and terminations from prior year bookings, as well as the impact of changes in foreign exchange rates, directly as an adjustment to backlog in the period in which the cancellation or termination occurs and the impact is determinable. Contract cancellations and terminations also include contract underruns on cost-type programs.

Collins Aerospace Systems

<i>(dollars in millions)</i>	2021	2020	2019	% Change	
				2021 compared with 2020	2020 compared with 2019
Net sales	\$ 18,449	\$ 19,288	\$ 26,028	(4)%	(26)%
Operating profit	1,759	1,466	4,508	20%	(67)%
Operating profit margins	9.5%	7.6%	17.3%		

2021 Compared with 2020

<i>(dollars in millions)</i>	Factors Contributing to Total Change				Total Change
	Organic ⁽¹⁾	Acquisitions / Divestitures, net	Restructuring Costs	Other	
Net sales	\$ (574)	\$ (333)	\$ —	\$ 68	\$ (839)
Operating profit	653	(91)	320	(589)	293

2020 Compared with 2019

<i>(dollars in millions)</i>	Factors Contributing to Total Change				Total Change
	Organic ⁽¹⁾	Acquisitions / Divestitures, net	Restructuring Costs	Other	
Net sales	\$ (6,554)	\$ (201)	\$ —	\$ 15	\$ (6,740)
Operating profit	(3,598)	(12)	(258)	826	(3,042)

(1) See “Segment Review” above for definition of organic. A reconciliation of these measures to reported U.S. GAAP amounts is provided in the table above.

2021 Compared with 2020

The organic sales decrease of \$0.6 billion in 2021 compared to 2020 primarily relates to lower commercial aerospace OEM sales of \$0.8 billion, predominately due to wide body volume declines principally driven by lower 787 deliveries. This was partially offset by higher commercial aerospace aftermarket sales of \$0.3 billion primarily due to an increase in flight hours and aircraft fleet utilization as commercial aerospace continues to recover from the prior year’s unfavorable economic environment principally driven by the COVID-19 pandemic. Military sales were down slightly in 2021 compared to 2020.

The organic profit increase of \$0.7 billion in 2021 compared to 2020 was primarily due to higher commercial aerospace operating profit of \$0.5 billion and lower selling, general and administrative expenses of \$0.1 billion. The higher commercial aerospace operating profit was principally driven by the higher commercial aerospace aftermarket sales discussed above, the benefit of cost reduction initiatives, the absence of \$157 million of prior year significant unfavorable adjustments, and a \$52 million favorable impact from a contract-related matter in 2021. The significant unfavorable adjustments in 2020 were primarily driven by the expected acceleration of fleet retirements of a certain aircraft type. The lower selling, general and administrative expenses were primarily driven by the absence of a \$125 million charge for allowances for credit losses in 2020, primarily related to the impact of the COVID-19 pandemic. Included in organic profit in 2020 was \$72 million of foreign government wage subsidies related to COVID-19.

The decrease in net sales and operating profit due to acquisitions / divestitures, net primarily relates to the sale of our Collins Aerospace military GPS and space-based precision optics businesses in the third quarter of 2020, as further discussed in “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” within Item 8 of this Form 10-K.

The decrease in Other operating profit of \$0.6 billion in 2021 compared to 2020 primarily relates to the absence of prior year gains of \$595 million on the sales of the Collins Aerospace military GPS and space-based precision optics businesses.

2020 Compared with 2019

The organic sales decrease of \$6.6 billion in 2020 compared to 2019 primarily relates to lower commercial aerospace OEM sales of \$3.7 billion and lower commercial aerospace aftermarket sales of \$3.4 billion, including declines across all aftermarket sales channels. These reductions were primarily due to the economic environment principally driven by the COVID-19 pandemic, which resulted in lower flight hours, aircraft fleet utilization and commercial OEM deliveries. This decrease was

partially offset by higher military sales of \$0.6 billion. Included in the organic sales decrease were lower commercial aerospace OEM and aftermarket sales of approximately \$1.0 billion related to the Boeing 737 Max program and fewer upgrades due to certain regulatory mandates that were primarily completed in early 2020.

The organic profit decrease of \$3.6 billion in 2020 compared to 2019 was primarily due to lower commercial aerospace operating profit of \$4.0 billion principally driven by the lower commercial aerospace OEM and aftermarket sales volume discussed above. Included in the lower commercial OEM operating profit were \$157 million of significant unfavorable adjustments principally driven by the expected acceleration of fleet retirements of a certain aircraft. The decrease was partially offset by lower research and development expenses of \$0.2 billion, which includes the impact of cost reduction initiatives. Included in the operating profit decrease was \$125 million of increased estimates of expected credit losses due to customer bankruptcies and additional allowances for credit losses. Included in organic profit in 2020 was other income of \$72 million related to foreign government wage subsidies due to COVID-19.

The decrease in net sales and operating profit due to acquisitions / divestitures, net primarily relates to the sale of our Collins Aerospace military GPS and space-based precision optics businesses in the third quarter of 2020.

The increase in other operating profit of \$0.8 billion in 2020 compared to 2019 primarily relates to gains of \$595 million on the sales of the Collins Aerospace businesses discussed above, the absence of prior year amortization of inventory fair value step-up associated with the Rockwell Acquisition of \$181 million and the absence of a prior year loss on the sale of a business of \$25 million.

Pratt & Whitney

<i>(dollars in millions)</i>	2021	2020	2019	% Change	
				2021 compared with 2020	2020 compared with 2019
Net sales	\$ 18,150	\$ 16,799	\$ 20,902	8 %	(20)%
Operating profit (loss)	454	(564)	1,801	180 %	(131)%
Operating profit (loss) margins	2.5 %	(3.4)%	8.6 %		

2021 Compared with 2020

<i>(dollars in millions)</i>	Factors Contributing to Total Change				Total Change
	Organic ⁽¹⁾	Acquisitions / Divestitures, net	Restructuring Costs	Other	
Net sales	\$ 1,255	\$ —	\$ —	\$ 96	\$ 1,351
Operating profit (loss)	702	—	173	143	1,018

2020 Compared with 2019

<i>(dollars in millions)</i>	Factors Contributing to Total Change				Total Change
	Organic ⁽¹⁾	Acquisitions / Divestitures, net	Restructuring Costs	Other	
Net sales	\$ (4,080)	\$ —	\$ —	\$ (23)	\$ (4,103)
Operating profit (loss)	(2,126)	—	(47)	(192)	(2,365)

(1) See "Segment Review" above for definition of organic. A reconciliation of these measures to reported U.S. GAAP amounts is provided in the table above.

2021 Compared with 2020

The organic sales increase of \$1.3 billion in 2021 compared to 2020 primarily reflects higher commercial aftermarket sales of \$1.2 billion, primarily due to an increase in shop visits and related spare part sales driven by the recovery from the prior year's unfavorable economic environment largely due to the COVID-19 pandemic, and higher commercial OEM sales of \$0.1 billion. Prior year commercial aftermarket sales include unfavorable EAC adjustments of \$0.4 billion, discussed further below. These increases were partially offset by lower military sales of \$0.1 billion in 2021 compared to 2020.

The organic profit increase of \$0.7 billion in 2021 compared to 2020 was primarily driven by higher commercial aerospace operating profit of \$0.7 billion principally due to favorable change in net EAC adjustments of \$0.6 billion, and lower selling, general and administrative expenses of \$0.1 billion. The higher commercial aerospace operating profit also includes the impact of the aftermarket sales volume increase discussed above, which was partially offset by lower commercial OEM operating profit due to unfavorable mix on the increased sales volume. The lower year-over-year unfavorable commercial aerospace EAC adjustments were principally driven by prior year unfavorable EAC adjustments discussed below. The lower selling, general and administrative expenses were primarily driven by the absence of a \$257 million charge in the prior year for allowances for

credit losses, partially offset by higher employee-related costs. The change in organic operating profit was also impacted by \$106 million of lower government wage subsidies, and the absence of prior year unfavorable EAC adjustments on certain commercial aftermarket and military programs, as discussed below.

The increase in other operating profit of \$0.1 billion in 2021 compared to 2020 was primarily driven by the absence of an \$89 million impairment of commercial aircraft program assets and \$43 million of reserves related to a commercial financing arrangement, both recorded in the prior year.

2020 Compared with 2019

The organic sales decrease of \$4.1 billion in 2020 compared to 2019 primarily reflects lower commercial aftermarket sales of \$3.8 billion, due to a significant reduction in shop visits and related spare part sales, and lower commercial OEM sales of \$1.1 billion, primarily due to a significant reduction in commercial engine deliveries, all principally driven by the economic and operating environment primarily due to the COVID-19 pandemic. These declines were partially offset by higher military sales of \$0.8 billion primarily driven by an increase in F135 engine sales and aftermarket growth on multiple platforms. Included in the lower commercial aftermarket sales is a \$0.4 billion impact to sales from the net unfavorable contract adjustments discussed further below.

The organic profit decrease of \$2.1 billion in 2020 compared to 2019 was primarily driven by lower commercial aftermarket operating profit of \$2.4 billion driven by the sales volume decrease discussed above, unfavorable mix, a \$334 million unfavorable EAC adjustment on a commercial engine aftermarket contract due to lower estimated revenues driven by a change in the estimated maintenance coverage period, an unfavorable EAC adjustment of \$129 million related to lower estimated revenues due to the restructuring of a customer contract, and \$86 million related to an unfavorable EAC adjustment and increased allowances for warranty for legacy fleet related retrofits. The decrease was also driven by higher selling, general and administrative expenses of \$0.2 billion primarily driven by \$257 million of increased estimates of expected credit losses due to customer bankruptcies and additional allowances for credit losses, primarily related to the impact of the COVID-19 pandemic. This decrease in organic profit was partially offset by lower research and development costs of \$0.3 billion, which includes the impact of cost reduction initiatives, and other income of \$153 million related to foreign government wage subsidies due to COVID-19.

Included in organic profit was an increase in net unfavorable EAC adjustments of \$544 million, which included the unfavorable EAC adjustments discussed above and significant net unfavorable EAC adjustments of \$62 million based on a portfolio review of our commercial aftermarket programs in the second quarter of 2020 in consideration of the estimated lower flight hours, a change in the estimated number of shop visits and the related amount of estimated costs. Also included was an unfavorable EAC adjustment of \$44 million in the second quarter of 2020 on a military program primarily driven by a shift in estimated overhead costs due to the lower commercial engine activity discussed above.

The decrease in other operating profit of \$0.2 billion in 2020 compared to 2019 was primarily due to an \$89 million impairment of commercial aircraft program assets in the current year and \$43 million of reserves related to a commercial financing arrangement in the current year.

Defense Bookings – In addition to a number of smaller bookings, Pratt & Whitney booked the following significant bookings in 2021: \$1.7 billion for F135 sustainment contracts, \$435 million for an F119 sustainment contract, \$255 million for an F135 production contract and \$212 million for F100 engines for an international customer.

Raytheon Intelligence & Space

<i>(dollars in millions)</i>	2021	2020	2019	% Change	
				2021 compared with 2020	2020 compared with 2019
Net sales	\$ 15,180	11,069	—	37 %	NM
Operating profit	1,833	1,020	—	80 %	NM
Operating profit margins	12.1 %	9.2 %	—		
Bookings	\$ 14,019	10,568	—	33 %	NM

NM = Not meaningful

2021 Compared with 2020

Factors Contributing to Total Change in Net Sales						
(dollars in millions)	Organic ⁽¹⁾	Acquisitions / Divestitures, net	Other	Total Change		
Net sales	\$ 86	\$ 3,991	\$ 34	4,111		

(1) See “Segment Review” above for definition of organic. A reconciliation of these measures to reported U.S. GAAP amounts is provided in the table above.

Factors Contributing to Change in Operating Profit						
(dollars in millions)	Volume	Net change in EAC adjustments	Acquisitions / Divestitures, net	Mix and other performance	Total Change	
Operating profit	\$ (10)	\$ 132	\$ 399	\$ 292	813	

2021 Compared with 2020

Organic sales in 2021 were relatively consistent with 2020. The increase in net sales due to acquisitions / divestitures, net primarily relates to the Raytheon Merger on April 3, 2020.

The increase in operating profit of \$0.8 billion and the related increase in operating profit margins in 2021 compared to 2020, were primarily due to the change in Acquisitions / divestitures, net of \$399 million, primarily due to the Raytheon Merger on April 3, 2020, an increase in mix and other performance of \$292 million primarily due to a \$239 million gain, net of transaction costs, on the sale of RIS’s global training and services business in December 2021, as further discussed in “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” within Item 8 of this Form 10-K, and the net favorable change in EAC adjustments of \$132 million, which was primarily driven by the absence of \$124 million of unfavorable EAC adjustments related to a domestic classified fixed price development program in 2020.

2020 Compared with 2019

The increase in net sales of \$11.1 billion in 2020 compared to 2019 was due to the Raytheon Merger on April 3, 2020.

The increase in operating profit of \$1.0 billion and the related increase in operating profit margins in 2020 compared to 2019 were due to the Raytheon Merger. Included in operating profit in 2020 were \$124 million of unfavorable EAC adjustments for loss reserves related to a domestic classified fixed price development program in a net loss position, of which \$87 million was recorded in the fourth quarter of 2020.

Backlog and Bookings – Backlog was \$18 billion at December 31, 2021 compared to \$19 billion at December 31, 2020. Included in the decrease in backlog was a \$0.9 billion adjustment related to the sale of RIS’s global training and services business discussed above. In 2021, RIS booked \$4.8 billion on a number of classified contracts, \$672 million of Electro-Optical Infrared (EO/IR) products and services contracts in the fourth quarter of 2021 including the Electro-Optical Distributed Aperture System (EODAS) for the F35 Joint Strike Fighter program, \$419 million on the Next Generation Jammer (NGJ) Mid-Band Low Rate Initial Production (LRIP) contract with the U.S. Navy, \$365 million on the Standard Terminal Automation Replacement System (STARS) program for the Federal Aviation Administration (FAA), \$227 million on a missile warning and defense contract, \$211 million to provide additional upgrades to the Global Positioning System Next Generation Operational Control System (GPS OCX) program for the U.S. Air Force, \$199 million on an international tactical airborne radar sustainment contract, and \$185 million on an international training contract with the U.K. Royal Navy.

Raytheon Missiles & Defense

(dollars in millions)		2021	2020	2019	% Change	
					2021 compared with 2020	2020 compared with 2019
Net sales	\$	15,539	11,396	—	36 %	NM
Operating profit		2,004	880	—	128 %	NM
Operating profit margins		12.9 %	7.7 %	—		
Bookings	\$	15,650	9,716	—	61 %	NM

NM = Not meaningful

2021 Compared with 2020

Factors Contributing to Total Change in Net Sales						
(dollars in millions)	Organic ⁽¹⁾	Acquisitions / Divestitures, net	Other	Total Change		
Net sales	\$ 130	\$ 3,999	\$ 14	4,143		

(1) See “Segment Review” above for definition of organic. A reconciliation of these measures to reported U.S. GAAP amounts is provided in the table above.

Factors Contributing to Change in Operating Profit						
(dollars in millions)	Volume	Net change in EAC adjustments	Acquisitions / Divestitures, net	Mix and other performance	Total Change	
Operating profit	\$ 7	\$ (14)	\$ 521	\$ 610	1,124	

2021 Compared with 2020

Organic sales in 2021 were relatively consistent with 2020. The increase in net sales due to acquisitions / divestitures, net relates to the Raytheon Merger on April 3, 2020.

The increase in operating profit of \$1.1 billion and the related increase in operating profit margins in 2021 compared to 2020 was primarily due to a change in mix and other performance of \$610 million, primarily driven by the absence of an unfavorable profit impact of \$516 million in 2020 related to certain international contracts as further described below, and a change in acquisitions / divestitures, net of \$521 million due to the Raytheon Merger on April 3, 2020.

2020 Compared with 2019

The increase in net sales of \$11.4 billion in 2020 compared to 2019 was due to the Raytheon Merger on April 3, 2020.

The increase in operating profit of \$0.9 billion and the related increase in operating profit margins in 2020 compared to 2019 was due to the Raytheon Merger. Included in operating profit in 2020 was an unfavorable net impact of \$516 million related to certain international contracts as further described below, and a \$25 million net favorable EAC adjustment due to a revised estimate in costs to complete an industrial cooperation agreement obligation on multiple contracts for an international customer based upon an agreement signed in the fourth quarter of 2020.

In the fourth quarter of 2020, RMD reversed \$119 million of sales for work performed subsequent to the date of the Raytheon Merger through the end of the third quarter of 2020, and the related operating profit, on our direct commercial sales contracts for precision guided munitions with a certain Middle East customer, for which we have not yet obtained regulatory approval. Due to the U.S. presidential and congressional elections and the resulting uncertainty surrounding U.S. foreign policy on direct commercial sales for precision guided munitions with this customer, we determined that it was no longer probable that we will be able to obtain regulatory approvals for these contracts. RMD also recognized an unfavorable profit impact of \$516 million related to these contracts, primarily related to inventory reserves, contract asset impairments and recognition of supplier related obligations related to termination liability, which we do not expect to be utilized or otherwise directed to other customers. In addition, we reversed \$755 million of backlog on these contracts.

Backlog and Bookings— Backlog was \$29 billion at both December 31, 2021 and 2020. In 2021, RMD booked \$3.2 billion on a number of classified contracts, including approximately \$2 billion for the Long Range Standoff (LRSO) Weapon System Engineering and Manufacturing Development (EMD) contract for the U.S. Air Force. RMD also booked \$1,315 million for the NGI program for the Missile Defense Agency (MDA), \$1,088 million for the Advanced Medium Range Air-to-Air Missile (AMRAAM) for the U.S. Air Force and Navy and international customers, \$729 million for Standard Missile-2 (SM-2) for the U.S. Navy and international customers, \$627 million for Evolved Seasparrow Missile (ESSM) for the U.S. Navy and international customers, \$432 million to provide Guidance Enhanced Missiles (GEM-T) for an international customer, \$327 million for AIM-9X Sidewinder short-range air-to-air missiles for the U.S. Navy and Air Force and international customers, \$291 million for Stinger missiles for international customers, \$247 million to provide Patriot engineering services support for the U.S. Army and international customers, \$242 million on the Army Navy/Transportable Radar Surveillance-Model 2 (AN/TPY-2) radar program for the MDA, \$213 million for StormBreaker for the U.S. Air Force and Navy, \$175 million to provide Patriot technical assistance for an international customer, and \$164 million for the Air and Missile Defense Radar (AMDR) program for the U.S. Navy.

Eliminations and other

Eliminations and other reflects the elimination of sales, other income and operating profit transacted between segments, as well as the operating results of certain smaller non-reportable business segments, including Forcepoint, which was acquired as part of the Raytheon Merger and subsequently disposed of on January 8, 2021, as further discussed in “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” within Item 8 of this Form 10-K.

<i>(dollars in millions)</i>	Net Sales			Operating Profit		
	2021	2020	2019	2021	2020	2019
Inter-segment eliminations ⁽¹⁾	\$ (2,945)	\$ (2,492)	\$ (1,594)	\$ (86)	\$ (79)	\$ (208)
Other non-reportable segments	15	527	13	(47)	(28)	68
Eliminations and other	\$ (2,930)	\$ (1,965)	\$ (1,581)	\$ (133)	\$ (107)	\$ (140)

(1) The increase in inter-segment eliminations sales in 2020 compared to 2019, was primarily due to the Raytheon Merger on April 3, 2020.

The decrease in other non-reportable segment sales and the change in other non-reportable segment operating profit in 2021 compared to 2020, was primarily due to the sale of our Forcepoint business in the first quarter of 2021.

The increase in other non-reportable segment sales in 2020 compared to 2019, was primarily related to Forcepoint sales.

The decrease in other non-reportable segments operating profit in 2020 compared to 2019, was primarily due to the impact of foreign currency translation, partially offset by operating profit related to Forcepoint.

Corporate expenses and other unallocated items

Corporate expenses and other unallocated items consists of costs and certain other unallowable corporate costs not considered part of management’s evaluation of reportable segment operating performance including restructuring and merger costs related to the Raytheon Merger, net costs associated with corporate research and development, including the Lower Tier Air and Missile Defense Sensor (LTAMDS) program which was acquired as part of the Raytheon Merger, and certain reserves. See Restructuring Costs, above, for a more detailed discussion of our restructuring costs.

<i>(dollars in millions)</i>	2021	2020	2019
Corporate expenses and other unallocated items	\$ (552)	\$ (590)	\$ (367)

The change in Corporate expenses and other unallocated items of \$38 million for 2021 compared to 2020 was primarily driven by a decrease in merger-related costs related to the Raytheon Merger of \$148 million and lower restructuring costs of \$112 million, partially offset by an accrual of \$147 million in the fourth quarter of 2021 related to the ongoing DOJ investigation into contract pricing matters at RMD and an increase in net expenses related to the LTAMDS project.

The change in corporate expenses and other unallocated items of \$223 million in 2020 compared to 2019 was primarily driven by increased restructuring costs of \$201 million, \$130 million of net expenses related to the LTAMDS project acquired as part of the Raytheon Merger and an increase in merger-related costs related to the Raytheon Merger of \$82 million, partially offset by \$40 million of merger-related costs for the Rockwell Acquisition in 2019 and other unallocated items with no individual or common significant driver.

FAS/CAS operating adjustment

The segment results of RIS and RMD include pension and PRB expense as determined under U.S. government Cost Accounting Standards (CAS), which we generally recover through the pricing of our products and services to the U.S. government. The difference between our CAS expense and the Financial Accounting Standards (FAS) service cost attributable to these segments under U.S. GAAP is the FAS/CAS operating adjustment. The FAS/CAS operating adjustment results in consolidated pension expense in operating profit equal to the service cost component of FAS expense under U.S. GAAP. The segment results of Collins Aerospace and Pratt & Whitney generally include FAS service cost.

The CAS expense calculation is different from the FAS requirements and calculation methodology. While the ultimate liability for pension costs under FAS and CAS is similar, the pattern of cost recognition is different. Our CAS pension expense is comprised primarily of CAS service cost, as well as amortization amounts resulting from demographic or economic experience different than expected, changes in assumptions, or changes in plan provisions. Unlike FAS, CAS expense is only recognized for plans that are not fully funded. Consequently, if plans become or cease to be fully funded under CAS due to our asset or liability experience, our CAS expense will change accordingly.

The components of the FAS/CAS operating adjustment were as follows:

<i>(dollars in millions)</i>	2021	2020	2019
FAS service cost (expense)	\$ (405)	\$ (354)	\$ —
CAS expense	2,201	1,460	—
FAS/CAS operating adjustment	\$ 1,796	\$ 1,106	\$ —

The change in our FAS/CAS operating adjustment of \$690 million in 2021 compared to 2020 was driven by a \$741 million increase in CAS expense, partially offset by a \$51 million increase in FAS service cost. The increase in our CAS expense was primarily due to the Raytheon Merger.

The change in our FAS/CAS operating adjustment of \$1,106 million in 2020 compared to 2019 was due to the Raytheon Merger.

In December 2020, we approved a change to the Raytheon Company domestic defined benefit pension plans for non-union participants to cease future benefit accruals based on an employee's years of service and compensation effective December 31, 2022. The plan change does not impact participants' historical benefit accruals. Benefits for service after December 31, 2022 will be based on a cash balance formula.

In response to the economic environment resulting from the COVID-19 pandemic, Congress passed the American Rescue Plan Act of 2021 (ARPA) in March 2021 which included pension funding relief provisions, as further discussed in "Cash Flow - Operating Activities". These pension funding relief provisions are expected to result in decreases to CAS expense, and the related recovery under our contracts, for our U.S. qualified pension plans beginning in 2022, as the interest rates used to determine pension funding requirements for these plans are also used in determining CAS expense.

Acquisition accounting adjustments

Acquisition accounting adjustments include the amortization of acquired intangible assets related to acquisitions, the amortization of the property, plant and equipment fair value adjustment acquired through acquisitions and the amortization of customer contractual obligations related to loss making or below market contracts acquired. These adjustments are not considered part of management's evaluation of segment results.

The components of Acquisition accounting adjustments were as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Goodwill impairment charge	\$ —	\$ (3,183)	\$ —
Amortization of acquired intangibles	(2,404)	(2,142)	(1,211)
Amortization of property, plant and equipment fair value adjustment	(111)	(69)	(23)
Amortization of customer contractual obligations related to acquired loss-making and below-market contracts	312	294	346
Acquisition accounting adjustments	\$ (2,203)	\$ (5,100)	\$ (888)

Acquisition accounting adjustments related to acquisitions in each segment were as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Collins Aerospace Systems	\$ (641)	\$ (3,926)	\$ (605)
Pratt & Whitney	(160)	(117)	(283)
Raytheon Intelligence & Space	(563)	(394)	—
Raytheon Missiles & Defense	(838)	(607)	—
Total segment	(2,202)	(5,044)	(888)
Eliminations and other	(1)	(56)	—
Acquisition accounting adjustments	\$ (2,203)	\$ (5,100)	\$ (888)

The change in the Acquisition accounting adjustments of \$2.9 billion in 2021 compared to 2020, is primarily driven by the absence of the \$3.2 billion goodwill impairment loss in the second quarter of 2020 related to two Collins Aerospace reporting units, partially offset by an increase of \$0.4 billion for acquisition accounting adjustments related to the Raytheon Merger, primarily due to the timing of the merger in the prior year. Included in Acquisition accounting adjustments in 2021 was \$116 million of amortization of customer contractual obligations due to the accelerated liquidation of below-market contract reserves

at Collins Aerospace driven by the termination of two customer contracts. Refer to “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” within Item 8 of this Form 10-K for additional information on the goodwill impairment.

The change in the Acquisition accounting adjustments of \$4.2 billion in 2020 compared to 2019, is primarily driven by the \$3.2 billion goodwill impairment in the second quarter of 2020 related to two Collins Aerospace reporting units and an increase of \$1.1 billion related to the Raytheon Merger, primarily related to the amortization of acquired intangibles.

LIQUIDITY AND FINANCIAL CONDITION

<i>(dollars in millions)</i>	2021	2020
Cash and cash equivalents	\$ 7,832	\$ 8,802
Total debt	31,485	31,823
Total equity	74,664	73,852
Total capitalization (total debt plus total equity)	106,149	105,675
Total debt to total capitalization	30 %	30 %

We assess our liquidity in terms of our ability to generate cash to fund our operating, investing and financing activities. Our principal source of liquidity is cash flows from operating activities. In addition to operating cash flows, other significant factors that affect our overall management of liquidity include: capital expenditures, customer financing requirements, investments in and divestitures of businesses, dividends, common stock repurchases, pension funding, access to the commercial paper markets, adequacy of available bank lines of credit, redemptions of debt and the ability to attract long-term capital at satisfactory terms. We had \$7.0 billion available under our various credit facilities at December 31, 2021.

Although our business has been and will continue to be impacted by COVID-19, we currently believe we have sufficient liquidity to withstand the potential impacts.

At December 31, 2021, we had Cash and cash equivalents of \$7.8 billion, of which approximately 34% was held by RTC’s foreign subsidiaries. We manage our worldwide cash requirements by reviewing available funds among the many subsidiaries through which we conduct our business and the cost effectiveness with which those funds can be accessed. The Company does not intend to reinvest certain undistributed earnings of its international subsidiaries that have been previously taxed in the U.S. Taxes associated with the future remittance of these earnings have been recorded. For the remainder of the Company’s undistributed international earnings, unless tax effective to repatriate, RTC will continue to permanently reinvest these earnings.

Historically, our strong credit ratings and financial position have enabled us to issue long-term debt at favorable market rates.

As of December 31, 2021, our maximum commercial paper borrowing limit was \$5.0 billion as the commercial paper is backed by our \$5.0 billion revolving credit agreement. We had no commercial paper borrowings as of December 31, 2021. The daily average amount of short-term commercial paper borrowings outstanding during the year ended December 31, 2021 was \$175 million. We use our commercial paper borrowings for general corporate purposes, including the funding of potential acquisitions, pension contributions, debt refinancing, dividend payments and repurchases of our common stock. The commercial paper notes have original maturities of not more than 90 days from the date of issuance.

As of December 31, 2021, we had revolving credit agreements with various banks permitting aggregate borrowings of up to \$7.0 billion, consisting of a \$5.0 billion revolving credit agreement, which matures in April 2025, and a \$2.0 billion revolving credit agreement, which we renewed in May 2021 and expires in May 2022. As of December 31, 2021, there were no borrowings outstanding under these agreements.

We have an existing universal shelf registration statement, which we filed with the Securities and Exchange Commission (SEC) on September 27, 2019, for an indeterminate amount of debt and equity securities for future issuance, subject to our internal limitations on the amount of debt to be issued under this shelf registration statement.

The Company offers a voluntary supply chain finance (SCF) program with a global financial institution which enables our suppliers, at their sole discretion, to sell their receivables from the Company to the financial institution at a rate that leverages our credit rating, which might be beneficial to them. Our suppliers’ participation in the SCF program does not impact or change our terms and conditions with those suppliers, and therefore, we have no economic interest in a supplier’s decision to participate in the program. In addition, we provide no guarantees or otherwise pay for any of the costs of the program incurred by those suppliers that choose to participate, and have no direct financial relationship with the financial institution, as it relates to the program. As such, the SCF program does not impact our overall liquidity.

We believe our cash on hand and future operating cash flows will be sufficient to meet our future operating cash needs. Further, we continue to have access to the commercial paper markets and our existing credit facilities, and our ability to obtain debt or

equity financing, as well as the availability under committed credit lines, provides additional potential sources of liquidity should they be required or appropriate.

Cash Flow - Operating Activities

<i>(dollars in millions)</i>	2021	2020	2019
Net cash flows provided by operating activities from continuing operations	\$ 7,142	\$ 4,334	\$ 5,821
Net cash flows (used in) provided by operating activities from discontinued operations	(71)	(728)	3,062

2021 Compared with 2020 Operating Activities - Continuing Operations

Cash generated from operating activities in 2021 was \$2.8 billion higher than 2020. This increase was primarily due to higher net income of \$4.1 billion after adjustments for depreciation and amortization, deferred income tax provision, stock compensation costs, net periodic pension and other postretirement benefit, the goodwill impairment charge and debt extinguishment costs, as well as lower pension and PRB contributions to trusts of \$1.0 billion in 2021 compared to 2020. This was partially offset by an unfavorable change in working capital of \$1.1 billion in 2021 compared to 2020, primarily due to activity at the RIS and RMD segments in the first quarter of 2021 with no comparable activity in the first quarter of 2020 as a result of the Raytheon Merger. This unfavorable change in working capital at RIS and RMD includes a cash outflow for accounts payable and accrued liabilities due to the timing of incentive compensation payments. Also included in the total unfavorable change in working capital was an increase in Contract assets principally driven by sales in excess of billings at Pratt & Whitney and contractual billing terms on U.S. government and foreign military sales contracts at RMD, and growth in accounts payable and accounts receivable at Collins Aerospace and Pratt & Whitney due to an increase in sales volume as commercial aerospace recovers.

The Company enters into various factoring agreements with third-party financial institutions to sell certain of its receivables. Factoring activity resulted in a decrease of approximately \$0.2 billion in cash provided by operating activities during the year ended December 31, 2021, compared to a decrease in cash flows provided by operating activities of \$1.3 billion during the year ended December 31, 2020. The year over year favorable impact from factoring activity was primarily due to the significant decline in sales volume in 2020 principally driven by the economic environment primarily due to COVID-19. Factoring activity includes amounts factored on certain aerospace receivables at the customers' request for which we are compensated by the customer for the extended collection cycle.

2020 Compared with 2019 Operating Activities - Continuing Operations

Cash generated from operating activities in 2020 was \$1.5 billion lower than 2019. This decrease is primarily due to a decrease in net income after adjustments for depreciation and amortization, the 2020 goodwill impairment charge, the deferred income tax provision, stock compensation costs and net periodic pension and other post retirement income of \$2.0 billion primarily driven by a decrease at Pratt & Whitney and Collins Aerospace as a result of the economic environment primarily driven by COVID-19, partially offset by net income from RIS and RMD following the Raytheon Merger. Included in the decrease in operating cash flows was an increase in pension contributions, as further discussed below, and an unfavorable impact from accounts payable primarily at Collins Aerospace and Pratt & Whitney due to a decline in volume principally driven by the economic environment primarily driven by COVID-19, which was partially offset by a favorable change in inventory at Collins Aerospace and Pratt & Whitney due to the decline in volume and a favorable change in Accounts receivable and Contract assets due to the timing of billings and collections in 2020 across our segments.

Factoring activity resulted in a decrease of approximately \$1.3 billion in cash generated from operating activities during the year ended December 31, 2020, compared to an increase of approximately \$0.3 billion in cash generated from operating activities during the year ended December 31, 2019. This decrease in factoring activity was driven by a decrease in factoring levels at Collins Aerospace and Pratt & Whitney primarily driven by lower sales volume.

We made pension and PRB contributions to trusts of \$59 million, \$1,025 million, and \$55 million in 2021, 2020, and 2019, respectively. The contributions in 2020 include discretionary contributions of \$801 million. We make both required and discretionary contributions to our pension plans. Required contributions are primarily determined by Employee Retirement Income Security Act of 1974 (ERISA) funding rules, which require us to fully fund our U.S. qualified pension plans over a rolling seven-year period as determined annually based on the Pension Protection Act of 2006 (PPA) calculated funded status at the beginning of each year. The funding requirements are primarily based on the year's expected service cost and amortization of other previously unfunded liabilities, which are dependent upon many factors, including returns on invested assets, the level of market interest rates and actuarial assumptions. We can contribute cash or RTC shares to our plans at our discretion, subject to applicable regulations. As of December 31, 2021, the total investment by the U.S. qualified pension plans in RTC shares was less than 1% of total plan assets.

In response to the economic environment resulting from the COVID-19 pandemic, Congress passed the ARPA in March 2021, which included pension funding relief provisions. These provisions extend and expand upon existing pension funding relief, most notably by increasing the liability interest rates used to determine the required cash contributions for our U.S. qualified pension plans. The Infrastructure Investment and Jobs Act passed by Congress in November 2021 further extended the interest rate pension funding relief provisions included in ARPA. As a result of these pension funding relief provisions, we do not currently expect cash contributions to be required for our U.S. qualified pension plans in the foreseeable future. Global pension and PRB cash funding requirements are expected to be approximately \$0.4 billion annually in 2022, 2023, 2024, and 2025, which includes benefit payments to be paid directly by the company.

Provisions enacted in the TCJA related to the capitalization for tax purposes of research and experimental expenditures became effective on January 1, 2022. If these provisions are not deferred beyond 2022, our tax payments will increase by an estimated \$2 billion in 2022.

Included in cash flows from operating activities are payments related to our operating lease obligations. See “Note 12: Leases” within Item 8 of this Form 10-K for actual and expected payments on operating lease obligations.

In addition, the majority of our cash flows for purchase obligations are classified as cash flows from operating activities. We expect future payments related to our purchase obligations to be \$23.3 billion, \$17.2 billion of which is payable in 2022. Purchase obligations include current amounts committed for the purchase of goods and services under legally enforceable contracts or purchase orders, and do not represent our entire anticipated purchases in the future. Approximately 50% of our purchase obligations described above represent purchase orders for products to be delivered under firm contracts with the U.S. government for which we have full recourse under customary contract termination clauses.

Operating Activities - Discontinued Operations

The \$657 million increase in cash flows provided by operating activities from discontinued operations in 2021 compared to 2020 was primarily driven by the absence of prior year separation costs as the Separation Transactions occurred on April 3, 2020. The \$3.8 billion decrease in cash flows provided by operating activities from discontinued operations in 2020 compared to 2019 primarily relates to a decrease in net income from discontinued operations driven by the absence of operating activity for the majority of the year, as the Separation Transactions occurred on April 3, 2020.

Cash Flow - Investing Activities

<i>(dollars in millions)</i>	2021	2020	2019
Net cash flows (used in) provided by investing activities from continuing operations	\$ (1,364)	\$ 3,343	\$ (2,676)
Net cash flows used in investing activities from discontinued operations	—	(241)	(416)

Our investing activities primarily include investments in/dispositions of businesses, capital expenditures, payments related to our collaboration intangible assets and contractual rights to provide product on new aircraft platforms, settlements of derivative contracts not designated as hedging instruments, and cash investments in Customer financing assets.

2021 Compared with 2020 Investing Activities - Continuing Operations

The \$4.7 billion change in cash flows (used in) provided by investing activities in 2021 compared to 2020 primarily relates to the absence of cash acquired in the Raytheon Merger in the prior year of \$3.2 billion, and investments in and dispositions of businesses, as discussed below.

2020 Compared with 2019 Investing Activities - Continuing Operations

The \$6.0 billion change in cash flows (used in) provided by investing activities in 2020 compared to 2019 primarily relates to cash acquired in the Raytheon Merger of \$3.2 billion, the sale of our Collins Aerospace military Global Positioning System (GPS) and space-based precision optics businesses for \$2.3 billion in cash proceeds, and a net increase from customer financing assets of \$747 million, as discussed below, partially offset by the Blue Canyon Technologies acquisition of \$419 million.

Investments in businesses in 2021 of \$1.1 billion primarily related to the acquisitions of FlightAware at Collins Aerospace and SEAKR Engineering Inc. at RIS. Investments in businesses in 2020 of \$419 million primarily related to the acquisition of Blue Canyon Technologies at RIS. Investments in businesses in 2019 were not material. For additional detail, see “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” within Item 8 of this Form 10-K.

Dispositions of businesses in 2021 of \$1.9 billion, net of cash transferred, primarily related to the sale of our Forcepoint business and the sale of our global training and services business within RIS. Dispositions of businesses in 2020 of \$2.6 billion, net of cash transferred, primarily related to the sale of our Collins Aerospace military GPS and space-based precision optics businesses. Dispositions of business in 2019 of \$134 million, net of cash transferred, primarily consisted of the business sold in

connection with the Rockwell Acquisition. For additional detail, see “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” within Item 8 of this Form 10-K.

Capital expenditures were \$2.1 billion, \$1.8 billion and \$1.9 billion in 2021, 2020, and 2019, respectively. Capital expenditures increased \$339 million in 2021 compared to 2020, primarily due to increases at RIS and RMD principally driven by the Raytheon Merger and increases at Pratt & Whitney. Capital expenditures decreased \$73 million in 2020 from 2019 as reductions at Collins Aerospace and Pratt & Whitney were largely offset by increased capital expenditures driven by the Raytheon Merger.

Customer financing assets payments were \$231 million, \$280 million, and \$787 million in 2021, 2020 and 2019, respectively. The decrease in payments in 2021 compared to 2020 was due to fewer engines added to our leased asset pool, partially offset by increased customer financing. The decrease in payments in 2020 compared to 2019 was due to fewer engines added to our leased asset pool. Customer financing assets receipts were \$389 million, \$368 million and \$128 million in 2021, 2020 and 2019, respectively. Receipts in 2021 were relatively consistent with 2020, as both periods included similar sale and leaseback transactions for the sale of equipment. The increase in receipts in 2020 compared to 2019 was driven by the sale and leaseback transaction in 2020. Refer to “Note 12: Leases” within Item 8 of this Form 10-K for additional discussion of these transactions.

In 2021, 2020, and 2019 we increased our collaboration intangible assets by approximately \$188 million, \$172 million, \$351 million, respectively, which primarily relates to payments made under our 2012 agreement to acquire Rolls-Royce’s collaboration interests in International Aero Engines AG (IAE).

At December 31, 2021, we had commercial aerospace financing and other contractual commitments, including exclusivity and collaboration payment commitments, of approximately \$15.6 billion, on a gross basis before reduction for our collaboration partners’ share. Refer to “Note 19: Commitments and Contingencies” within Item 8 of this Form 10-K for further details on our commercial aerospace financing and other contractual commitments.

As discussed in “Note 15: Financial Instruments” within Item 8 of this Form 10-K, we enter into derivative instruments primarily for risk management purposes, including derivatives designated as hedging instruments and those utilized as economic hedges. We operate internationally and in the normal course of business, are exposed to fluctuations in interest rates, foreign exchange rates and commodity prices. These fluctuations can increase the costs of financing, investing and operating the business. We have used derivative instruments, including swaps, forward contracts and options to manage certain foreign currency, interest rate and commodity price exposures. During 2021, 2020, and 2019 we had net cash (payments) receipts of \$(16) million, \$(32) million, and \$342 million, respectively, from the settlement of these derivative instruments not designated as hedging instruments.

Investing Activities - Discontinued Operations

The \$241 million decrease in cash flows used in investing activities from discontinued operations in 2021 compared to 2020 was due to the fact that the Separation Transactions occurred on April 3, 2020. The \$175 million decrease in cash flows used in investing activities from discontinued operations in 2020 compared to 2019 primarily relates to a reduction in capital expenditures at Carrier and Otis of approximately \$300 million, partially offset by a reduction in investment cash of approximately \$135 million.

Cash Flow - Financing Activities

<i>(dollars in millions)</i>	2021	2020	2019
Net cash flows used in financing activities from continuing operations	\$ (6,756)	\$ (3,860)	\$ (1,913)
Net cash flows provided by (used in) financing activities from discontinued operations	71	(1,414)	(2,651)

Our financing activities primarily include the issuance and repayment of short-term and long-term debt, payment of dividends and stock repurchases.

2021 Compared with 2020 Financing Activities- Continuing Operations

The \$2.9 billion change in cash flows used in financing activities in 2021 compared to 2020 primarily relates to an increase in share repurchases of \$2.3 billion, as discussed below. In addition, in 2021, we had debt repayments, including debt extinguishment costs, of \$4.9 billion and long-term debt issuances of \$4.1 billion.

2020 Compared with 2019 - Financing Activities- Continuing Operations

The \$1.9 billion change in cash flows used in financing activities in 2020 compared to 2019 primarily relates to increases in long-term debt repayments of \$13.4 billion, a \$4.4 billion change in net cash transfers to discontinued operations, an increase in short-term borrowing repayments of \$2.9 billion, and an increase in dividends paid on common stock of \$0.3 billion, partially

offset by an increase in long-term debt issuances of \$19.2 billion. The 2020 debt issuances reflect debt incurred by Carrier and Otis of approximately \$6 billion and \$11 billion, respectively. The net proceeds of these issuances and draws were primarily utilized by UTC to extinguish Raytheon Technologies short-term and long-term debt in order to not exceed the maximum applicable net indebtedness required by the Raytheon Merger Agreement.

Included in cash flows from financing activities are payments related to our long term debt, including both interest and principal payments. A summary of our long-term debt commitments as of December 31, 2021 was as follows:

<i>(dollars in millions)</i>	Payments Due by Period			
	2022	2023	2024	Thereafter
Long-term debt—principal	\$ 13	\$ 588	\$ 1,270	\$ 29,429
Long-term debt—future interest	1,250	1,257	1,221	15,745

Our share repurchases were as follows for the years ended December 31:

<i>(dollars in millions; shares in thousands)</i>	2021		2020		2019	
	\$	Shares	\$	Shares	\$	Shares
Shares of Common Stock repurchased	\$ 2,327	28,003	\$ 47	330	\$ 151	1,133

At December 31, 2021, management had remaining authority to repurchase approximately \$6.0 billion of our common stock under the December 7, 2021 share repurchase program. Under this program, shares may be purchased on the open market, in privately negotiated transactions, under accelerated share repurchase programs, and under plans complying with Rules 10b5-1 and 10b-18 under the Securities Exchange Act of 1934, as amended. We may also reacquire shares outside of the program from time to time in connection with the surrender of shares to cover taxes on vesting of restricted stock and as required under our employee savings plan. Our ability to repurchase shares is subject to applicable law.

Our Board of Directors authorized the following cash dividends for the years ended December 31:

<i>(dollars in millions, except per share amounts)</i>	2021		2020		2019	
Dividends paid per share of Common Stock	\$ 2.005	\$ 2.160	\$ 2.940			
Total dividends paid	\$ 2,957	\$ 2,732	\$ 2,442			

On February 11, 2022, the Board of Directors declared a dividend of \$0.51 per share payable March 24, 2022 to shareowners of record at the close of business on February 25, 2022.

Financing Activities - Discontinued Operations

Cash flows provided by financing activities from discontinued operations in 2021 were not significant as the Separation Transactions occurred on April 3, 2020. The \$1.2 billion decrease in cash flows used in financing activities from discontinued operations in 2020 compared to 2019 primarily relates to \$703 million of debt extinguishment costs related to the early repayment of debt in 2020 and cash distributions made to Carrier and Otis of \$2.8 billion, which were more than offset by a change in net transfer activity of \$4.5 billion.

CRITICAL ACCOUNTING ESTIMATES

Preparation of our financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. Management believes the most complex and sensitive judgments, because of their significance to the Consolidated Financial Statements, result primarily from the need to make estimates about the effects of matters that are inherently uncertain. The most significant areas involving management judgments and estimates are described below. Actual results in these areas could differ from management's estimates.

Long-Term Contract Accounting. We recognize revenue on an over-time basis for substantially all defense contracts and certain long-term aerospace aftermarket contracts. We measure progress toward completion of these contracts on a percentage of completion basis, generally using costs incurred to date relative to total estimated costs at completion. Contract costs are incurred over a period of time, which can be several years, and the estimation of these costs requires management's judgment. We review our Estimate at Completion (EACs) on significant contracts on a periodic basis and for others, no less than annually or when a change in circumstances warrant a modification to a previous estimate. Due to the nature of the work required to be performed on many of the Company's performance obligations, the estimation of total revenue and cost at completion is complex, subject to many variables and requires significant judgment by management on a contract by contract basis. As part of this process, management reviews information including, but not limited to, any outstanding key contract matters, progress towards completion and the related program schedule, identified risks and opportunities and the related changes in estimates of

revenues and costs. The risks and opportunities relate to management’s judgment about the ability and cost to achieve the schedule, consideration of customer-directed delays or reductions in scheduled deliveries, technical requirements, customer activity levels, such as flight hours or aircraft landings, and related variable consideration. Management’s judgment related to these considerations has become increasingly more significant given the economic environment primarily caused by the COVID-19 pandemic. Management must make assumptions and estimates regarding contract revenue and costs, including estimates of labor productivity and availability, the complexity and scope of the work to be performed, the availability and cost of materials, the length of time to complete the performance obligation, execution by our subcontractors, the availability and timing of funding from our customer, overhead cost rates, and current and past maintenance cost and frequency driven by estimated aircraft and engine utilization and estimated useful lives of components, among others. In particular, fixed-price development programs involve significant management judgment, as development contracts by nature have elements that have not been done before and thus, are highly subject to future unexpected cost growth. Cost estimates may also include the estimated cost of satisfying our industrial cooperation agreements, sometimes in the form of either offset obligations or in-country industrial participation (ICIP) agreements, required under certain contracts primarily within our RIS and RMD segments. These obligations may or may not be distinct depending on their nature. Changes in estimates of net sales, cost of sales and the related impact to operating profit are recognized on a cumulative catch-up basis, which recognizes the cumulative effect of the profit changes on current and prior periods based on a performance obligation’s percentage of completion in the current period. A significant change in one or more of these estimates could affect the profitability of one or more of our performance obligations. Our EAC adjustments also include the establishment of loss provisions on our contracts accounted for on a percentage of completion basis.

Net EAC adjustments had the following impact on our operating results:

<i>(dollars in millions, except per share amounts)</i>	2021	2020	2019
Operating profit (loss)	\$ 110	\$ (643)	\$ (69)
Income (loss) from continuing operations attributable to common shareowners ⁽¹⁾	87	(508)	(55)
Diluted earnings (loss) per share from continuing operations attributable to common shareowners ⁽¹⁾	\$ 0.06	\$ (0.37)	\$ (0.06)

(1) Amounts reflect a U.S. statutory tax rate of 21%, which approximates our tax rate on our EAC adjustments.

As a result of the Raytheon Merger, Raytheon Company’s contracts accounted for on a percentage of completion basis were reset to zero percent complete as of the merger date, because only the unperformed portion of the contract at the merger date represented the obligation of the Company. For additional information related to the Raytheon Merger, see “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” within Item 8 of this Form 10-K.

Costs incurred for engineering and development of aerospace products under contracts with customers are capitalized as contract fulfillment costs, to the extent recoverable from the associated contract margin and customer funding, and subsequently amortized as the OEM products are delivered to the customer. The estimation of contract costs, and margin, considered as part of this recoverability assessment requires significant judgment. See “Note 1: Basis of Presentation and Summary of Accounting Principles” within Item 8 of this Form 10-K for further discussion. We regularly assess capitalized contract fulfillment costs for impairment. In 2020, we recognized impairment of \$111 million related to contract fulfillment costs.

Income Taxes. Management believes that our earnings during the periods when the temporary differences become deductible will be sufficient to realize the related future income tax benefits, which may be realized over an extended period of time. For those jurisdictions where the expiration date of tax carryforwards or the projected operating results indicate that realization is not likely, a valuation allowance is provided.

In assessing the need for a valuation allowance, we consider available positive and negative evidence including past operating results, projections of future taxable income, the feasibility of ongoing tax planning strategies and the realizability of tax loss carryforwards. Our projections of future taxable income include estimates and assumptions regarding our volume, pricing, and costs, as well as the timing and amount of reversals of taxable temporary differences. Valuation allowances related to deferred tax assets can be affected by changes to tax laws, changes to statutory tax rates and future taxable income levels. In the event we were to determine that we would not be able to realize all or a portion of our deferred tax assets in the future, we would reduce such amounts through an increase to tax expense in the period in which that determination is made or when tax law changes are enacted. Conversely, if we were to determine that we would be able to realize our deferred tax assets in the future in excess of the net carrying amounts, we would decrease the recorded valuation allowance through a decrease to tax expense in the period in which that determination is made.

In the ordinary course of business there is inherent uncertainty in quantifying our income tax positions. Significant judgment is required when assessing our income tax positions and in determining our tax expense and benefits. Each quarter, management

assesses our tax positions based on an evaluation of the facts, circumstances, applicable tax laws, including regulations, case law, and other interpretive guidance, as well as any other relevant information. Adjustments to our tax positions are made as new information becomes available or when our assessments change. In addition, we have entered into certain internal legal entity restructuring transactions necessary to effectuate the Separation Transactions. We have accrued tax on these transactions based on our interpretation of the applicable tax laws and our determination of appropriate entity valuations. See “Note 1: Basis of Presentation and Summary of Accounting Principles” and “Note 13: Income Taxes” within Item 8 of this Form 10-K for further discussion.

Management has determined that the distributions of Carrier and Otis on April 3, 2020, and certain related internal business separation transactions, qualified as tax-free under applicable law. In making these determinations, we applied the tax law in the relevant jurisdictions to our facts and circumstances and obtained tax rulings from the relevant taxing authorities, tax opinions, and/or other external tax advice related to the concluded tax treatment. If the completed distributions of Carrier or Otis, in each case, or certain internal business separation transactions, were to fail to qualify for tax-free treatment, the Company could be subject to significant liabilities, and there could be material adverse impacts on the Company’s business, results of operations, financial condition and liquidity in future reporting periods.

Goodwill and Intangible Assets. The assets and liabilities of acquired businesses are recorded under the acquisition method of accounting at their estimated fair values at the dates of acquisition. Goodwill represents costs in excess of fair values assigned to the underlying identifiable net assets of acquired businesses. Intangible assets acquired in business combinations consist of patents, trademarks/tradenames, developed technology, customer relationships, and other intangible assets. The fair value for acquired customer relationship intangibles is determined as of the acquisition date based on estimates and judgments regarding expectations for the future after-tax cash flows arising from the follow-on revenue from customer relationships that existed on the acquisition date over their estimated lives, including the probability of expected future contract renewals and revenue, less a contributory assets charge, all of which is discounted to present value. The fair value of the trademark and tradename intangible assets are determined utilizing the relief from royalty method which is a form of the income approach. Under this method, a royalty rate based on observed market royalties is applied to projected revenue supporting the tradename and discounted to present value using an appropriate discount rate. See “Note 1: Basis of Presentation and Summary of Accounting Principles” within Item 8 of this Form 10-K for further details.

Also included within intangible assets are exclusivity assets, which are payments made to secure certain contractual rights to provide products on new commercial aerospace platforms. At December 31, 2021, our exclusivity assets, net of accumulated amortization, was approximately \$2.4 billion, and our remaining estimated commitments, net of collaborator share, were approximately \$8.9 billion. We regularly assess the recoverability of these intangibles, which is dependent upon our assumptions around the future success and profitability of the underlying aircraft platforms including the associated aftermarket revenue streams, and the related future cash flows.

Goodwill and intangible assets deemed to have indefinite lives are not amortized, but are subject to impairment testing annually, or more frequently if events or changes in circumstances indicate the asset might be impaired. The impairment test compares carrying values of the reporting units and indefinite-lived intangible assets to their estimated fair values. If the carrying value exceeds the fair value then the carrying value is reduced to fair value. In developing our estimates for the fair value of our reporting units and indefinite-lived intangible assets, significant judgment is required in the determination of the appropriateness of using a qualitative assessment or quantitative assessment. For the quantitative assessments that are performed for goodwill and indefinite-lived intangible assets, fair value is primarily based on income approaches using a discounted cash flow method and relief from royalty method, respectively, which have significant assumptions including sales growth rates, projected operating profit, terminal growth rates, discount rates and royalty rates. Such assumptions are subject to variability from year to year and are directly impacted by, among other things, global market conditions.

We completed our annual goodwill impairment testing as of October 1, 2021, where we compared the fair value of all of our reporting units to their respective carrying values (step 1) and determined that no adjustments to the carrying value of goodwill were necessary. We estimated the fair value of our reporting units using a discounted cash flow (DCF) model based on our most recent long-range plan in place at the time of our impairment testing. The key assumptions used in the DCF analysis include our business projections, including revenue growth rates and operating profit margins, the long-term growth rate used to calculate the terminal value of the reporting unit, and the discount rate. We consider both internal and external factors and refresh key assumptions annually or as considered necessary. As part of our 2021 analysis, we used a slightly higher long-term growth rate assumption as compared to our 2020 analysis, based on our review of historical growth rates for our business and industry, long-term inflation estimates, and industry reports on projected future long-term growth for the industry. Material changes in these estimates could occur and result in impairments in future periods.

Based on our annual impairment analysis as of October 1, 2021, the reporting unit that was closest to impairment was a Collins Aerospace reporting unit with a fair value in excess of book value, including goodwill, of 15%. All other factors being equal, a

10% decrease in expected future cash flows, either due to a delay in the return to pre-pandemic revenue levels or other factors, would result in an excess of fair value over net book value of approximately 3%. Alternatively, all other factors being equal, a 50 basis points decrease in the assumed long-term growth rate would result in an excess of fair value over net book value of approximately 7%. The discount rate that we used in our 2021 analysis was consistent with the discount rate used in our 2020 analysis. All other factors being equal, a 50 basis points increase in the discount rate would result in an excess of fair value over net book value of approximately 4%.

All other reporting units had a fair value substantially in excess of book value.

In 2020, we recognized goodwill impairments of \$3.2 billion related to two Collins Aerospace reporting units. Refer to “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” within Item 8 of this Form 10-K for additional details.

We also completed our annual indefinite-lived intangible assets impairment testing as of October 1, 2021. Based on this analysis, all of our indefinite-lived intangible assets had a fair value substantially in excess of book value.

The Company continuously monitors and evaluates relevant events and circumstances that could unfavorably impact the key assumptions in determining the fair value of our reporting units, including long-term revenue growth projections, profitability and expectations for net cash flows, discount rates including changes to U.S. treasury rates and equity risk premiums, tax rates, recent market valuations from transactions by comparable companies, volatility in the Company’s market capitalization, and general industry, market and macro-economic conditions. It is possible that future changes in such circumstances, including significant future negative developments in the COVID-19 pandemic, or future changes in the inputs and assumptions used in estimating the fair value of our reporting units, including the expected long-term recovery of airline travel to pre-COVID-19 levels, would require the Company to record a non-cash impairment charge.

Contingent Liabilities. As described in “Note 19: Commitments and Contingencies” within Item 8 of this Form 10-K, contractual, regulatory and other matters in the normal course of business may arise that subject us to claims or litigation, including with respect to matters relating to technical issues on programs, government contracts, performance and operating cost guarantees, employee benefit plans, legal, and environmental, health and safety matters. In particular, the design, development, production and support of aerospace technologies is inherently complex and subject to risk. Technical issues associated with these technologies may arise in the normal course and may result in financial impacts, including increased warranty provisions, customer contract settlements, and changes in contract performance estimates. These impacts could be material to the Company’s results of operations, financial condition and liquidity. Additionally, we have significant contracts with the U.S. government, subject to government oversight and audit, which may require significant adjustment of contract prices. We accrue for liabilities associated with these matters when it is probable that a liability has been incurred and the amount can be reasonably estimated. Estimating our liability based on both the likelihood of any adverse judgments or outcomes, and the costs associated with these matters, requires significant judgment. The inherent uncertainty related to the outcome of these matters could result in amounts materially different from any provisions made with respect to their resolution.

Employee Benefit Plans. We sponsor domestic and foreign defined benefit pension and PRB plans. Assumptions used to calculate our funded status are determined based on company data and appropriate market indicators. They are evaluated annually at December 31 and when significant events require a mid-year remeasurement. A change in any of these assumptions or actual experience that differs from these assumptions are subject to recognition in pension and postretirement net periodic benefit (income) expense reported in the Consolidated Financial Statements.

Assumptions used in the accounting for these employee benefit plans require judgement. Major assumptions include the discount rate and EROA. Other assumptions include mortality rates, demographic assumptions (such as retirement age), rate of increase in employee compensation levels, and health care cost increase projections.

The weighted-average discount rates used to measure pension and PRB liabilities are based on yield curves developed using high-quality corporate bonds, which are subject to macroeconomic factors, as well as plan specific expected cash flows. For our significant plans, we utilize a full yield curve approach in the estimation of the service cost and interest cost components of net periodic benefit expense by applying the specific spot rates along the yield curve used in determination of the benefit obligation to the relevant discounted projected cash flows.

The following table shows the sensitivity of our pension and PRB plan liabilities and net periodic benefit income to a 25 basis point change in the discount rates for benefit obligations, interest cost and service cost as of December 31, 2021:

<i>(dollars in millions)</i>	Increase in Discount Rate of 25 bps	Decrease in Discount Rate of 25 bps
Projected benefit obligation increase (decrease)	\$ (1,923)	\$ 2,023
Net periodic benefit income increase (decrease)	(32)	(9)

The discount rate sensitivities assume no change in the shape of the yield curve that will be applied to the projected cash outflows for future benefit payments in order to calculate interest and service cost. A flattening of the yield curve results in a narrowing of the spread between interest and obligation discount rates and would decrease our net periodic benefit income. Conversely, a steepening of the yield curve would result in an increase in the spread between interest and obligation discount rates and would increase our net periodic benefit income.

The EROA is the average rate of earnings expected over the long term on assets invested to fund anticipated future benefit payment obligations. In determining the EROA assumption, we consider the target asset allocation of plan assets, as well as economic and other indicators of future performance. We may consult with and consider the opinions of financial and other professionals in determining the appropriate capital market assumptions. Return projections are validated using a simulation model that incorporates yield curves, credit spreads and risk premiums to project long-term prospective returns. Differences between actual asset returns in a given year and the EROA do not necessarily indicate a change in the assumption is required, as the EROA represents the expected average returns over a long-term horizon.

Net periodic benefit income is also sensitive to changes in the EROA. An increase or decrease of 25 basis points in the EROA would have increased or decreased our 2021 net periodic benefit income by approximately \$136 million.

Refer to “Note 11: Employee Benefit Plans” within Item 8 of this Form 10-K for discussion of current and prior year discount rate and EROA assumptions.

ACCOUNTING STANDARDS

For a discussion of recent accounting pronouncements, see the Accounting Pronouncements section in “Note 1: Basis of Presentation and Summary of Accounting Principles” within Item 8 of this Form 10-K.

COMMITMENTS AND CONTINGENCIES

Refer to “Note 19: Commitments and Contingencies” within Item 8 of this Form 10-K for discussion on contractual commitments and contingencies.

GOVERNMENT MATTERS

As described above in “Critical Accounting Estimates—Contingent Liabilities,” our contracts with the U.S. government are subject to audits. Such audits may recommend that certain contract prices should be reduced to comply with various government regulations, or that certain payments be delayed or withheld. We are also the subject of one or more investigations and legal proceedings initiated by the U.S. government with respect to government contract matters. See “Note 13: Income Taxes” and “Note 19: Commitments and Contingencies” within Item 8 of this Form 10-K for further discussion of these and other government matters.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our primary market exposures are to fluctuations in foreign currency exchange rates and interest rates as it relates to our market risk sensitive instruments, which are primarily cash, debt and derivative instruments. To quantify our market risk exposure, we perform a sensitivity analysis based on hypothetical changes in foreign currency exchange rates and interest rates. Refer to “Note 1: Basis of Presentation and Summary of Accounting Principles,” “Note 10: Borrowings and Lines of Credit” and “Note 15: Financial Instruments” within Item 8 of this Form 10-K for additional discussion of foreign currency exchange, interest rates and financial instruments.

Foreign Currency Exchange Rate Risk. We are subject to foreign currency exchange rate risk relating to receipts from customers and payments to suppliers in foreign currencies and to various internal or external financing arrangements. We use foreign currency forward contracts to hedge the price risk associated with firmly committed and forecasted foreign denominated payments and receipts related to our ongoing business and financing. We actively manage foreign currency exposures that are associated with committed foreign currency purchases and sales, and other assets and liabilities created in the normal course of business at the operating unit level. More than insignificant exposures that cannot be naturally offset within an operating unit are hedged with foreign currency derivatives. Foreign exchange exposures arising from intercompany loan and deposit transactions are also hedged regularly. The aggregate notional amount of our outstanding foreign currency hedges was \$8.5 billion and \$11.6 billion at December 31, 2021 and 2020, respectively. Foreign currency forward contracts are sensitive to changes in foreign currency exchange rates. A 10% unfavorable exchange rate movement in our portfolio of foreign currency contracts would have resulted in an increase in unrealized losses of \$0.6 billion and \$0.8 billion at December 31, 2021 and 2020, respectively. Such losses or gains would be offset by corresponding gains or losses in the remeasurement of the underlying transactions being hedged. We believe these foreign currency forward exchange contracts and the offsetting underlying commitments, when taken together, do not create material market risk.

Within our aerospace business, our sales are typically denominated in U.S. Dollars. However, for our non-U.S. based entities, such as Pratt & Whitney Canada (P&WC), a substantial portion of their costs are incurred in local currencies. Consequently, there is a foreign currency exchange impact and risk to operational results as U.S. Dollars must be converted to local currencies such as the Canadian Dollar in order to meet local currency cost obligations. Additionally, we transact business in various foreign currencies which exposes our cash flows and earnings to changes in foreign currency exchange rates. In order to minimize the exposure that exists from changes in the exchange rate of the U.S. Dollar against these other currencies, we hedge a certain portion of sales to secure the rates at which U.S. Dollars will be converted. The majority of this hedging activity occurs at P&WC and Collins Aerospace, and hedging activity also occurs to a lesser extent at the remainder of Pratt & Whitney. At P&WC and Collins Aerospace, firm and forecasted sales for both original equipment and spare parts are hedged at varying amounts for up to 49 months on the U.S. Dollar sales exposure as represented by the excess of U.S. Dollar sales over U.S. Dollar denominated purchases. Hedging gains and losses resulting from movements in foreign currency exchange rates are partially offset by the foreign currency translation impacts that are generated on the translation of local currency operating results into U.S. Dollars for reporting purposes. While the objective of the hedging program is to minimize the foreign currency exchange impact on operating results, there are typically variances between the hedging gains or losses and the translational impact due to the length of hedging contracts, changes in the sales profile, volatility in the exchange rates and other such operational considerations.

Interest Rate Risk. We have financial instruments that are subject to interest rate risk, principally fixed-rate debt obligations. A 100 basis points unfavorable interest rate movement would have had an approximate \$4 billion impact on the fair value of our fixed-rate debt at both December 31, 2021 and 2020. The investors in our fixed-rate debt obligations generally do not have the right to demand we pay off these obligations prior to maturity. Therefore, we believe our exposure to interest rate risk on our fixed-rate debt is not material. From time to time, we may hedge to floating rates using interest rate swaps. Currently, we do not hold any derivative contracts that hedge our interest exposures, but may consider such strategies in the future.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of RTC is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with accounting principles generally accepted in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements.

Management has assessed the effectiveness of RTC's internal control over financial reporting as of December 31, 2021. In making its assessment, management has utilized the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in its *Internal Control—Integrated Framework*, released in 2013. Management concluded that based on its assessment, RTC's internal control over financial reporting was effective as of December 31, 2021. The effectiveness of RTC's internal control over financial reporting, as of December 31, 2021, has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

/s/ GREGORY J. HAYES

Gregory J. Hayes
President and Chief Executive Officer

/s/ NEIL G. MITCHILL, JR.

Neil G. Mitchill, Jr.
Executive Vice President and Chief Financial Officer

/s/ AMY L. JOHNSON

Amy L. Johnson
Corporate Vice President and Controller

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareowners and Board of Directors of Raytheon Technologies Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Raytheon Technologies Corporation and its subsidiaries (the “Company”) as of December 31, 2021 and 2020, and the related consolidated statements of operations, of comprehensive income (loss), of changes in equity and of cash flows for each of the three years in the period ended December 31, 2021, including the related notes and financial statement schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company’s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company’s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Revenue Recognition - Contract Estimates at Completion

As described in Note 1 to the consolidated financial statements, a significant portion of the Company's revenues of \$64.4 billion for the year ended December 31, 2021 are from long-term contracts associated with the design, development, manufacture or modification of complex aerospace or defense equipment or related services. The timing of the satisfaction of performance obligations varies across the Company's businesses due to their diverse product and service mix, customer base, and contractual terms. Substantially all of the Company's revenues from the Raytheon Intelligence & Space and Raytheon Missiles & Defense segments are recognized over time because of the continuous transfer of control to the customer. The Company's revenues from certain long-term aftermarket contracts within its Pratt & Whitney segment are recognized over the contract period as a series of daily performance obligations to stand ready to provide spare parts, product maintenance and aftermarket services. For the performance obligations satisfied over time, revenue is recognized on a percentage of completion basis using costs incurred to date relative to total estimated costs at completion to measure progress. Due to the nature of the work required to be performed on many of the Company's performance obligations, the estimation of total revenue and cost at completion is complex, subject to many variables and requires significant judgment by management on a contract by contract basis. Within the Raytheon Intelligence & Space and Raytheon Missiles & Defense segments, the variables and significant judgments relate to key contract matters, progress towards completion and the related program schedule, identified risks and opportunities and the related changes in estimates of revenues and costs. The risks and opportunities for the contracts relate to management's ability and cost to achieve the schedule, consideration of customer-directed delays or reductions in scheduled deliveries, technical requirements, customer activity levels and related variable consideration. Management also makes judgments about variables related to estimates of labor productivity and availability, the complexity and scope of the work to be performed, the availability and cost of materials, the length of time to complete the performance obligation, execution by the Company's subcontractors, the availability and timing of funding from the customer, overhead cost rates, and the estimated cost of satisfying the Company's industrial cooperation agreements required under certain contracts. Within the Pratt & Whitney segment, the variables and significant judgments relate to current and past maintenance cost and frequency experience. Management reviews contract estimates at completion on a periodic basis and no less than annually or when a change in circumstances warrants a modification to a previous estimate.

The principal considerations for our determination that performing procedures relating to revenue recognition - contract estimates at completion is a critical audit matter are (i) the significant judgment by management in developing their estimates of total revenue and total costs at completion, including significant judgments and assumptions on a contract by contract basis, and (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and in evaluating audit evidence related to management's estimates of total revenue and total cost at completion for contracts.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the revenue recognition process, including controls over the estimates of total revenue and total costs at completion. These procedures also included, among others, testing management's process for developing the estimated total revenue and total costs at completion, including evaluating on a test basis the reasonableness of certain significant judgments and variables considered by management specific to each contract or performance obligation. Evaluating the significant judgments and assumptions related to the estimates of total revenue and total costs at completion involved evaluating whether the significant judgments and assumptions used were reasonable considering: (i) management's historical forecasting accuracy, (ii) evidence to support the relevant aforementioned variables, (iii) the consistent application of accounting policies, and (iv) the timely identification of circumstances which may warrant a modification to a previous estimate.

Goodwill and Indefinite-lived Intangible Assets Impairment Assessments

As described in Notes 1 and 2 to the consolidated financial statements, the Company's consolidated goodwill and indefinite-lived intangible asset balances were \$54.4 billion and \$8.7 billion, respectively, as of December 31, 2021. A portion of the total goodwill balance relates to goodwill associated with certain reporting units in the Collins Aerospace Systems, Raytheon Missiles & Defense, and Raytheon Intelligence & Space segments. Goodwill and indefinite-lived intangible assets are subject to impairment testing annually, or more frequently if events or changes in circumstances indicate the asset might be impaired. For the quantitative assessments that are performed for goodwill and indefinite-lived intangible assets, fair value is primarily based on income approaches using a discounted cash flow method and relief from royalty method, respectively, which have significant assumptions related to sales growth rates, projected operating profit, terminal growth rates, discount rates, and royalty rates. The impairment testing compares carrying values to estimated fair values. If the carrying value exceeds the fair value, then the carrying value is reduced to fair value.

The principal considerations for our determination that performing procedures relating to the goodwill and indefinite-lived intangible assets impairment assessments is a critical audit matter are (i) the significant judgment by management when developing the fair value of certain reporting units and indefinite-lived intangible assets, (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to sales growth rates, terminal growth rates, and discount rates, as applicable, and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's goodwill and indefinite-lived intangible assets impairment assessments, including controls over the valuation of certain reporting units and indefinite-lived intangible assets. These procedures also included, among others (i) testing management's process for developing the fair value estimates, (ii) evaluating the appropriateness of the discounted cash flow and relief from royalty methods, (iii) testing the completeness and accuracy of underlying data used in the estimates, and (iv) evaluating the reasonableness of the significant assumptions used by management related to sales growth rates, terminal growth rates, and discount rates, as applicable. Evaluating management's assumptions related to sales growth rates and terminal growth rates involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the relevant businesses (ii) the consistency with external market and industry data, and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the Company's discounted cash flow and relief from royalty methods, and the terminal growth rates and discount rates assumptions.

/s/ PricewaterhouseCoopers LLP
Boston, Massachusetts
February 11, 2022

We have served as the Company's auditor since 1947.

RAYTHEON TECHNOLOGIES CORPORATION
CONSOLIDATED STATEMENT OF OPERATIONS
(dollars in millions, except per share amounts; shares in millions)

	2021	2020	2019
Net Sales:			
Products sales	\$ 49,270	\$ 43,319	\$ 32,998
Services sales	15,118	13,268	12,351
Total Net Sales	64,388	56,587	45,349
Costs and Expenses:			
Cost of sales - products	41,095	38,137	26,910
Cost of sales - services	10,802	9,919	7,688
Research and development	2,732	2,582	2,452
Selling, general and administrative	5,224	5,540	3,711
Total Costs and Expenses	59,853	56,178	40,761
Goodwill impairment	—	(3,183)	—
Other income, net	423	885	326
Operating profit (loss)	4,958	(1,889)	4,914
Non-operating expense (income), net			
Non-service pension income	(1,944)	(902)	(829)
Debt extinguishment costs	649	—	—
Interest expense, net	1,322	1,366	1,591
Total non-operating expense, net	27	464	762
Income (loss) from continuing operations before income taxes	4,931	(2,353)	4,152
Income tax expense	786	575	421
Net income (loss) from continuing operations	4,145	(2,928)	3,731
Less: Noncontrolling interest in subsidiaries' earnings from continuing operations	248	181	221
Income (loss) from continuing operations attributable to common shareowners	3,897	(3,109)	3,510
Discontinued operations (Note 3):			
Income (loss) from discontinued operations	(10)	(216)	4,091
Income tax expense from discontinued operations	23	151	1,874
Net income (loss) from discontinued operations	(33)	(367)	2,217
Less: Noncontrolling interest in subsidiaries' earnings from discontinued operations	—	43	190
Income (loss) from discontinued operations attributable to common shareowners	(33)	(410)	2,027
Net income (loss) attributable to common shareowners	\$ 3,864	\$ (3,519)	\$ 5,537
Earnings (loss) per share attributable to common shareowners - basic			
Income (loss) from continuing operations attributable to common shareowners	\$ 2.60	\$ (2.29)	\$ 4.11
Income (loss) from discontinued operations	(0.03)	(0.30)	2.37
Net income (loss) attributable to common shareowners	\$ 2.57	\$ (2.59)	\$ 6.48
Earnings (loss) per share attributable to common shareowners - diluted			
Income (loss) from continuing operations attributable to common shareowners	\$ 2.58	\$ (2.29)	\$ 4.06
Income (loss) from discontinued operations	(0.02)	(0.30)	2.35
Net income (loss) attributable to common shareowners	\$ 2.56	\$ (2.59)	\$ 6.41
Weighted average number of shares outstanding:			
Basic shares	1,501.6	1,357.8	854.8
Diluted shares	1,508.5	1,357.8	863.9

See accompanying Notes to Consolidated Financial Statements

RAYTHEON TECHNOLOGIES CORPORATION
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME (LOSS)

<i>(dollars in millions)</i>	2021	2020	2019
Net income (loss) from continuing and discontinued operations	\$ 4,112	\$ (3,295)	\$ 5,948
Pension and postretirement benefit plans adjustments			
Net actuarial gain (loss) arising during period	3,246	(202)	(543)
Prior service credit (cost) arising during period	(59)	2,095	(6)
Amortization of actuarial loss and prior service cost	258	373	228
Other	23	(51)	(93)
Pension and postretirement benefit plans adjustments	3,468	2,215	(414)
Change in unrealized cash flow hedging	(254)	263	18
Foreign currency translation adjustments	(647)	609	268
Other comprehensive income (loss), before tax	2,567	3,087	(128)
Income tax (expense) benefit related to items of other comprehensive income (loss)	(748)	(547)	43
Other comprehensive income (loss), net of tax	1,819	2,540	(85)
Comprehensive income (loss)	5,931	(755)	5,863
Less: comprehensive income attributable to noncontrolling interest	248	224	399
Comprehensive income (loss) attributable to common shareowners	\$ 5,683	\$ (979)	\$ 5,464

See accompanying Notes to Consolidated Financial Statements

RAYTHEON TECHNOLOGIES CORPORATION
CONSOLIDATED BALANCE SHEET

(dollars in millions, except per share amounts; shares in thousands)

2021

2020

Assets		
Current assets		
Cash and cash equivalents	\$ 7,832	\$ 8,802
Accounts receivable, net	9,661	9,254
Contract assets	11,361	9,931
Inventory, net	9,178	9,411
Other assets, current	4,018	5,978
Total Current Assets	42,050	43,376
Customer financing assets	2,848	3,144
Fixed assets, net	14,972	14,962
Operating lease right-of-use assets	1,958	1,880
Goodwill	54,436	54,285
Intangible assets, net	38,516	40,539
Other assets	6,624	3,967
Total Assets	\$ 161,404	\$ 162,153
Liabilities, Redeemable Noncontrolling Interest and Equity		
Current liabilities		
Short-term borrowings	\$ 134	\$ 247
Accounts payable	8,751	8,639
Accrued employee compensation	2,658	3,006
Other accrued liabilities	10,162	10,517
Contract liabilities	13,720	12,889
Long-term debt currently due	24	550
Total Current Liabilities	35,449	35,848
Long-term debt	31,327	31,026
Operating lease liabilities, non-current	1,657	1,516
Future pension and postretirement benefit obligations	7,855	10,342
Other long-term liabilities	10,417	9,537
Total Liabilities	86,705	88,269
Commitments and contingencies (Note 19)		
Redeemable noncontrolling interest	35	32
Shareowners' Equity:		
Capital Stock:		
Preferred Stock, \$1 par value; 250,000 shares authorized; None issued or outstanding	—	—
Common Stock, \$1 par value; 4,000,000 shares authorized; 1,708,065 and 1,706,173 shares issued	37,483	36,930
Treasury Stock, 214,785 and 186,734 common shares at average cost	(12,727)	(10,407)
Retained earnings	50,265	49,423
Unearned ESOP shares	(38)	(49)
Accumulated other comprehensive loss	(1,915)	(3,734)
Total Shareowners' Equity	73,068	72,163
Noncontrolling interest	1,596	1,689
Total Equity	74,664	73,852
Total Liabilities, Redeemable Noncontrolling Interest and Equity	\$ 161,404	\$ 162,153

See accompanying Notes to Consolidated Financial Statements

RAYTHEON TECHNOLOGIES CORPORATION
CONSOLIDATED STATEMENT OF CASH FLOWS

<i>(dollars in millions)</i>	2021	2020	2019
Operating Activities:			
Net income (loss) from continuing operations	\$ 4,145	\$ (2,928)	\$ 3,731
Adjustments to reconcile net income (loss) from continuing operations to net cash flows provided by operating activities:			
Depreciation and amortization	4,557	4,156	2,708
Deferred income tax (benefit) provision	(88)	(99)	38
Stock compensation cost	442	330	268
Net periodic pension and other postretirement income	(1,414)	(413)	(566)
Debt extinguishment costs	649	—	—
Goodwill impairment charge	—	3,183	—
Change in:			
Accounts receivable	(570)	1,318	88
Contract assets	(1,594)	63	(679)
Inventory	163	412	(1,267)
Other current assets	(566)	(445)	(984)
Accounts payable and accrued liabilities	917	(1,666)	1,111
Contract liabilities	1,372	1,129	1,234
Global pension contributions	(59)	(1,025)	(55)
Other operating activities, net	(812)	319	194
Net cash flows provided by operating activities from continuing operations	7,142	4,334	5,821
Investing Activities:			
Capital expenditures	(2,134)	(1,795)	(1,868)
Payments on customer financing assets	(231)	(280)	(787)
Receipts from customer financing assets	389	368	128
Investments in businesses (Note 2)	(1,088)	(419)	(9)
Cash acquired in Raytheon Merger	—	3,208	—
Dispositions of businesses, net of cash transferred (Note 2)	1,879	2,556	134
Increase in collaboration intangible assets	(188)	(172)	(351)
(Payments) receipts from settlements of derivative contracts, net	(16)	(32)	342
Other investing activities, net	25	(91)	(265)
Net cash flows (used in) provided by investing activities from continuing operations	(1,364)	3,343	(2,676)
Financing Activities:			
Issuance of long-term debt	4,062	2,004	(19)
Distribution from discontinued operations	—	17,207	—
Repayment of long-term debt	(4,254)	(16,082)	(2,693)
Debt extinguishment costs	(649)	—	—
(Decrease) increase in short-term borrowings, net	(113)	(2,041)	896
Proceeds from Common Stock issued under employee stock plans	7	15	27
Dividends paid on Common Stock	(2,957)	(2,732)	(2,442)
Repurchase of Common Stock	(2,327)	(47)	(151)
Net transfer (to) from discontinued operations	(71)	(2,033)	2,387
Other financing activities, net	(454)	(151)	82
Net cash flows used in financing activities from continuing operations	(6,756)	(3,860)	(1,913)
Discontinued Operations:			
Net cash (used in) provided by operating activities	(71)	(728)	3,062
Net cash used in investing activities	—	(241)	(416)
Net cash provided by (used in) financing activities	71	(1,414)	(2,651)
Net cash used in discontinued operations	—	(2,383)	(5)
Effect of foreign exchange rate changes on cash and cash equivalents from continuing operations	(1)	54	1
Effect of foreign exchange rate changes on cash and cash equivalents from discontinued operations	—	(76)	(20)
Net (decrease) increase in cash, cash equivalents and restricted cash	(979)	1,412	1,208
Cash, cash equivalents and restricted cash, beginning of year	8,832	4,961	3,731
Cash, cash equivalents and restricted cash within assets related to discontinued operations, beginning of year	—	2,459	2,481
Cash, cash equivalents and restricted cash, end of year	7,853	8,832	7,420
Less: Restricted cash, included in Other assets	21	30	24
Less: Cash, cash equivalents and restricted cash for discontinued operations	—	—	2,459
Cash and cash equivalents, end of year	\$ 7,832	\$ 8,802	\$ 4,937
Supplemental Disclosure of Cash Flow Information⁽¹⁾:			
Interest paid, net of amounts capitalized	\$ 1,339	\$ 1,628	\$ 1,801
Income taxes paid, net of refunds	1,124	1,716	1,768

(1) Amounts are inclusive of continuing operations and discontinued operations payments.

See accompanying Notes to Consolidated Financial Statements

RAYTHEON TECHNOLOGIES CORPORATION
CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
(dollars in millions, except per share amounts; shares in thousands)

	2021	2020	2019
Equity at January 1	\$ 73,852	\$ 44,231	\$ 40,610
Common Stock			
Balance at January 1	36,930	23,019	22,514
Common Stock employee plans activity	553	417	525
Common Stock issued for Raytheon Company outstanding common stock and equity awards	—	10,897	—
Adjustment to Common Stock for the Otis Distribution	—	2,598	—
Purchase of subsidiary shares from noncontrolling interest, net	—	(1)	(20)
Balance at December 31	37,483	36,930	23,019
Treasury Stock			
Balance at January 1	(10,407)	(32,626)	(32,482)
Common Stock plans activity	—	2	7
Common Stock repurchased	(2,331)	(43)	(151)
Common Stock issued for Raytheon Company outstanding common stock and equity awards	—	22,269	—
Other	11	(9)	—
Balance at December 31	(12,727)	(10,407)	(32,626)
Retained Earnings			
Balance at January 1	49,423	61,594	57,823
Net income (loss)	3,864	(3,519)	5,537
Adjustment to retained earnings for the Carrier Distribution	—	(5,805)	—
Dividends on Common Stock	(2,957)	(2,732)	(2,442)
Dividends on ESOP Common Stock	(50)	(50)	(70)
ASU 2018-02 adoption impact (Note 20)	—	—	745
Other, including the adoption impact of ASU 2016-13 (Note 1)	(15)	(65)	1
Balance at December 31	50,265	49,423	61,594
Unearned ESOP Shares			
Balance at January 1	(49)	(64)	(76)
Common Stock employee plans activity	11	15	12
Balance at December 31	(38)	(49)	(64)
Accumulated Other Comprehensive Income (Loss)			
Balance at January 1	(3,734)	(10,149)	(9,333)
Other comprehensive income (loss), net of tax	1,819	2,540	(71)
Separation of Carrier and Otis	—	3,875	—
ASU 2018-02 adoption impact (Note 20)	—	—	(745)
Balance at December 31	(1,915)	(3,734)	(10,149)
Noncontrolling Interest			
Balance at January 1	1,689	2,457	2,164
Net income	248	224	411
Less: Redeemable noncontrolling interest net income (loss)	(8)	(4)	7
Other comprehensive income (loss), net of tax	—	—	(12)
Dividends attributable to noncontrolling interest	(332)	(159)	(268)
Sale of subsidiary shares from noncontrolling interest, net	—	66	70
Acquisition (disposition) of noncontrolling interest, net	(1)	1	(23)
Separation of Carrier and Otis	—	(865)	—
Capital contributions (distributions)	—	(31)	108
Balance at December 31	1,596	1,689	2,457
Equity at December 31	\$ 74,664	\$ 73,852	\$ 44,231
Supplemental share information			
Shares of Common Stock issued under employee plans, net	1,893	2,689	3,883
Shares of Common Stock repurchased	28,052	330	1,133
Shares of Common Stock issued for Raytheon Company outstanding common stock and equity awards	—	652,638	—
Dividends declared per share of Common Stock	\$ 2.005	\$ 2.160	\$ 2.940

See accompanying Notes to Consolidated Financial Statements

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1: BASIS OF PRESENTATION AND SUMMARY OF ACCOUNTING PRINCIPLES

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. Actual results could differ from those estimates.

Separation Transactions, Distributions and Raytheon Merger. On April 3, 2020, United Technologies Corporation (UTC) (since renamed Raytheon Technologies Corporation) completed the separation of its business into three independent, publicly traded companies – UTC, Carrier Global Corporation (Carrier) and Otis Worldwide Corporation (Otis) (the Separation Transactions). UTC distributed all of the outstanding shares of Carrier common stock and all of the outstanding shares of Otis common stock to UTC shareowners who held shares of UTC common stock as of the close of business on March 19, 2020 (the Distributions). Immediately following the Separation Transactions and the Distributions, on April 3, 2020, UTC and Raytheon Company completed their all-stock merger of equals transaction (the Raytheon Merger), pursuant to which Raytheon Company became a wholly owned subsidiary of UTC, and UTC was renamed “Raytheon Technologies Corporation.” The historical results of Carrier and Otis are presented as discontinued operations and, as such, have been excluded from both continuing operations and segment results for all periods presented. Unless otherwise indicated, amounts and activity throughout these Consolidated Financial Statements are presented on a continuing operations basis. Refer to “Note 3: Discontinued Operations” below for further details.

Unless the context otherwise requires, the terms “we,” “our,” “us,” “the Company,” “Raytheon Technologies,” and “RTC” mean United Technologies Corporation and its subsidiaries when referring to periods prior to the Raytheon Merger and to the combined company, Raytheon Technologies Corporation, when referring to periods after the Raytheon Merger. Unless the context otherwise requires, the terms “Raytheon Company,” or “Raytheon” mean Raytheon Company and its subsidiaries prior to the Raytheon Merger. UTC was determined to be the accounting acquirer in the Raytheon Merger and, as a result, the financial statements of Raytheon Technologies as of and for the year ended December 31, 2020 include Raytheon Company’s financial position and results of operations for the period subsequent to the completion of the Raytheon Merger on April 3, 2020.

Coronavirus Disease 2019 (COVID-19) Pandemic. The COVID-19 pandemic continues to negatively affect the global economy, our business and operations, supply chains, and the industries in which we operate. As a result of COVID-19, commercial air travel demand experienced an unprecedented downturn as governments, businesses and individuals reacted to the pandemic in ways such as lockdowns, quarantines, border closings and other travel restrictions and requirements, the adoption of remote working and decreased leisure travel. The unprecedented decrease in air travel adversely affected our airline and airframer customers and their demand for our products and services of our Collins Aerospace Systems (Collins Aerospace) and Pratt & Whitney businesses. In addition, the border closings, lockdowns and labor shortages resulting from COVID-19 negatively impacted global supply and distribution capabilities. Decreases in the availability, cost and delivery of supplies have caused shortages and delays for the procurement of raw materials, components and other supplies required for our performance. As a result of all of these factors, we expect our future operating results, particularly those of our Collins Aerospace and Pratt & Whitney businesses, to continue to be negatively impacted when compared to pre-COVID-19 (2019) results. Our Raytheon Intelligence & Space (RIS) and Raytheon Missiles & Defense (RMD) businesses, although experiencing some negative impacts, primarily from supply chain pressures and labor shortages, have not experienced significant business disruptions as a result of the COVID-19 pandemic.

In 2020, we recorded write-downs of assets and significant unfavorable Estimate at Completion (EAC) adjustments in our Collins Aerospace and Pratt & Whitney businesses primarily related to:

- Goodwill impairment charges of \$3.2 billion related to two of our Collins Aerospace reporting units. Refer to “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” for additional information;
- increased estimated credit losses on both our receivables and contract assets of \$387 million;
- an unfavorable EAC adjustment on a Pratt & Whitney commercial engine aftermarket contract due to lower estimated revenues driven by a change in the estimated maintenance coverage period of \$334 million;
- contract asset and inventory impairments at Collins Aerospace due to the impact of lower estimated future customer activity resulting from the expected acceleration of fleet retirements of a certain commercial aircraft type of \$146 million;
- an unfavorable EAC adjustment of \$129 million related to lower estimated revenues due to the restructuring of a customer contract at Pratt & Whitney;
- an \$89 million impairment of commercial aircraft program assets at Pratt & Whitney;
- the impairment of a Collins Aerospace trade name of \$57 million;

- net unfavorable EAC adjustments on commercial aftermarket contracts at Pratt & Whitney based on a change in estimated future customer activity of \$75 million;
- an unfavorable EAC adjustment at Pratt & Whitney related to a shift in overhead costs to military contracts of \$44 million; and
- reserves related to a commercial financing arrangement at Pratt & Whitney of \$43 million.

While we believe that the long-term outlook for the aerospace industry remains positive due to the fundamental drivers of air travel demand, there continues to be uncertainty with respect to the point at which commercial air traffic capacity will return to and/or exceed pre-COVID-19 levels. We have seen indications that commercial air travel is recovering in certain areas of demand; however, other areas continue to lag. In addition, while global vaccination rates have increased, infection from COVID-19 variants have continued, which may impact the pace of the commercial aerospace recovery. Further, the commercial air travel recovery is tied to general economic conditions and may be impacted by inflation or government budget deficits, among other factors. However, we continue to estimate that a full recovery may occur in 2023 or 2024. As our commercial aerospace business recovers, we have seen increases in certain employee-related and discretionary costs, which had decreased in the aftermath of COVID-19 due to one-time cost reduction actions in 2020. A recovery may also impact our judgments around credit risk related to estimated credit losses.

On September 24, 2021, in furtherance of an executive order, the U.S. Safer Federal Workforce Task Force issued guidance requiring federal contractors and subcontractors to comply with COVID-19 safety protocols, including requiring certain employees to be fully vaccinated against COVID-19 except in limited circumstances. The implementation of this mandate may result in attrition, including attrition of critically skilled labor and difficulty in securing future labor needs, for our workforce, as well as the workforces of our subcontractors, suppliers and customers. The mandate is currently subject to various legal proceedings. As a result, the impact of mandate on our operations and performance, as well as on our subcontractors, suppliers and customers, is uncertain. However, if ultimately required, the mandate could affect our performance on contracts, particularly due to disruptions in subcontractor or supplier performance or deliveries, and have a material adverse effect on our results of operations.

Our expectations regarding the COVID-19 pandemic and ongoing recovery and their potential financial impact are based on available information and assumptions that we believe are reasonable at this time; however, the actual financial impact is highly uncertain and subject to a wide range of factors and future developments. New information may continue to emerge concerning the scope, severity and duration of the COVID-19 pandemic, as well as any worsening of the pandemic, the effect of additional variants, the efficacy, acceptance, distribution and availability of vaccines, new or continued actions to contain the pandemic's spread or treat its impact, and governmental, business and individual actions taken in response to the pandemic (including restrictions and limitations on travel and transportation, and changes in leisure and business travel patterns and work environments) among others. Some of these actions and related impacts may be trends that continue in the future even after the pandemic no longer poses a significant public health risk.

Summary of Accounting Principles. The following represents the significant accounting principles of Raytheon Technologies Corporation.

Consolidation and Classification. The Consolidated Financial Statements include the accounts of Raytheon Technologies Corporation, and all wholly owned, majority-owned and otherwise controlled domestic and foreign subsidiaries. All intercompany transactions have been eliminated. For our consolidated non-wholly owned subsidiaries, a noncontrolling interest is recognized to reflect the portion of equity that is not attributable to us. For classification of certain current assets and liabilities, the duration of our contracts or programs is utilized to define our operating cycle, which is generally longer than one year. Included within our Current assets and liabilities are Contract assets and liabilities related to our aftermarket and development arrangements, which can generally span up to fifteen years.

We reclassified certain prior period amounts to conform to our current period presentation. These reclassifications include the reclassification of assets and liabilities related to discontinued operations to Other assets, current and Other accrued liabilities, respectively, and the reclassification of debt extinguishment costs, which were previously included in Interest expense, net.

Use of Estimates. Our Consolidated Financial statements are based on the application of U.S. Generally Accepted Accounting Principles (GAAP), which require us to make estimates and assumptions about future events that affect the amounts reported in our Consolidated Financial statements and the accompanying notes. As discussed above, the full extent to which the COVID-19 pandemic will directly or indirectly impact our business, results of operations, financial condition, and liquidity, including sales, expenses, reserves and allowances, asset recoverability and EAC adjustments, will depend on future developments that are highly uncertain, including new information that may emerge concerning COVID-19 and related containment and treatment actions, as well as the economic impact on local, regional, national and international customers and markets. We have made estimates of the impact of COVID-19 within our financial statements and there may be changes to those estimates in future periods. Other future events, including COVID-19, and their effects cannot be determined with certainty. Therefore, the

determination of estimates requires the exercise of judgment. Actual results could differ from those estimates, and any such differences may be material to our Consolidated Financial statements.

Cash and Cash Equivalents. Cash and cash equivalents includes cash on hand, demand deposits and short-term cash investments that are highly liquid in nature and have original maturities of three months or less. The estimated fair value of Cash and cash equivalents approximates the carrying value due to their short maturities.

Accounts Receivable. Accounts receivable are stated at the net amount expected to be collected. We are exposed to credit losses primarily on our accounts receivable and contract assets related to our sales of products and services to commercial customers. The allowance for expected credit losses is established to provide for the expected lifetime credit losses by evaluating factors such as customer creditworthiness, historical payment and loss experiences, current economic conditions, including geographic and political risk, and the age and status of outstanding receivables. In certain circumstances, we may be able to develop reasonable and supportable forecasts over the contractual term of the financial asset. For periods beyond which we are able to make or obtain reasonable and supportable forecasts, we revert to historical loss experience and information.

We determine credit ratings for each customer in our portfolio based upon public information and information obtained directly from our customers. We conduct a review of customer credit ratings, published historical credit default rates for different rating categories, and multiple third-party aircraft value publications as a basis to validate the reasonableness of the allowance for expected credit losses on a quarterly basis, or when events and circumstances warrant. A credit limit is established for each customer based on the outcome of this review and consideration of the other factors discussed above. In certain cases, we may require collateral or prepayment to mitigate credit risk.

Expected credit losses are written off in the period in which the financial asset is no longer collectible.

Unbilled receivables represent revenues that are not currently billable to the customer under the terms of the contract and include unbilled amounts under commercial contracts where payment is solely subject to the passage of time. These items are expected to be billed and collected in the normal course of business. Accounts receivable as of December 31, 2021 and 2020 includes unbilled receivables of \$342 million and \$228 million, respectively, which primarily includes unbilled receivables with commercial aerospace customers. Other unbilled receivables where payment is subject to factors beyond just the passage of time are included in Contract assets in the Consolidated Balance Sheet, and are generally classified as current.

Contract Assets and Liabilities. Contract assets and liabilities represent the difference in the timing of revenue recognition from receipt of cash from our customers. Contract assets reflect revenue recognized and performance obligations satisfied or partially satisfied in advance of customer billing.

Contract liabilities relate to payments received in advance of the satisfaction of performance under the contract. We receive payments from customers based on the terms established in our contracts.

Contract assets and Contract liabilities are generally classified as current as our operating cycle is generally longer than one year. See “Note 6: Contract Assets and Liabilities” for further discussion of Contract assets and liabilities.

As described in more detail above in “Accounts Receivable,” we are exposed to credit losses on our contract assets related to our sales of products and services to commercial customers and regularly assess our allowance for expected credit losses as it relates to our Contract assets.

Inventory. Inventory is stated at the lower of cost or estimated realizable value and is primarily based on first-in, first-out (FIFO) or average cost methods.

Valuation reserves for excess, obsolete, and slow-moving inventory are estimated by comparing the inventory levels of individual parts to both future sales forecasts or production requirements and historical usage rates in order to identify inventory where the resale value or replacement value is less than inventoriable cost. Other factors that management considers in determining the adequacy of these reserves include whether individual inventory parts meet current specifications and can be substituted for a part currently being sold or used as a service part, overall market conditions, and other inventory management initiatives. Manufacturing costs are allocated to current production contracts. In our commercial aerospace businesses, excess costs beyond standard manufacturing costs are expensed when they meet certain thresholds.

Equity Method Investments. Investments in which we have the ability to exercise significant influence, but do not control, are accounted for under the equity method of accounting and are included in Other assets on the Consolidated Balance Sheet. Under this method of accounting, our share of the net earnings or losses of the investee is included in Other income, net on the Consolidated Statement of Operations since the activities of the investee are closely aligned with the operations of the business segment holding the investment. We evaluate our equity method investments whenever events or changes in circumstance indicate that the carrying amounts of such investments may be impaired. If a decline in the value of an equity method investment is determined to be other than temporary, a loss is recorded in earnings in the current period. Our sales to and

purchases from unconsolidated entities accounted for under the equity method, which are considered related parties, are not material.

Customer Financing Assets. Customer financing assets (CFA) relate to our commercial aerospace businesses in which we provide financing to airline customers. Our financing predominately relates to products under lease, and to a lesser extent, notes and lease receivables. In certain limited circumstances, we pay deposits on behalf of our airline customers to secure production slots with the airframers, and such pre-delivery payments are included in our notes receivables. Any unfunded pre-delivery payments are included within our commercial aerospace financing commitments as further discussed in “Note 19: Commitments and Contingencies.” Interest income from notes and financing leases and rental income from operating lease assets is generally included in Other income, net in the Consolidated Statement of Operations, while gains or losses on sales of operating lease assets are included in products sales and cost of sales. The current portion of these financing arrangements are aggregated in Accounts receivable, net and the non-current portion of these financing arrangements are aggregated in CFA in the Consolidated Balance Sheet. The increases and decreases in CFA from funding, receipts and certain other activity, are generally reflected as Investing Activities in the Consolidated Statement of Cash Flows. Leased assets are valued at cost and reviewed for impairment when circumstances indicate that the related carrying amounts may not be recoverable. Notes and lease receivables are valued at the net amount expected to be collected. For notes and lease receivables, we determine a specific reserve for exposure based on the difference between the carrying value of the receivable and the estimated fair value of the related collateral in connection with the evaluation of credit risk and collectability. As of December 31, 2021 and 2020, the reserves related to CFA were not material. At December 31, 2021 and 2020, we did not have any significant balances that are considered to be delinquent, on non-accrual status, past due 90 days or more, or considered to be impaired.

Business Combinations. Once a business is acquired, the fair value of the identifiable assets acquired and liabilities assumed is determined with the excess cost recorded to goodwill. As required, a preliminary fair value is determined once a business is acquired, with the final determination of the fair value being completed no later than one year from the date of acquisition.

In connection with the acquisitions of Rockwell Collins in 2018 and Goodrich in 2012, and to a lesser extent the acquisition of Raytheon Company in 2020, we recorded assumed liabilities related to customer contractual obligations on certain contracts with economic returns that were lower than what could be realized in market transactions as of the acquisition date. We measured these assumed liabilities based on the estimated cash flows of the programs plus a reasonable contracting profit margin required to transfer the contracts to market participants. These liabilities are being amortized in accordance with the underlying pattern of obligations, as reflected by the expenses incurred on the contracts. The balance of the contractual obligations was \$929 million and \$1,243 million at December 31, 2021 and 2020, respectively. Total consumption of the contractual obligations for the years ended December 31, 2021, 2020 and 2019 was \$314 million, \$295 million and \$345 million, respectively, with future consumption expected to be as follows: \$113 million in 2022, \$95 million in 2023, \$83 million in 2024, \$78 million in 2025, \$71 million in 2026 and \$489 million thereafter.

Goodwill and Intangible Assets. Goodwill represents costs in excess of fair values assigned to the underlying net assets of acquired businesses. Goodwill and intangible assets deemed to have indefinite lives are not amortized, but are subject to impairment testing annually, or more frequently if events or changes in circumstances indicate the asset might be impaired. The goodwill impairment test compares carrying values of the reporting units to their estimated fair values. If the carrying value exceeds the fair value then the carrying value is reduced to fair value. In developing our estimates for the fair value of our reporting units and indefinite-lived intangible assets, significant judgment is required in the determination of the appropriateness of using a qualitative assessment or quantitative assessment. For the quantitative assessments that are performed, fair value is primarily based on income approaches using a discounted cash flow method or relief from royalty method, which have significant assumptions including sales growth rates, projected operating profit, terminal growth rates, discount rates and royalty rates. Such assumptions are subject to variability from year to year and are directly impacted by, among other things, global market conditions. Finite-lived intangible assets are tested for impairment when events occur that indicate that the net book value will not be recovered over future cash flows.

Intangible assets consist of patents, trademarks/tradenames, customer relationships, exclusivity assets, developed technology and other intangible assets including collaboration assets. Acquired intangible assets are recognized at fair value in purchase accounting. Finite-lived intangible assets are amortized to Cost of sales and Selling, general and administrative expenses over the applicable useful lives. Exclusivity assets are commercial aerospace payments made to secure certain contractual rights to provide product on new aircraft platforms. We classify amortization of such payments as a reduction of sales. Such payments are capitalized when there are distinct rights obtained and there are sufficient incremental cash flows to support the recoverability of the assets established. Otherwise, the applicable portion of the payments are expensed. In addition, in connection with our 2012 agreement to acquire Rolls-Royce’s ownership and collaboration interests in International Aero Engines AG (IAE), additional payments are due to Rolls-Royce contingent upon each hour flown through June 2027 by the V2500-powered aircraft in service as of the acquisition date. These flight hour payments are being capitalized as collaboration assets and amortized to cost of sales.

Useful lives of finite-lived intangible assets are estimated based upon the nature of the intangible asset and the industry in which the intangible asset is used. These intangible assets are amortized based on the pattern in which the economic benefits of the intangible assets are consumed, as represented by the underlying cash flows, which may result in an amortization method other than straight-line. For both our commercial aerospace collaboration assets and exclusivity arrangements, the pattern of economic benefit generally results in no amortization during the development period with amortization beginning as programs enter full rate production and aftermarket cycles. If a pattern of economic benefit cannot be reliably determined or if straight-line amortization approximates the pattern of economic benefit, a straight-line amortization method may be used. The range of estimated useful lives is as follows:

	Years
Collaboration assets	30
Customer relationships and related programs	2 to 32
Developed technology	3 to 25
Patents and trademarks	3 to 30
Exclusivity assets	5 to 25

Leases. As a lessee, we record a right-of-use asset and a lease liability on the Consolidated Balance Sheet for leases with terms longer than 12 months. Leases are classified as either finance or operating, with classification affecting the pattern of expense recognition in the Consolidated Statement of Operations.

We enter into lease agreements for the use of real estate space, vehicles, information technology equipment, and certain other equipment under both operating and finance leases. We determine if an arrangement contains a lease at inception. Operating leases are included in Operating lease right-of-use assets and Operating lease liabilities on our Consolidated Balance Sheet. The current portion of our operating lease liabilities is included in Accrued liabilities on our Consolidated Balance Sheet. Finance leases are not considered significant to our Consolidated Balance Sheet or Consolidated Statement of Operations.

Right-of-use assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Lease right-of-use assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments, and use the implicit rate when readily determinable. We determine our incremental borrowing rate through market sources including relevant industry rates. Our lease right-of-use assets also include any initial direct costs and lease pre-payments made at or before the commencement date and are reduced for any lease incentives received at or before the commencement date. Certain of our leases include variable payments, which may vary based upon changes in facts or circumstances after the start of the lease. We exclude variable payments from lease right-of-use assets and lease liabilities, to the extent such payments are not considered fixed, and instead, expense variable payments as incurred. Variable lease expense and lease expense for short duration contracts are not a material component of lease expense. Some of our leases include the option to extend or terminate the lease. We include these options in the recognition of our right-of-use assets and lease liabilities when it is reasonably certain that we will exercise the option. Lease expense is generally recognized on a straight-line basis over the lease term.

In limited instances we act as a lessor, primarily for commercial aerospace engines, the majority of which are classified as operating leases. These leases are not significant to our Consolidated Balance Sheet or Consolidated Statement of Operations.

Other Long-Lived Assets. We evaluate the potential impairment of other long-lived assets whenever events or changes in circumstances indicate that the related carrying amounts may not be recoverable. If the carrying value of other long-lived assets held and used exceeds the sum of the undiscounted expected future cash flows, the carrying value is written down to fair value. In order for long-lived assets to be considered held for disposal, we must have committed to a plan to dispose of the assets. Once deemed held for disposal, the assets are stated at the lower of the carrying amount or fair value.

Income Taxes. Future income taxes represent the tax effects of transactions which are reported in different periods for tax and financial reporting purposes. These amounts consist of the tax effects of temporary differences between the tax and financial reporting balance sheets and tax carryforwards. Future income tax benefits and payables within the same tax paying component of a particular jurisdiction are offset for presentation in the Consolidated Balance Sheet. In the ordinary course of business there is inherent uncertainty in quantifying our income tax positions. We assess our income tax positions and record tax benefits for all years subject to examination based upon management's evaluation of the facts, circumstances, and information available at the reporting date. For those tax positions where it is more-likely-than-not that a tax benefit will be sustained, we have recorded the largest amount of tax benefit with a greater than 50% likelihood of being realized upon ultimate settlement with a taxing authority that has full knowledge of all relevant information. For those income tax positions where it is not more-likely-than-not

that a tax benefit will be sustained, no tax benefit has been recognized in the financial statements. Where applicable, associated interest expense has also been recognized. We recognize accrued interest related to unrecognized tax benefits in interest expense. Penalties, if incurred, would be recognized as a component of income tax expense. State income tax amounts are generally included in income tax expense; however state income tax payments related to our Raytheon Intelligence & Space (RIS) and Raytheon Missiles & Defense (RMD) segments are generally recoverable through the pricing of products and services to the U.S. government. Accordingly, these state income taxes are generally allocated to contracts and then classified as Selling, general and administrative expenses when paid (recovered) or otherwise agreed as allocable with the U.S. government.

We have elected to account for tax on Global Intangible Low-Taxed Income (GILTI) as a period cost, as incurred.

Revenue Recognition. The vast majority of our revenues are from long-term contracts associated with the design, development, manufacture or modification of complex aerospace or defense equipment or related services. Collins Aerospace and Pratt & Whitney primarily serve commercial and government customers in both the OEM and aftermarket parts and services markets of the aerospace industry, while RIS and RMD primarily provide products and services to government customers in the defense industry.

We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable. For certain contracts that meet the foregoing requirements, primarily contracts that are directly with a foreign government, we are required to obtain certain regulatory approvals. In these cases, we recognize revenue based on the likelihood of obtaining regulatory approvals based upon all known facts and circumstances. A performance obligation is a promise in a contract with a customer to transfer a distinct good or service to the customer. Some of our contracts with customers contain a single performance obligation, while others contain multiple performance obligations most commonly when a contract contains multiple distinct units (such as engines or certain aerospace components) or spans multiple phases of the product life-cycle such as production, maintenance and support. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as the performance obligation is satisfied. When there are multiple performance obligations within a contract, we allocate the transaction price to each performance obligation based on its standalone selling price when available. If standalone selling price is not available, we estimate the standalone selling price of each performance obligation, which is generally based on an expected cost plus a margin approach.

We consider the contractual consideration payable by the customer and assess variable consideration that may affect the total transaction price, including contractual discounts, contract incentive payments, estimates of award fees, flight hours, aircraft landings or other customer usage activities on long term maintenance contracts, and other sources of variable consideration, when determining the transaction price of each contract. When reasonably able to estimate, we include variable consideration in the transaction price at the most likely amount to which we expect to be entitled. We include estimated amounts in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. These estimates are based on historical experience, anticipated performance and our best judgment at the time. We also consider whether our contracts contain a significant financing component, which they generally do not.

Timing of the satisfaction of performance obligations varies across our businesses due to our diverse product and service mix, customer base, and contractual terms.

Performance obligations are satisfied as of a point in time for certain aerospace components, engines, and spare parts. Revenue is recognized when control of the product transfers to the customer, generally upon product shipment. Since billing also typically occurs upon product shipment, we generally do not have Contract assets or Contract liabilities balances related to point in time sales.

Performance obligations are satisfied over-time if the customer receives the benefits as we perform work, if the customer controls the asset as it is being produced (continuous transfer of control), or if the product being produced for the customer has no alternative use and we have a contractual right to payment for performance to date. We recognize revenue on an over-time basis for substantially all defense contracts and certain long-term aerospace OEM and aftermarket contracts.

Substantially all of our defense business revenue, which primarily relates to our RIS and RMD segments, and to a lesser extent Pratt & Whitney and Collins Aerospace, is recognized over time because of the continuous transfer of control to our customers. For performance obligations satisfied over time, revenue is recognized on a percentage of completion basis generally using costs incurred to date relative to total estimated costs at completion to measure progress. Incurred costs represent work performed, which correspond with and best depict transfer of control to the customer. Contract costs can include labor, materials, subcontractors' costs, or other direct costs and indirect costs. Our contracts with the U.S. government are typically subject to the Federal Acquisition Regulation (FAR) and are priced based on estimated or actual costs of producing goods or

providing services. The FAR provides guidance on the types of costs that are allowable in establishing prices for goods and services provided under U.S. government contracts. The pricing for non-U.S. government contracts is based on the specific negotiations with each customer. Under the typical payment terms of our U.S. government fixed-price contracts, the customer pays us either performance-based payments (PBPs) or progress payments. PBPs are interim payments equal to a negotiated percentage of the contract price based on quantifiable measures of performance or on the achievement of specified events or milestones. Progress payments are interim payments up to 80-90% of costs incurred as the work progresses. Because the customer retains a portion of the contract price until completion of the contract, our U.S. government fixed-price contracts generally result in revenue recognized in excess of billings which we present as Contract assets on the Consolidated Balance Sheet. For our U.S. government cost-type contracts, the customer generally pays us for our costs incurred within a short period of time. For non-U.S. government contracts, we typically receive interim payments as work progresses, although for some contracts, we may be entitled to receive an advance payment. Such advances are not considered a significant financing component because they are used to meet working capital demands that can be higher in the early stages of a contract and to protect us from the other party failing to adequately complete some or all of its obligations under the contract. We recognize a liability for advance payments in excess of revenue recognized and present it as Contract liabilities on the Consolidated Balance Sheet.

For certain of our long-term aftermarket contracts, revenue is recognized over the contract period. We generally account for such contracts as a series of daily performance obligations to stand ready to provide spare parts, product maintenance and aftermarket services. These arrangements include the sale of spare parts with integral services to our customers, and are generally classified as Services sales, with the corresponding costs classified in Cost of sales - services, within the Consolidated Statement of Operations. Revenue is primarily recognized on a percentage of completion basis using costs incurred to date relative to total estimated costs at completion to measure progress, as sufficient historical evidence indicates that the cost of performing services under the contract is incurred on an other-than-straight-line basis. For some of our long-term aftermarket contracts, we receive payment prior to delivery of products and services, resulting in a contract liability balance, while for others, we deliver products or services in advance of payment, resulting in a contract asset balance.

Contracts are often modified to account for changes in contract specifications or requirements. We consider contract modifications to exist when the modification either creates new or changes existing enforceable rights and obligations. Contract modifications for goods or services that are not distinct are accounted for as part of the existing contract either on a cumulative catch-up basis or prospective basis depending on the nature of the modification.

Loss provisions on contracts are recognized to the extent that estimated contract costs exceed the estimated consideration from the products or services contemplated under the contractual arrangement. For new commitments, we generally record loss provisions at contract signing except for certain contracts under which losses are recorded upon receipt of the purchase order that obligates us to perform. For existing commitments, anticipated losses on contractual arrangements are recognized in the period in which losses become evident. In estimating losses, products contemplated under contractual arrangements include firm quantities of product sold under contract and, in the commercial engine and wheels and brakes businesses, future highly probable sales of replacement parts required by regulation that are expected to be sold subsequently for incorporation into the original equipment. In our commercial engine and wheels and brakes businesses, when the OEM product is sold for a loss, but the combined OEM and aftermarket arrangement for each individual sales campaign is profitable, we record OEM product losses at the time of product delivery.

We review our Estimate at Completion (EACs) on significant contracts on a periodic basis and for others, no less than annually or when a change in circumstances warrant a modification to a previous estimate. Due to the nature of the work required to be performed on many of the Company's performance obligations, the estimation of total revenue and cost at completion is complex, subject to many variables and requires significant judgment by management on a contract by contract basis. As part of this process, management reviews information including, but not limited to, any outstanding key contract matters, progress towards completion and the related program schedule, identified risks and opportunities and the related changes in estimates of revenues and costs. The risks and opportunities relate to management's judgment about the ability and cost to achieve the schedule, consideration of customer-directed delays or reductions in scheduled deliveries, technical requirements, customer activity levels, such as flight hours or aircraft landings, and related variable consideration. Management's judgment related to these considerations has become increasingly more significant given the economic environment primarily caused by the COVID-19 pandemic. Management must make assumptions and estimates regarding contract revenue and costs, including estimates of labor productivity and availability, the complexity and scope of the work to be performed, the availability and cost of materials, the length of time to complete the performance obligation, execution by our subcontractors, the availability and timing of funding from our customer, overhead cost rates, and current and past maintenance cost and frequency driven by estimated aircraft and engine utilization and estimated useful lives of components, among others. Cost estimates may also include the estimated cost of satisfying our industrial cooperation agreements, sometimes in the form of either offset obligations or in-country industrial participation (ICIP) agreements, required under certain contracts primarily within our RIS and RMD

segments. These obligations may or may not be distinct depending on their nature. If cash is paid to a customer to satisfy our offset obligations it is recorded as a reduction in the transaction price.

Changes in estimates of net sales, cost of sales and the related impact to operating profit on contracts recognized over time are recognized on a cumulative catch-up basis, which recognizes the cumulative effect of the profit changes on current and prior periods based on a performance obligation's percentage of completion in the current period. A significant change in one or more of these estimates could affect the profitability of one or more of our performance obligations. Our EAC adjustments also include the establishment of loss provisions for our contracts accounted for on a percentage of completion basis.

Net EAC adjustments had the following impact on our operating results:

<i>(dollars in millions, except per share amounts)</i>	2021	2020	2019
Total Net Sales	\$ 296	\$ (407)	\$ (106)
Operating profit (loss)	110	(643)	(69)
Income (loss) from continuing operations attributable to common shareowners ⁽¹⁾	87	(508)	(55)
Diluted earnings (loss) per share from continuing operations attributable to common shareowners ⁽¹⁾	\$ 0.06	\$ (0.37)	\$ (0.06)

(1) Amounts reflect a U.S. statutory tax rate of 21%, which approximates our tax rate on our EAC adjustments.

For additional discussion on significant unfavorable EAC adjustments in 2020, see the COVID-19 Pandemic discussion above.

As a result of the Raytheon Merger, Raytheon Company's contracts accounted for on a percentage of completion basis were reset to zero percent complete as of the date of completion of the Raytheon Merger, because only the unperformed portion of the contract at such date represents an obligation of the Company. This had the impact of reducing EAC adjustments for these segments in the short term, most notably in 2020. For additional information related to the Raytheon Merger, see "Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets."

In our Collins Aerospace and Pratt & Whitney businesses, we may offer customers incentives to purchase our products, which may result in payments made to those customers, which are treated as a reduction in sales.

In our Collins Aerospace and Pratt & Whitney businesses, we incur contract fulfillment costs for engineering and development of aerospace OEM products directly related to existing or anticipated contracts with customers. Such costs generate or enhance our ability to satisfy our performance obligations under these contracts. We capitalize these costs as contract fulfillment costs to the extent the costs are recoverable from the associated contract margin and customer funding, and subsequently amortize the costs as the related performance obligations are satisfied. In instances where intellectual property does not transfer to the customer, we generally defer the customer funding of product engineering and development and recognize revenue when the related performance obligations are satisfied. Capitalized contract fulfillment costs were \$1,974 million and \$1,981 million as of December 31, 2021 and 2020, respectively, and are classified in Other assets in our Consolidated Balance Sheet and are included in Other operating activities, net in our Consolidated Statement of Cash Flows. We regularly assess capitalized contract fulfillment costs for impairment and recognized \$111 million of impairment for contract fulfillment costs in 2020. Costs to obtain contracts are not material.

In view of the risks and costs associated with developing new engines and the large up-front investments required that often require returns generated over the full estimated life of the engine, Pratt & Whitney has entered into certain collaboration arrangements in which sales, costs and risks are shared. Sales generated from engine programs, spare parts sales, and aftermarket business under these collaboration arrangements are recorded consistent with our revenue recognition policies in our Consolidated Financial Statements. Amounts attributable to our collaborators for their share of sales are recorded as cost of sales in our Consolidated Financial Statements based upon the terms and nature of the arrangement. Costs associated with engine programs under collaborative arrangements are expensed as incurred. Under these arrangements, collaborators contribute their program share of engine parts, incur their own production costs and make certain payments for shared or joint program costs. The reimbursement from collaborators of their share of program costs is recorded as a reduction of the related expense item at that time. As of December 31, 2021, the collaborators' interests in all commercial engine programs ranged from 13% to 49%, inclusive of a portion of Pratt & Whitney's interests held by other participants. Pratt & Whitney is the principal participant in all existing collaborative arrangements, with the exception of the Engine Alliance (EA), a joint venture with GE Aviation, which markets and manufactures the GP7000 engine for the Airbus A380 aircraft. There are no individually significant collaborative arrangements, and none of the collaborators individually have more than a 25% share in an individual

program. The following table illustrates the Consolidated Statement of Operations classification and amounts attributable to transactions arising from the collaborative arrangements between participants for each period presented.

<i>(dollars in millions)</i>	2021	2020	2019
Collaborator share of sales:			
Cost of sales - products	\$ 1,534	\$ 1,183	\$ 2,097
Cost of sales - services	1,428	1,374	1,674
Collaborator share of program costs (reimbursement of expenses incurred):			
Cost of sales - products	(160)	(147)	(190)
Research and development	(135)	(177)	(219)
Selling, general and administrative	(85)	(99)	(101)

Remaining Performance Obligations (RPO). RPO represents the aggregate amount of total contract transaction price that is unsatisfied or partially unsatisfied. Total RPO was \$156 billion as of December 31, 2021. Of the total RPO as of December 31, 2021, we expect approximately 30% will be recognized as sales over the next 12 months. This percentage of RPO to be recognized as sales over the next 12 months depends on our current estimates of future developments, which are highly uncertain, and cannot be predicted, including new information which may emerge concerning the scope, severity and duration of the COVID-19 pandemic, actions to contain its spread or treat its impact, and governmental, business and individuals' actions taken in response to the pandemic, which may result in customer delays or order cancellations. Approximately 40% of our RPO relates to long-term commercial aerospace maintenance contracts at Pratt & Whitney, which are generally expected to be realized over a span of up to 15 years.

Research and Development. Company-sponsored research and development costs, including those costs related to the Company's portion in connection with cost-sharing arrangements, are charged to expense as incurred and recovery on these cost-sharing arrangements is recorded as a reduction to research and development expense as earned. Customer-sponsored research and development projects performed under contracts with customers are accounted for as contract costs and reported as cost of sales on the related revenue generating contracts.

Foreign Exchange. We conduct business in many different currencies and, accordingly, are subject to the inherent risks associated with foreign exchange rate movements. The financial position and results of operations of many of our foreign subsidiaries are often measured using the local currency as the functional currency. Foreign currency denominated assets and liabilities are translated into U.S. Dollars at the exchange rates existing at the respective balance sheet dates, and income and expense items are translated at the average exchange rates during the respective periods. The aggregate effects of translating the balance sheets of these subsidiaries are deferred as a separate component of accumulated other comprehensive loss (AOCL) in shareholders' equity. Foreign exchange transaction gains and losses are recorded in Other income, net on our Consolidated Statement of Operations.

Derivatives and Hedging Activity. We use derivative instruments, including swaps, forward contracts and options, to help manage certain foreign currency, and from time to time to help manage interest rate and commodity price exposures. Derivative instruments are viewed as risk management tools by us and are not used for trading or speculative purposes. By their nature, all financial instruments involve market and credit risks. We enter into derivative and other financial instruments with major investment grade financial institutions and have policies to monitor the credit risk of those counterparties. We limit counterparty exposure and concentration of risk by diversifying counterparties. While there can be no assurance, we do not anticipate any material non-performance by any of these counterparties. We enter into transactions that are subject to enforceable master netting arrangements or similar agreements with various counterparties. However, we have not elected to offset multiple contracts with a single counterparty and, as a result, the fair value of the derivative instruments in a loss position is not offset against the fair value of derivative instruments in a gain position.

Derivatives used for hedging purposes may be designated and effective as a hedge of the identified risk exposure at the inception of the contract. All derivative instruments are recorded on the balance sheet at fair value. Derivatives used to hedge foreign currency denominated balance sheet items are reported directly in earnings along with offsetting transaction gains and losses on the items being hedged. Derivatives used to hedge forecasted cash flows associated with foreign currency commitments or forecasted commodity purchases may be accounted for as cash flow hedges, as deemed appropriate. Gains and losses on derivatives designated as cash flow hedges are recorded in other comprehensive income and reclassified to earnings as a component of products sales or expenses, as applicable, when the hedged transaction occurs. Cash payments or receipts on derivatives designated as cash flow hedges are recorded in Other operating activities, net within the Consolidated Statement of Cash Flows. To the extent that a previously designated hedging transaction is no longer an effective hedge, any ineffectiveness measured in the hedging relationship is recorded currently in earnings in the period it occurs.

To the extent the hedge accounting criteria are not met, the foreign currency forward contracts are utilized as economic hedges and changes in the fair value of these contracts are recorded currently in earnings in the period in which they occur. Cash receipts or payments related to the settlement of derivatives not designated as hedging instruments are recorded as investing cash flows within the Consolidated Statement of Cash Flows. Additional information pertaining to foreign currency forward contracts and net investment hedging is included in “Note 15: Financial Instruments.”

Environmental. Environmental investigatory, remediation, operating and maintenance costs are accrued when it is probable that a liability has been incurred and the amount can be reasonably estimated. The most likely cost to be incurred is accrued based on an evaluation of currently available facts with respect to each individual site, including existing technology, current laws and regulations and prior remediation experience. Where no amount within a range of estimates is more likely, the minimum is accrued. For sites with multiple responsible parties, we consider our likely proportionate share of the anticipated remediation costs and the ability of the other parties to fulfill their obligations in establishing a provision for those costs. Liabilities with fixed or reliably determinable future cash payments are discounted. A portion of these costs is eligible for future recovery through the pricing of our products and services to the U.S. government. We regularly assess the probability of recovery of these costs, which requires us to make assumptions about the extent of cost recovery under our contracts and the amount of future contract activity with the U.S. government. We consider such recovery probable based on government contracting regulations and our history of receiving reimbursement for such costs, and accordingly have recorded the future recovery of these costs from the U.S. government within Other assets in the Consolidated Balance Sheet. Accrued environmental liabilities are not reduced by potential insurance reimbursements or potential recoveries from pursuing other parties. We also lease certain government-owned properties and generally are not liable for remediation of preexisting environmental contamination at these sites. As a result, we generally do not provide for these costs in our Consolidated Financial Statements. See “Note 19: Commitments and Contingencies” for additional details on the environmental remediation activities.

Pension and Postretirement Obligations. U.S. GAAP requires balance sheet recognition of the overfunded or underfunded status of pension and postretirement benefit (PRB) plans. Funded status is measured at least annually in the fourth quarter and represents the difference between the plans’ projected benefit obligation (PBO) and the fair market value of the plans’ assets.

Changes to our pension and PRB plans’ funded status can result from company actions, such as contributions or changes in plan provisions, or by gains and losses. Gains and losses are primarily a result of changes in assumptions and actual experience that differs from these assumptions. Major assumptions include the discount rate and expected return on plan assets (EROA). These gains or losses are recorded in other comprehensive income, net of tax effects, until they are amortized as a component of net periodic benefit (income) expense.

A calculated “market-related value” of our plan assets is used to develop the amount of deferred asset gains or losses to be amortized. The market-related value of assets is equal to the fair value of assets adjusted to reflect the recognition, and subsequent amortization, of the difference between actual and expected asset returns over a five-year period. The market-related value of assets is used to calculate the expected return on assets included in the net periodic benefit (income) expense.

The Company has elected to use the “corridor” approach in the amortization of gains and losses, which limits the expense recognition to the net outstanding gains and losses in excess of the greater of 10% of the PBO or 10% of the market-related value of assets. Gains and losses exceeding the corridor are amortized in net periodic benefit (income) expense over either the projected average remaining employee service period or the projected average remaining lifetime of inactive participants depending on the plan.

Net periodic benefit (income) expense is classified between operating and non-operating, whereby only the service cost component is included in operating profit and the remaining components are included in Non-service pension (income) expense.

Product Performance Obligations. We extend performance and operating cost guarantees beyond our normal service and warranty policies for extended periods on some of our products, particularly commercial aircraft engines. Liability under such guarantees is based upon future product performance and durability. We accrue for such costs that are probable and can be reasonably estimated. In addition, we incur discretionary costs to service our products in connection with product performance issues. The costs associated with these product performance and operating cost guarantees require estimates over the full terms of the agreements, and require management to consider factors such as the extent of future maintenance requirements, interval between flight and repair time and the future cost of material and labor to perform the services. These cost estimates are largely based upon historical experience. See “Note 18: Guarantees” for further discussion.

Accounting Pronouncements. In June 2016, the FASB issued ASU 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. This ASU and its related amendments (collectively, the Credit Loss Standard) modifies the impairment model to utilize an expected loss methodology in place of the incurred loss

methodology for financial instruments, including trade receivables, contract assets and off-balance sheet credit exposures. The Credit Loss Standard requires consideration of a broader range of information to estimate expected credit losses, including historical information, current economic conditions and a reasonable forecast period. This ASU requires that the statement of operations reflect estimates of expected credit losses for newly recognized financial assets as well as changes in the estimate of expected credit losses that have taken place during the period, which may result in earlier recognition of certain losses. We adopted this standard effective January 1, 2020 utilizing a modified retrospective approach. A cumulative-effect non-cash adjustment to retained earnings as of January 1, 2020 was recorded in the amount of \$59 million. The adoption of this standard did not have a material impact on the Company's Consolidated Financial Statements.

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes. The amendments in this update remove certain exceptions of Topic 740 including: the exception to the incremental approach for intraperiod tax allocation when there is a loss from continuing operations and income or gain from other items; the exception to the requirement to recognize a deferred tax liability for equity method investments when a foreign subsidiary becomes an equity method investment; the exception to the ability not to recognize a deferred tax liability for a foreign subsidiary when a foreign equity method investment becomes a subsidiary; and the exception to the general methodology for calculating income taxes in an interim period when a year-to-date loss exceeds the anticipated loss for the year. There are also additional areas of guidance in regards to franchise and other taxes partially based on income and the interim recognition of enactment of tax laws and rate changes. We adopted the new standard effective January 1, 2021. The adoption of this standard did not have an impact on our Consolidated Financial Statements.

Other new pronouncements issued but not effective until after December 31, 2021 did not and are not expected to have a material impact on our results of operations, financial condition or liquidity.

NOTE 2: BUSINESS ACQUISITIONS, DISPOSITIONS, GOODWILL AND INTANGIBLE ASSETS

Business Acquisitions. Our investments in businesses, net of cash acquired, in 2021, 2020 and 2019 totaled \$1.1 billion, \$35.1 billion and \$9 million, respectively. Our investments in business in 2021 primarily consisted of the acquisitions discussed below. Our investments in businesses in 2020 primarily consisted of the acquisition of Raytheon Company.

In November 2021, we completed the acquisitions of FlightAware and SEAKR Engineering Inc., for a total of approximately \$1.1 billion, net of cash received. FlightAware is a leading digital aviation company providing global flight tracking solutions, predictive technology, analytics and decision-making tools, and is reported in the Collins Aerospace segment. SEAKR Engineering Inc. is a leading supplier of advanced space electronics and is reported in the RIS segment. In connection with these acquisitions, we have preliminarily recorded \$0.8 billion of goodwill and \$0.3 billion of intangibles assets. The purchase price allocation processes for these acquisitions are expected to be complete in 2022 after the conclusion of our final reviews.

In December 2020, we completed the acquisition of Blue Canyon Technologies, a leading provider of small satellites and spacecraft systems components for \$425 million, net of cash received. Blue Canyon Technologies is reported in the RIS segment. In connection with this acquisition, we recorded \$281 million of goodwill, primarily related to expected synergies from combining operations and the value of the existing workforce, which is deductible for tax purposes, and \$149 million of intangible assets, primarily related to customer relationships.

Pro forma financial information and revenue from the date of acquisition have not been provided for these acquisitions as they are not material either individually or in the aggregate.

Raytheon Merger. As discussed in "Note 1: Basis of Presentation and Summary of Accounting Principles", on April 3, 2020, UTC and Raytheon Company completed an all-stock merger of equals, following the completion by UTC of the Separation Transactions and Distributions. Raytheon Company (previously New York Stock Exchange (NYSE): RTN) shares ceased trading prior to the market open on April 3, 2020, and each share of Raytheon common stock was converted in the merger into the right to receive 2.3348 shares of UTC common stock, previously traded on the NYSE under the ticker symbol "UTX." Upon closing of the Raytheon Merger, UTC's name was changed to "Raytheon Technologies Corporation," and its shares of common stock began trading as of April 3, 2020 on the NYSE under the ticker symbol "RTX."

Total consideration is calculated as follows:

<i>(dollars in millions)</i>	Amount
Fair value of RTC common stock issued for Raytheon Company outstanding common stock and vested equity awards	\$ 33,067
Fair value attributable to pre-merger service for replacement equity awards	99
Total merger consideration	\$ 33,166

The fair value of RTC common stock issued for Raytheon Company outstanding common stock and vested equity awards is calculated as follows:

<i>(dollars and shares in millions, except per share amounts and exchange ratio)</i>	Amount
Number of Raytheon Company common shares outstanding as of April 3, 2020	277.3
Number of Raytheon Company stock awards vested as a result of the Raytheon Merger ⁽¹⁾	0.4
Total outstanding shares of Raytheon Company common stock and equity awards entitled to merger consideration	277.7
Exchange ratio ⁽²⁾	2.3348
Shares of RTC common stock issued for Raytheon Company outstanding common stock and vested equity awards	648.4
Price per share of RTC common stock ⁽³⁾	\$ 51.00
Fair value of RTC common stock issued for Raytheon Company outstanding common stock and vested equity awards	\$ 33,067

(1) Represents Raytheon Company stock awards that vested as a result of the Raytheon Merger, which is considered a “change in control” for purposes of the Raytheon 2010 Stock Plan. Certain Raytheon Company restricted stock awards and Raytheon Company restricted stock unit (RSU) awards, issued under the Raytheon 2010 Stock Plan vested on an accelerated basis as a result of the Raytheon Merger. Such vested awards were converted into the right to receive RTC common stock determined as the product of (1) the number of vested awards, and (2) the exchange ratio.

(2) The exchange ratio is equal to 2.3348 shares of UTC common stock for each share of Raytheon Company common stock in accordance with the Raytheon Merger Agreement.

(3) The price per share of RTC common stock is based on the RTC opening stock price as of April 3, 2020.

Allocation of Consideration Transferred to Net Assets Acquired. We accounted for the Raytheon Merger under the acquisition method and are required to measure identifiable assets acquired and liabilities assumed of the acquiree (Raytheon Company) at the fair values on the closing date. During the first quarter of 2021, based on the finalization of our valuation and internal reviews, we completed the purchase price allocation which resulted in a net increase to goodwill of \$61 million.

The final purchase price allocation, net of cash acquired, for the acquisition was as follows:

<i>(dollars in millions)</i>	
Cash and cash equivalents	\$ 3,208
Accounts receivable	1,997
Contract assets	6,023
Inventory	705
Other assets, current	940
Fixed assets	4,745
Operating lease right-of-use assets	950
Intangible assets	19,130
Other assets	1,218
Total identifiable assets acquired	38,916
Accounts payable	1,477
Accrued employee compensation	1,492
Other accrued liabilities	1,921
Contract liabilities	3,002
Long-term debt, including current portion	4,700
Operating lease liabilities, non-current portion	738
Future pension and postretirement benefit obligation	11,607
Other long-term liabilities	2,368
Total liabilities acquired	27,305
Total identifiable net assets	11,611
Goodwill	21,589
Redeemable noncontrolling interest	(34)
Total consideration transferred	\$ 33,166

Fair value adjustments to Raytheon Company’s identified assets and liabilities included an increase in fixed assets of

\$1.1 billion and an increase to future pension and postretirement benefit obligations of \$3.6 billion, primarily related to remeasurement of the liability based on market conditions on the Raytheon Merger closing date. For further information, see “Note 11: Employee Benefit Plans.” In determining the fair value of identifiable assets acquired and liabilities assumed, a review was conducted for any significant contingent assets or liabilities existing as of the closing date. The assessment did not note any material contingencies related to existing legal or government action.

The fair values of the customer relationship intangible assets were determined by using a discounted cash flow valuation method, which is a form of the income approach. Under this approach, the estimated future cash flows attributable to the asset are adjusted to exclude the future cash flows that can be attributed to supporting assets, such as tradenames or fixed assets. Both the amount and the duration of the cash flows are considered from a market participant perspective. Our estimates of market participant future cash flows, which required significant management judgment, included forecasted revenue growth rates, remaining developmental effort, operational performance including company specific synergies, program life cycles, material and labor pricing, and other relevant customer, contractual and market factors. Where appropriate, the net cash flows were probability-adjusted to reflect the uncertainties associated with the underlying assumptions, including cancellation rates related to backlog, government demand for sole-source and re-compete contracts and win rates for re-compete contracts, as well as the risk profile of the net cash flows utilized in the valuation. The probability-adjusted future cash flows were then discounted to present value, using an appropriate discount rate that required significant judgment by management. The customer relationship intangible assets are being amortized based on the pattern of economic benefits we expect to realize over the estimated economic life of the underlying programs. The fair value of the tradename intangible assets were determined utilizing the relief from royalty method which is a form of the income approach. Under this method, a royalty rate based on observed market royalties is applied to projected revenue supporting the tradename and discounted to present value, using forecasted revenue growth rate projections and a discount rate, respectively, that required significant judgment by management. The tradename intangible assets were determined to have an indefinite life. The developed technology intangible assets are being amortized based on the pattern of economic benefits.

The intangible assets included above consist of the following:

<i>(dollars in millions)</i>	Fair Value	Useful Life
Acquired customer relationships	\$ 12,900	25 years
Acquired tradenames	5,430	Indefinite
Acquired developed technology	800	5 to 7 years
Total identifiable intangible assets	\$ 19,130	

We also identified customer contractual obligations on loss making programs and recorded liabilities of \$222 million related to these programs based on the difference between the actual expected operating loss and a normalized operating profit. These liabilities are being liquidated based on the expected pattern of expenses incurred on these contracts.

We recorded \$21.6 billion of goodwill as a result of the Raytheon Merger which primarily relates to expected synergies from combining operations and the value of the existing workforce. The goodwill generated as a result of the Raytheon Merger is nondeductible for tax purposes.

Merger-Related Costs. Merger-related costs have been expensed as incurred. In 2021 and 2020, we recorded \$17 million and \$142 million, respectively, of Raytheon Merger transaction and integration costs. These costs were recorded in Selling, general and administrative expenses within the Consolidated Statement of Operations.

Supplemental Pro-Forma Data. Raytheon Company’s results of operations have been included in RTC’s financial statements for the period subsequent to the completion of the Raytheon Merger on April 3, 2020. The following unaudited supplemental pro-forma data presents consolidated information as if the Raytheon Merger had been completed on January 1, 2019. The pro-forma results were calculated by combining the results of Raytheon Technologies with the stand-alone results of Raytheon Company for the pre-acquisition periods, which were adjusted to account for certain costs that would have been incurred during this pre-acquisition period. The results below reflect Raytheon Technologies on a continuing operations basis, in order to more

accurately represent the structure of Raytheon Technologies after completion of the Separation Transactions, the Distributions and the Raytheon Merger.

<i>(dollars in millions, except per share amounts)</i>	2020	2019
Net sales	\$ 64,087	\$ 74,238
Income (loss) from continuing operations attributable to common shareowners	(2,167)	6,544
Basic earnings (loss) per share of common stock from continuing operations	\$ (1.43)	\$ 4.34
Diluted earnings (loss) per share of common stock from continuing operations	(1.43)	4.31

The unaudited supplemental pro-forma data above includes the following significant adjustments made to account for certain costs which would have been incurred if the acquisition had been completed on January 1, 2019, as adjusted for the applicable tax impact. As the merger was completed on April 3, 2020, the pro-forma adjustments in the table below only include the required adjustments through April 3, 2020.

<i>(dollars in millions)</i>	2020	2019
Amortization of acquired Raytheon Company intangible assets, net ⁽¹⁾	\$ (270)	\$ (1,048)
Amortization of fixed asset fair value adjustment ⁽²⁾	(9)	(38)
Utilization of contractual customer obligation ⁽³⁾	8	57
Deferred revenue fair value adjustment ⁽⁴⁾	(4)	(33)
Adjustment to non-service pension (income) expense ⁽⁵⁾	239	832
RTC/Raytheon fees for advisory, legal, accounting services ⁽⁶⁾	134	(134)
Adjustment to interest expense related to the Raytheon Merger, net ⁽⁷⁾	9	36
Elimination of deferred commission amortization ⁽⁸⁾	5	20
	\$ 112	\$ (308)

- (1) Reflects the additional amortization of the acquired Raytheon Company's intangible assets recognized at fair value in purchase accounting and eliminates the historical Raytheon Company intangible asset amortization expense.
- (2) Reflects the amortization of the fixed asset fair value adjustment as of the acquisition date.
- (3) Reflects the additional amortization of liabilities recognized for certain acquired loss making contracts as of the acquisition date.
- (4) Reflects the difference between prepayments related to extended arrangements and the fair value of the assumed performance obligations as they are satisfied.
- (5) Represents the elimination of unamortized prior service costs and actuarial losses, as a result of fair value purchase accounting.
- (6) Reflects the elimination of transaction-related fees incurred by RTC and Raytheon Company in connection with the Raytheon Merger and assumes all of the fees were incurred during the first quarter of 2019.
- (7) Reflects the amortization of the fair market value adjustment related to Raytheon Company.
- (8) Reflects the elimination of amortization recognized on deferred commissions that are eliminated in purchase accounting.

The unaudited supplemental pro-forma financial information does not reflect the potential realization of cost savings related to the integration of the two companies. Further, the pro-forma data should not be considered indicative of the results that would have occurred if the acquisition had been consummated on January 1, 2019, nor are they indicative of future results.

Dispositions. In 2021, 2020 and 2019 cash inflows related to dispositions were \$1,879 million, \$2,556 million and \$134 million, respectively. Our dispositions of businesses in 2021, 2020 and 2019 consisted of the dispositions discussed below and other immaterial dispositions in our aerospace businesses.

In September 2021, we entered into a definitive agreement to divest our global training and services business within our RIS segment, which we completed in December 2021, for approximately \$0.9 billion in cash and other consideration, resulting in an aggregate pre-tax gain, net of transaction costs, of \$251 million (\$135 million after tax), which includes a \$12 million pre-tax gain recognized in Non-service pension income.

In October 2020, we entered into a definitive agreement to sell our Forcepoint business, which we completed on January 8, 2021, for proceeds of \$1.1 billion, net of cash transferred. At December 31, 2020, the related assets of approximately \$1.9 billion and liabilities of approximately \$855 million were accounted for as held for sale at fair value less cost to sell; however, Forcepoint did not qualify for presentation as discontinued operations. These held for sale assets and liabilities are presented in Other assets, current and Other accrued liabilities, respectively, on our December 31, 2020 Consolidated Balance Sheet. Assets held for sale included \$1.4 billion of goodwill and intangible assets. We did not recognize a pre-tax gain or loss within the Consolidated Statement of Operations related to the sale of Forcepoint. The results of Forcepoint were included in Eliminations and other in our segment results.

In the third quarter of 2020, in accordance with conditions imposed for regulatory approval of the Raytheon Merger, we completed the sale of our Collins Aerospace military Global Positioning System (GPS) and space-based precision optics businesses for \$2.3 billion in cash, resulting in an aggregate pre-tax gain, net of transaction costs, of \$580 million (\$253 million after tax), of which \$608 million was included in Other income (expense), net partially offset by \$20 million of aggregate transaction costs included in Selling, general and administrative costs and an \$8 million expense included in Non-service pension income within our Consolidated Statement of Operations.

In May 2020, in order to meet the requirements for regulatory approval of the Raytheon Merger, we completed the sale of our airborne tactical radios business within our RIS segment for \$231 million in cash, net of transaction-related costs. As the transaction occurred subsequent to the Raytheon Merger, the gain of \$199 million was not recorded in the Consolidated Statement of Operations, but rather was recorded as an adjustment to the fair value of net assets acquired in the allocation of consideration transferred to net assets acquired in the Raytheon Merger.

Goodwill. Changes in our goodwill balances for the year ended in 2021 were as follows:

<i>(dollars in millions)</i>	Balance as of January 1, 2021 ⁽¹⁾	Acquisitions and Divestitures	Foreign currency translation and other	Balance as of December 31, 2021
Collins Aerospace Systems	\$ 31,571	\$ 228	\$ (415)	\$ 31,384
Pratt & Whitney	1,563	—	—	1,563
Raytheon Intelligence & Space ⁽¹⁾	9,522	286	5	9,813
Raytheon Missiles & Defense ⁽¹⁾	11,608	52	(1)	11,659
Total Segment	54,264	566	(411)	54,419
Eliminations and other	21	—	(4)	17
Total	\$ 54,285	\$ 566	\$ (415)	\$ 54,436

(1) In connection with the previously announced January 1, 2021 reorganization of RIS and RMD, goodwill of \$282 million was allocated from RMD to RIS on a relative fair value basis and is reflected in the revised balances at January 1, 2021.

The Company reviews goodwill for impairment annually or more frequently if events or changes in circumstances indicate the asset might be impaired.

We completed our annual goodwill impairment testing as of October 1, 2021, where we compared the fair value of all of our reporting units to their respective carrying values (step 1) and determined that no adjustments to the carrying value of goodwill were necessary. We estimated the fair value of our reporting units using a discounted cash flow (DCF) model based on our most recent long-range plan in place at the time of our impairment testing. The key assumptions used in the DCF analysis include our business projections, including revenue growth rates and operating profit margins, the long-term growth rate used to calculate the terminal value of the reporting unit, and the discount rate. We consider both internal and external factors and refresh key assumptions annually or as considered necessary. As part of our 2021 analysis, we used a slightly higher long-term growth rate assumption as compared to our 2020 analysis, based on our review of historical growth rates for our business and industry, long-term inflation estimates, and industry reports on projected future long-term growth for the industry. Material changes in these estimates could occur and result in impairments in future periods.

Based on our annual impairment analysis as of October 1, 2021, the reporting unit that was closest to impairment was a Collins Aerospace reporting unit with a fair value in excess of book value, including goodwill, of 15%. All other factors being equal, a 10% decrease in expected future cash flows, either due to a delay in the return to pre-pandemic revenue levels or other factors, would result in an excess of fair value over net book value of approximately 3%. Alternatively, all other factors being equal, a 50 basis points decrease in the assumed long-term growth rate would result in an excess of fair value over net book value of approximately 7%. The discount rate that we used in our 2021 analysis was consistent with the discount rate used in our 2020 analysis. All other factors being equal, a 50 basis points increase in the discount rate would result in an excess of fair value over net book value of approximately 4%.

All other reporting units had a fair value substantially in excess of book value.

We considered the deterioration in general economic and market conditions primarily due to the COVID-19 pandemic to be a triggering event in the first and second quarters of 2020, requiring an impairment evaluation of goodwill, intangible assets, net and other assets in our commercial aerospace businesses, Collins Aerospace and Pratt & Whitney. Beginning in the second quarter of 2020, we observed several airline customer bankruptcies, delays and cancellations of aircraft purchases by airlines, fleet retirements and repositioning of OEM production schedules and we experienced significant unfavorable EAC adjustments at our Collins Aerospace and Pratt & Whitney businesses due to a decline in flight hours, aircraft fleet utilization, shop visits and commercial OEM deliveries. These factors contributed to a deterioration of our expectations regarding the timing of a return to pre-COVID-19 commercial flight activity, which further reduced our future sales and cash flows expectations. In the

second quarter of 2020, we evaluated the Collins Aerospace and Pratt & Whitney reporting units for goodwill impairment and determined that the carrying values of two of the six Collins Aerospace reporting units exceeded the sum of discounted future cash flows, resulting in goodwill impairments of \$3.2 billion. Goodwill impairment was not indicated for any of the other reporting units evaluated for impairment in any of these scenarios.

The Company continuously monitors and evaluates relevant events and circumstances that could unfavorably impact the key assumptions in determining the fair value of our reporting units, including long-term revenue growth projections, profitability and expectations for net cash flows, discount rates including changes to U.S. treasury rates and equity risk premiums, tax rates, recent market valuations from transactions by comparable companies, volatility in the Company's market capitalization, and general industry, market and macro-economic conditions. It is possible that future changes in such circumstances, including significant future negative developments in the COVID-19 pandemic, or future changes in the inputs and assumptions used in estimating the fair value of our reporting units, including the expected long-term recovery of airline travel to pre-COVID-19 levels, would require the Company to record a non-cash impairment charge.

Intangible Assets. Identifiable intangible assets are comprised of the following:

<i>(dollars in millions)</i>	2021		2020	
	Gross Amount	Accumulated Amortization	Gross Amount	Accumulated Amortization
Amortized:				
Patents and trademarks	\$ 96	\$ (37)	\$ 48	\$ (35)
Collaboration assets	5,319	(1,173)	5,021	(1,024)
Exclusivity assets	2,673	(318)	2,541	(295)
Developed technology and other	1,118	(429)	906	(316)
Customer relationships	29,982	(7,411)	30,241	(5,262)
	39,188	(9,368)	38,757	(6,932)
Indefinite-lived:				
Trademarks and other	8,696	—	8,714	—
Total	\$ 47,884	\$ (9,368)	\$ 47,471	\$ (6,932)

We completed our annual indefinite-lived intangible assets impairment testing as of October 1, 2021. Based on this analysis, all of our indefinite-lived intangible assets had a fair value substantially in excess of book value. In 2020, given the deterioration in general economic and market conditions primarily due to the COVID-19 pandemic, we performed an assessment of our indefinite-lived intangible assets and recorded charges of \$57 million related to the impairment of an indefinite-lived tradename intangible assets at Collins Aerospace. We will continue to evaluate the impact of the COVID-19 pandemic on our customers and our business in future periods which may result in a different conclusion.

Amortization of intangible assets was \$2,439 million, \$2,125 million and \$1,244 million in 2021, 2020 and 2019, respectively. The following is the expected amortization of total intangible assets for 2022 through 2026, which reflects the pattern of expected economic benefit on certain aerospace intangible assets:

<i>(dollars in millions)</i>	2022	2023	2024	2025	2026
Amortization expense	\$1,997	\$2,096	\$2,174	\$2,061	\$1,977

NOTE 3: DISCONTINUED OPERATIONS

As discussed above, on April 3, 2020 UTC separated into three independent, publicly traded companies – UTC, Carrier and Otis and distributed all of the outstanding common stock of Carrier and Otis to UTC shareowners who held shares of UTC common stock as of the close of business on March 19, 2020.

Carrier and Otis are presented as discontinued operations and, as such, have been excluded from both continuing operations and segment results for all periods presented. Income (loss) from discontinued operations is as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Otis	\$ —	\$ 187	\$ 1,033
Carrier	—	196	1,698
Separation related and other discontinued operations transactions	(33)	(793)	(704)
Income (loss) from discontinued operations attributable to common shareowners	\$ (33)	\$ (410)	\$ 2,027

The following summarized financial information related to discontinued operations has been reclassified from Income from continuing operations and included in Income (loss) from discontinued operations:

<i>(dollars in millions)</i>	2021	2020	2019
Otis			
Products sales	\$ —	\$ 1,123	\$ 5,669
Services sales	—	1,843	7,444
Cost of sales - products	—	913	4,656
Cost of sales - services	—	1,157	4,635
Research and development	—	38	163
Selling, general and administrative expense	—	450	1,906
Other income (expense), net	—	(65)	(40)
Non-operating expense (income), net	—	3	4
Income from discontinued operations, before income taxes	—	340	1,709
Income tax expense	—	116	525
Income from discontinued operations	—	224	1,184
Less: Noncontrolling interest in subsidiaries earnings from discontinued operations	—	37	151
Income from discontinued operations attributable to common shareowners	\$ —	\$ 187	\$ 1,033
Carrier			
Products sales	\$ —	\$ 3,143	\$ 15,337
Services sales	—	741	3,247
Cost of sales - products	—	2,239	10,878
Cost of sales - services	—	527	2,298
Research and development	—	98	400
Selling, general and administrative expense	—	669	2,888
Other income (expense), net	—	(30)	246
Non-operating expense (income), net	—	17	(43)
Income from discontinued operations, before income taxes	—	304	2,409
Income tax expense	—	102	672
Income from discontinued operations	—	202	1,737
Less: Noncontrolling interest in subsidiaries earnings from discontinued operations	—	6	39
Income from discontinued operations attributable to common shareowners	\$ —	\$ 196	\$ 1,698
Separation related and other discontinued operations transactions⁽¹⁾			
Selling, general and administrative expense	\$ 10	\$ 151	\$ 16
Other income (expense), net	—	(709)	(11)
Loss from discontinued operations, before income taxes	(10)	(860)	(27)
Income tax (benefit) expense	23	(67)	677

Loss from discontinued operations, net of tax		(33)	(793)	(704)
Total income (loss) from discontinued operations attributable to common shareowners	\$	(33)	\$ (410)	\$ 2,027

(1) Reflects unallocable transaction costs incurred by the Company primarily related to professional services costs pertaining to the Separation Transactions and the establishment of Carrier and Otis as stand-alone public companies, facility relocation costs, costs to separate information systems, costs of retention bonuses and tax charges and benefits related to separation activities. In addition, 2020 includes debt extinguishment costs related to the Company's paydown of debt to not exceed the maximum applicable net indebtedness under the Raytheon Merger Agreement.

Selected financial information related to cash flows from discontinued operations is as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Net cash (used in) provided by operating activities	\$ (71)	\$ (728)	\$ 3,062
Net cash used in investing activities	—	(241)	(416)
Net cash provided by (used in) financing activities	71	(1,414)	(2,651)

Net cash (used in) provided by operating activities includes the net operating cash flows of Carrier and Otis prior to the Separation Transactions, as well as costs incurred by the Company primarily related to professional services costs pertaining to the Separation Transactions and the establishment of Carrier and Otis as stand-alone public companies, facility relocation costs, costs to separate information systems, costs of retention bonuses and tax charges related to separation activities. Net cash used in financing activities primarily consists of net cash transfers from Carrier and Otis to the Company, as well as debt extinguishment costs related to the early repayment of debt in 2020.

The Separation of Carrier was treated as a return on capital and recorded as a reduction to retained earnings, as it was in a net asset position, while the Separation of Otis was treated as a return of capital and recorded as an adjustment to Common stock, as it was in a net liability position.

NOTE 4: EARNINGS PER SHARE

<i>(dollars in millions, except per share amounts; shares in millions)</i>	2021	2020	2019
Net income (loss) attributable to common shareowners:			
Income (loss) from continuing operations	\$ 3,897	\$ (3,109)	\$ 3,510
Income (loss) from discontinued operations	(33)	(410)	2,027
Net income (loss) attributable to common shareowners	\$ 3,864	\$ (3,519)	\$ 5,537
Basic weighted average number of shares outstanding	1,501.6	1,357.8	854.8
Stock awards and equity units (share equivalent)	6.9	—	9.1
Diluted weighted average number of shares outstanding	1,508.5	1,357.8	863.9
Earnings (Loss) per share attributable to common shareowners - basic			
Income (loss) from continuing operations	\$ 2.60	\$ (2.29)	\$ 4.11
Income (loss) from discontinued operations	(0.03)	(0.30)	2.37
Net income (loss) attributable to common shareowners	\$ 2.57	\$ (2.59)	\$ 6.48
Earnings (Loss) per share attributable to common shareowners - diluted			
Income (loss) from continuing operations	\$ 2.58	\$ (2.29)	\$ 4.06
Income (loss) from discontinued operations	(0.02)	(0.30)	2.35
Net income (loss) attributable to common shareowners	\$ 2.56	\$ (2.59)	\$ 6.41

The computation of diluted EPS excludes the effect of the potential exercise of stock awards, including stock appreciation rights and stock options, when the average market price of the common stock is lower than the exercise price of the related stock awards during the period because the effect would be anti-dilutive. In addition, the computation of diluted EPS excludes the effect of the potential exercise of stock awards when the awards' assumed proceeds exceed the average market price of the common shares during the period. For 2021 and 2019, there were 13.4 million and 8.3 million stock awards excluded from the computation, respectively. For 2020, all stock awards were excluded from the computation of diluted EPS because their effect was antidilutive due to the loss from continuing operations, and amounted 32.5 million stock awards.

NOTE 5: ACCOUNTS RECEIVABLE, NET

Accounts receivable, net consisted of the following:

<i>(dollars in millions)</i>	2021	2020
U.S. government contracts (including foreign military sales)	\$ 1,204	\$ 1,039
Other customers	8,932	8,761
Allowance for expected credit losses	(475)	(546)
Total accounts receivable, net	\$ 9,661	\$ 9,254

The changes in the allowance for expected credit losses related to Accounts receivable were as follows:

<i>(dollars in millions)</i>	2021	2020
Balance as of January 1	\$ 546	\$ 254
Current period provision for expected credit losses, net of recoveries ⁽¹⁾	(47)	277
Write-offs charged against the allowance for expected credit losses	(18)	(5)
Other, net ⁽²⁾	(6)	20
Balance as of December 31	\$ 475	\$ 546

(1) The current provision for expected credit losses for 2020 includes \$248 million of reserves driven by customer bankruptcies and additional reserves for credit losses primarily due to the economic environment primarily caused by the COVID-19 pandemic.

(2) Other, net for 2020 includes a \$34 million impact related to the January 1, 2020 adoption of ASU 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments.

The activity in the allowance for doubtful accounts was not material in 2019.

NOTE 6: CONTRACT ASSETS AND LIABILITIES

Contract assets reflect revenue recognized and performance obligations satisfied in advance of customer billing. Contract liabilities relate to payments received in advance of the satisfaction of performance under the contract. We receive payments from customers based on the terms established in our contracts. Total contract assets and contract liabilities as of December 31, 2021 and 2020 are as follows:

<i>(dollars in millions)</i>	2021	2020
Contract assets	\$ 11,361	\$ 9,931
Contract liabilities	(13,720)	(12,889)
Net contract liabilities	\$ (2,359)	\$ (2,958)

Contract assets increased \$1,430 million during 2021 primarily due to sales in excess of billings at Pratt & Whitney and contractual billing terms on U.S. government and foreign military sales contracts at RMD. Contract liabilities increased \$831 million during 2021 primarily due to billings in excess of sales at Pratt & Whitney and timing of milestone payments on certain international contracts at RMD, partially offset by \$381 million of contract liability reduction related to a contract termination at Collins Aerospace.

In 2021, 2020 and 2019, we recognized revenue of \$4,301 million, \$2,763 million and \$2,850 million related to our Contract liabilities at January 1, 2021, January 1, 2020 and January 1, 2019, respectively.

As of December 31, 2021, our Contract liabilities include approximately \$430 million of advance payments received from a Middle East customer on contracts for which we no longer believe we will be able to execute on or obtain required regulatory approvals. These advance payments may become refundable to the customer if the contracts are ultimately terminated.

Contract assets consisted of the following at December 31:

<i>(dollars in millions)</i>	2021	2020
Unbilled	\$ 23,652	\$ 20,336
Progress payments	(12,291)	(10,405)
Total contract assets	\$ 11,361	\$ 9,931

The U.S. government has title to the assets related to unbilled amounts on U.S. government contracts that provide progress payments.

Contract assets are net of an allowance for expected credit losses of \$251 million and \$177 million as of December 31, 2021 and 2020, respectively.

The allowance for expected credit losses activity was not material in 2021. In 2020, we recognized incremental credit loss reserves of \$132 million related to a number of airline customers that have filed for bankruptcy and additional reserves due to the economic environment primarily caused by the COVID-19 pandemic.

In addition, in 2020, we recognized an impairment of \$111 million of contract assets at Collins Aerospace due to the impact of lower estimated future customer activity principally driven by the expected acceleration of fleet retirements of a certain commercial aircraft type, and we recognized an impairment of \$129 million of contract assets as a result of an unfavorable EAC adjustment related to lower estimated revenues due to the restructuring of a customer contract at Pratt & Whitney.

NOTE 7: INVENTORY, NET

<i>(dollars in millions)</i>	2021	2020
Raw materials	\$ 3,024	\$ 3,015
Work-in-process	3,085	2,924
Finished goods	3,069	3,472
Total inventory, net	\$ 9,178	\$ 9,411

Raw materials, work-in-process and finished goods are net of total valuation reserves of \$2.0 billion and \$1.8 billion as of December 31, 2021 and 2020, respectively.

NOTE 8: COMMERCIAL AEROSPACE INDUSTRY ASSETS AND COMMITMENTS

The ongoing COVID-19 pandemic has negatively affected our business, supply chains, operations and the industries in which we operate. As a result of COVID-19, governments, businesses and individuals have taken actions such as instituting lockdowns, quarantines, border closings and other travel restrictions and requirements, adopting remote working and reducing business and leisure travel, which collectively led to an unprecedented decline in demand for commercial air travel. The unprecedented decrease in air travel adversely affected our airline and airframer customers and their demand for our products and services of our Collins Aerospace and Pratt & Whitney businesses. Refer to “Note 1: Basis of Presentation and Summary of Accounting Principles” for further details. While we have seen indications that commercial air travel is recovering, we continue to closely monitor our commercial aerospace assets for recoverability and our off-balance sheet exposures. The following summarizes certain significant assets and off-balance sheet exposures specifically related to our commercial aerospace customers:

<i>(dollars in millions)</i>	2021	2020
Assets related to commercial aerospace industry customers:		
Accounts receivable, net (Note 5)	\$ 7,235	\$ 7,239
Contract assets (Note 6)	3,264	2,559
Customer financing assets ⁽¹⁾ (Note 1)	2,945	3,160
Contract fulfillment costs (Note 1)	1,711	1,773
Guarantees and Commitments related to commercial aerospace industry customers:		
Commercial aerospace guarantees (net of reserves and collaboration partners’ share) (Note 18)	165	174
Commercial aerospace commitments (net of collaboration partners’ share) (Note 19)	9,659	8,515

(1) Customer financing assets is inclusive of both the current and long term balances.

We also have goodwill and intangible assets, including exclusivity assets and collaboration assets, associated with our commercial aerospace business. Refer to “Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets” for further discussion.

NOTE 9: FIXED ASSETS, NET

Fixed assets, net, are stated at cost less accumulated depreciation. Major improvements are capitalized while expenditures for maintenance, repairs and minor improvements are expensed. For sales or asset retirements, the assets and related accumulated depreciation and amortization are eliminated from the accounts. Gains and losses on sales of our Fixed assets, net, are generally recorded in operating income; however, for our RIS and RMD segments, gains and losses that are allocable to our contracts are

included in overhead, as we are required to allocate gains or losses and generally can recover these costs through the pricing of products and services to the U.S. government.

<i>(dollars in millions)</i>	Estimated Useful Lives	2021	2020
Land		\$ 765	\$ 773
Buildings and improvements	10-45 years	7,271	7,067
Machinery, tools and equipment	3-20 years	16,729	15,994
Other, including assets under construction		2,872	2,512
Fixed assets, gross		27,637	26,346
Accumulated depreciation		(12,665)	(11,384)
Fixed assets, net		\$ 14,972	\$ 14,962

Leasehold improvements are amortized over the lesser of the remaining lease term or the estimated useful life of the improvement.

Depreciation expense related to Fixed assets, net is recorded predominantly utilizing the straight-line method and was \$1,828 million in 2021, \$1,767 million in 2020 and \$1,191 million in 2019.

NOTE 10: BORROWINGS AND LINES OF CREDIT

<i>(dollars in millions)</i>	2021	2020
Commercial paper	\$ —	\$ 160
Other borrowings	134	87
Total short-term borrowings	\$ 134	\$ 247

As of December 31, 2021, our maximum commercial paper borrowing limit was \$5.0 billion as the commercial paper is backed by our \$5.0 billion revolving credit agreement. We use our commercial paper borrowings for general corporate purposes, including the funding of potential acquisitions, pension contributions, debt refinancing, dividend payments and repurchases of our common stock. The commercial paper notes have original maturities of not more than 90 days from the date of issuance. Interest rates on our commercial paper borrowings are considered variable due to their short-term duration and high-frequency of turnover.

As of December 31, 2021, we had revolving credit agreements with various banks permitting aggregate borrowings of up to \$7.0 billion, consisting of a \$5.0 billion revolving credit agreement, which matures in April 2025, and a \$2.0 billion revolving credit agreement, which we renewed in May 2021 and expires in May 2022. As of December 31, 2021, there were no borrowings outstanding under these agreements. In addition, at December 31, 2021, approximately \$0.9 billion was available under short-term lines of credit with local banks at our various domestic and international subsidiaries.

On November 17, 2021, we completed a cash tender offer for the notes included in the repayments table below (the Tender Offer Notes), resulting in a partial repayment of approximately \$1.5 billion of aggregate principal on these notes. In connection with this transaction, we recorded debt extinguishment costs of \$617 million, primarily related to premiums.

We had the following issuances of long-term debt during 2021:

Issuance Date	Description of Notes	Aggregate Principal Balance (in millions)
November 16, 2021	2.375% notes due 2032 ⁽¹⁾	\$ 1,000
	3.030% notes due 2052 ⁽¹⁾	1,100
August 10, 2021	1.900% notes due 2031 ⁽²⁾	1,000
	2.820% notes due 2051 ⁽²⁾	1,000

(1) The net proceeds received from these debt issuances were used to fund the purchase of the Tender Offer Notes.

(2) The net proceeds received from these debt issuances, along with cash on hand, were used to fund the repayment of our 2.800% and 2.500% notes due 2022.

We made the following repayments of long-term debt during 2021:

Repayment Date	Description of Notes	Aggregate Principal Balance (in millions)
November 17, 2021	5.700% notes due 2040 ⁽¹⁾	\$ 447
	6.125% notes due 2038 ⁽¹⁾	425
	6.050% notes due 2036 ⁽¹⁾	190
	5.400% notes due 2035 ⁽¹⁾	154
	7.500% notes due 2029 ⁽¹⁾	136
	6.700% notes due 2028 ⁽¹⁾	115
	6.800% notes due 2036 ⁽¹⁾	17
	7.000% notes due 2038 ⁽¹⁾	11
	7.100% notes due 2027 ⁽¹⁾	6
November 15, 2021	3.100% notes due 2021	250
August 26, 2021	2.800% notes due 2022 ⁽¹⁾	1,100
	2.500% notes due 2022 ⁽¹⁾	1,100
March 1, 2021	8.750% notes due 2021	250

(1) In connection with the early repayment of outstanding principal, we recorded debt extinguishment costs of \$649 million in 2021.

Long-term debt consisted of the following as of December 31:

<i>(dollars in millions)</i>	2021	2020
8.750% notes due 2021	\$ —	\$ 250
3.100% notes due 2021	—	250
2.800% notes due 2022	—	1,100
2.500% notes due 2022	—	1,100
3.650% notes due 2023 ⁽¹⁾	171	171
3.700% notes due 2023 ⁽¹⁾	400	400
3.200% notes due 2024 ⁽¹⁾	950	950
3.150% notes due 2024 ⁽¹⁾	300	300
3.950% notes due 2025 ⁽¹⁾	1,500	1,500
2.650% notes due 2026 ⁽¹⁾	719	719
3.125% notes due 2027 ⁽¹⁾	1,100	1,100
3.500% notes due 2027 ⁽¹⁾	1,300	1,300
7.200% notes due 2027 ⁽¹⁾	382	382
7.100% notes due 2027	135	141
6.700% notes due 2028	285	400
7.000% notes due 2028 ⁽¹⁾	185	185
4.125% notes due 2028 ⁽¹⁾	3,000	3,000
7.500% notes due 2029 ⁽¹⁾	414	550
2.150% notes due 2030 (€500 million principal value) ⁽¹⁾	565	612
2.250% notes due 2030 ⁽¹⁾	1,000	1,000
1.900% notes due 2031 ⁽¹⁾	1,000	—
2.375% notes due 2032 ⁽¹⁾	1,000	—
5.400% notes due 2035 ⁽¹⁾	446	600
6.050% notes due 2036 ⁽¹⁾	410	600
6.800% notes due 2036 ⁽¹⁾	117	134
7.000% notes due 2038	148	159
6.125% notes due 2038 ⁽¹⁾	575	1,000

4.450% notes due 2038 ⁽¹⁾	750	750
5.700% notes due 2040 ⁽¹⁾	553	1,000
4.875% notes due 2040 ⁽¹⁾	600	600
4.700% notes due 2041 ⁽¹⁾	425	425
4.500% notes due 2042 ⁽¹⁾	3,500	3,500
4.800% notes due 2043 ⁽¹⁾	400	400
4.200% notes due 2044 ⁽¹⁾	300	300
4.150% notes due 2045 ⁽¹⁾	850	850
3.750% notes due 2046 ⁽¹⁾	1,100	1,100
4.050% notes due 2047 ⁽¹⁾	600	600
4.350% notes due 2047 ⁽¹⁾	1,000	1,000
4.625% notes due 2048 ⁽¹⁾	1,750	1,750
3.125% notes due 2050 ⁽¹⁾	1,000	1,000
2.820% notes due 2051 ⁽¹⁾	1,000	—
3.030% notes due 2052 ⁽¹⁾	1,100	—
Other (including finance leases)	270	292
Total principal long-term debt	31,300	31,470
Other (fair market value adjustments, (discounts)/premiums and debt issuance costs)	51	106
Total long-term debt	31,351	31,576
Less: current portion	24	550
Long-term debt, net of current portion	\$ 31,327	\$ 31,026

(1) We may redeem these notes at our option pursuant to their terms.

The weighted-average interest rate related to total debt as of December 31, 2021 and 2020 was 4.0% and 4.2%, respectively.

The average maturity of our long-term debt at December 31, 2021 is approximately 15 years. The schedule of principal payments required on long-term debt for the next five years and thereafter is:

<i>(in millions)</i>	
2022	\$ 13
2023	588
2024	1,270
2025	1,590
2026	751
Thereafter	27,088
Total	\$ 31,300

NOTE 11: EMPLOYEE BENEFIT PLANS

We sponsor various domestic and foreign employee benefit plans, which are discussed below.

Employee Savings Plans. We sponsor various employee savings plans. Our contributions to employer sponsored defined contribution plans were \$962 million, \$875 million and \$485 million for 2021, 2020 and 2019, respectively.

Our non-union domestic employee savings plan for legacy UTC employees uses an Employee Stock Ownership Plan (ESOP) for employer matching contributions. External borrowings were used by the ESOP to fund a portion of its purchase of ESOP stock from us. The external borrowings have been extinguished and only re-amortized loans remain between RTC and the ESOP Trust. As ESOP debt service payments are made, common stock is released from an unreleased shares account. ESOP debt may be prepaid or re-amortized to either increase or decrease the number of shares released so that the value of released shares equals the value of plan benefit. We may also, at our option, contribute additional common stock or cash to the ESOP.

Shares of common stock are allocated to employees' ESOP accounts at fair value on the date earned. Cash dividends on common stock held by the ESOP are used for debt service payments. Participants may choose to have their ESOP dividends reinvested or distributed in cash. Common stock allocated to ESOP participants is included in the average number of common

shares outstanding for both basic and diluted EPS. At December 31, 2021, 25.4 million common shares had been allocated to employees, leaving 7.2 million unallocated common shares in the ESOP Trust, with a fair value of \$619 million.

Pension and Postretirement Plans. We sponsor both funded and unfunded domestic and foreign defined benefit pension plans that cover a large number of our employees. Our largest plans are generally closed to new participants. We also sponsor both funded and unfunded PRB plans that provide health care and life insurance benefits to eligible retirees. Our plans use a December 31 measurement date consistent with our fiscal year.

On April 3, 2020, UTC completed the Separation Transactions, which included the transfer of certain defined benefit plans from UTC to Carrier and Otis. The plans transferred were primarily international plans with the majority of the UTC defined benefit liability remaining with Raytheon Technologies. Upon separation, the pension participants within Carrier and Otis were effectively terminated from Raytheon Technologies. The terminations triggered a mid-year remeasurement of the UTC domestic plans. The remeasurement, which was calculated using discount rates and asset values as of April 3, 2020 (using March 31, 2020 as a practical expedient), resulted in a \$2.4 billion increase to our pension liability, primarily due to a decrease in the fair market value of the plans' assets since December 31, 2019. All service cost previously associated with Carrier and Otis was reclassified to discontinued operations. For non-service pension (income) expense and pension liabilities, generally only the portions related to the defined benefit plans transferred to Carrier and Otis as part of the Separation Transactions were reclassified to discontinued operations.

Raytheon Company has both funded and unfunded domestic and foreign defined benefit pension and PRB plans. As of the merger date, the Raytheon Company plans were remeasured at fair value using accounting policies consistent with the UTC plans. Refer to "Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets" for additional information. The deferred pension and PRB plan losses included in Raytheon Company's accumulated other comprehensive income (loss) as of the merger date were eliminated and are no longer subject to amortization in net periodic benefit (income) expense. Amounts prior to the merger date of April 3, 2020 do not include the Raytheon Company pension plan results.

In December 2020, we approved a change to the Raytheon Company domestic benefit pension plans for non-union participants to cease future benefit accruals based on an employee's years of service and compensation effective December 31, 2022. The plan change does not impact participants' historical benefit accruals. Benefits for service after December 31, 2022 will be based on a cash balance formula. We utilized a practical expedient and measured the plan assets and pension benefit obligations for the effected pension plans as of the nearest month end, December 31, 2020, resulting in a prior service credit of \$2.1 billion.

In September 2019, we amended the UTC domestic defined benefit pension plans to cease accrual of additional benefits for future service and compensation for non-union participants effective December 31, 2019. Beginning January 1, 2020, these participants began receiving additional contributions under the UTC domestic defined contribution plan. The plan change did not impact participants' historical benefit accruals. We utilized the practical expedient and remeasured plan assets and pension benefit obligations for the affected pension plans as of the nearest month-end, August 31, 2019, resulting in a net actuarial loss of \$425 million. We recorded a curtailment gain of \$98 million in the Consolidated Statement of Operations during the third quarter of 2019 due to the recognition of previously unrecognized prior service credits for the affected pension plans.

For non-union employees in the UTC domestic pension plans, benefits for service up to December 31, 2014 are generally based on the employee's years of service and compensation. Benefits for service after December 31, 2014 and through December 31, 2019 are based on the existing cash balance formula that was adopted in 2003 for newly hired non-union employees and for non-union employees who made a one-time voluntary election to have future benefit accruals determined under this formula. Benefits for union employees in the UTC domestic pension plans are generally based on a stated amount for each year of service.

We made the following contributions to our pension and PRB plans' trusts during the years ended December 31:

<i>(dollars in millions)</i>	2021	2020	2019
U.S. qualified defined benefit plans	\$ —	\$ 885	\$ 25
International defined benefit plans	42	125	30
PRB plans	17	15	—

The contributions to our U.S. qualified defined benefit plans in 2020 include a \$750 million discretionary contribution to the Raytheon Company U.S. qualified pension plans' trust. The contributions to our International defined benefit plans in 2020 include discretionary contributions of \$51 million.

<i>(dollars in millions)</i>	Pension		PRB	
	2021	2020	2021	2020
Change in Benefit Obligation:				
Beginning balance	\$ 71,257	\$ 38,027	\$ 1,535	\$ 765
Service cost attributable to continuing operations	523	483	7	6
Service cost attributable to discontinued operations	—	1	—	—
Interest cost	1,249	1,650	24	37
Actuarial loss (gain)	(1,643)	7,029	(73)	114
Total benefits paid ⁽¹⁾	(4,098)	(3,623)	(165)	(144)
Net settlement, curtailment and special termination benefits	(89)	(4)	(11)	(8)
Plan amendments	59	(2,088)	—	(7)
Business combinations and divestitures ⁽²⁾	48	29,385	—	724
Other ⁽³⁾	(92)	397	53	48
Ending balance	\$ 67,214	\$ 71,257	\$ 1,370	\$ 1,535
Change in Plan Assets:				
Beginning balance	\$ 62,318	\$ 36,225	\$ 381	\$ 20
Actual return on plan assets	4,983	9,885	36	80
Employer contributions ⁽¹⁾	289	1,201	95	102
Total benefits paid ⁽¹⁾	(4,098)	(3,623)	(165)	(144)
Settlements	(85)	(32)	(11)	(8)
Business combinations and divestitures ⁽²⁾	—	18,310	—	286
Other ⁽³⁾	(84)	352	53	45
Ending balance	\$ 63,323	\$ 62,318	\$ 389	\$ 381
Funded Status:				
Fair value of plan assets	\$ 63,323	\$ 62,318	\$ 389	\$ 381
Benefit obligations	(67,214)	(71,257)	(1,370)	(1,535)
Funded status of plan	\$ (3,891)	\$ (8,939)	\$ (981)	\$ (1,154)
Amounts Recognized in the Consolidated Balance Sheet Consist of:				
Noncurrent assets	\$ 3,214	\$ 424	\$ —	\$ —
Current liability	(232)	(232)	(78)	(82)
Noncurrent liability	(6,873)	(9,131)	(903)	(1,072)
Net amount recognized	\$ (3,891)	\$ (8,939)	\$ (981)	\$ (1,154)
Amounts Recognized in Accumulated Other Comprehensive Loss Consist of:				
Net actuarial (gain) loss	\$ 4,402	\$ 8,023	\$ (199)	\$ (117)
Prior service credit	(1,715)	(1,947)	(6)	(9)
Net amount recognized	\$ 2,687	\$ 6,076	\$ (205)	\$ (126)

(1) Includes benefit payments paid directly by the company.

(2) Consists primarily of liabilities and assets acquired as a part of the Raytheon Merger in 2020.

(3) The amount included in Other primarily reflects the impact of foreign exchange translation, primarily for plans in the U.K. and Canada, and participant contributions.

The majority of our pension obligations relate to our U.S. Internal Revenue Service (IRS) qualified pension plans, which comprise 86% and 85% of our pension PBO as of December 31, 2021 and 2020, respectively. 3% of our pension PBO as of both December 31, 2021 and 2020 is attributable to our nonqualified domestic pension plans, which provide supplementary retirement benefits to certain employees in excess of the IRS qualified plan limits. International plans comprise 11% and 12% of the pension PBO as of December 31, 2021 and 2020, respectively, and are considered defined benefit pension plans for accounting purposes.

In addition to the pension and PRB noncurrent liabilities shown above, Future pension and postretirement benefit obligations on the Consolidated Balance Sheet includes \$79 million and \$139 million of other pension and PRB related liabilities as of December 31, 2021 and 2020, respectively.

Information for pension plans with accumulated benefit obligations in excess of plan assets:

<i>(dollars in millions)</i>	2021	2020
Projected benefit obligation	\$ 28,960	\$ 37,215
Accumulated benefit obligation	28,494	36,150
Fair value of plan assets	22,002	27,854

The accumulated benefit obligation for all defined benefit pension plans was \$66.5 billion and \$70.2 billion at December 31, 2021 and 2020, respectively.

Information for pension plans with projected benefit obligations in excess of plan assets:

<i>(dollars in millions)</i>	2021	2020
Projected benefit obligation	\$ 31,471	\$ 37,217
Accumulated benefit obligation	30,745	36,151
Fair value of plan assets	24,366	27,855

The components of the net periodic pension (income) expense are as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Operating expense			
Service cost	\$ 523	\$ 483	\$ 261
Non-operating expense			
Interest cost	1,249	1,650	1,245
Expected return on plan assets	(3,476)	(2,995)	(2,252)
Amortization of prior service cost (credit)	(168)	51	16
Recognized actuarial net loss	435	337	245
Net settlement, curtailment and special termination benefits (gain) loss	22	45	(59)
Non-service pension income	(1,938)	(912)	(805)
Total net periodic pension benefit (income) expense	\$ (1,415)	\$ (429)	\$ (544)

The components of the net periodic PRB (income) expense are as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Operating expense			
Service cost	\$ 7	\$ 6	\$ 2
Non-operating expense			
Interest cost	24	37	31
Expected return on plan assets	(21)	(13)	(1)
Amortization of prior service credit	(3)	(3)	(42)
Recognized actuarial net gain	(6)	(12)	(12)
Net settlement, curtailment and special termination benefits loss	—	1	—
Non-service pension (income) expense	(6)	10	(24)
Total net periodic PRB benefit (income) expense	\$ 1	\$ 16	\$ (22)

Other changes in pension plan assets and benefit obligations recognized in other comprehensive loss in 2021 and 2020 are as follows:

<i>(dollars in millions)</i>	2021	2020
Actuarial (gain) loss arising during the period	\$ (3,158)	\$ 155
Amortization of actuarial loss	(435)	(337)
Current year prior service cost (credit)	59	(2,088)
Amortization of prior service cost	168	(51)
Net settlement and curtailment	(17)	(34)
Separation of Carrier and Otis	—	(763)
Other ⁽¹⁾	(6)	81
Total recognized in other comprehensive (income) loss	(3,389)	(3,037)
Net recognized in net periodic benefit (income) cost and other comprehensive (income) loss	\$ (4,804)	\$ (3,466)

(1) The amount included in Other primarily reflects the impact of foreign exchange translation, primarily for plans in the U.K. and Canada.

The Actuarial gain arising in 2021 was primarily due to an increase in discount rates during 2021 and asset returns exceeding our expected return on assets, partially offset by demographic losses.

The Actuarial loss arising in 2020 was primarily due to a decrease in discount rates during 2020, partially offset by asset returns exceeding our expected return on assets. Current year prior service credit in 2020 was primarily due to the Raytheon Company plan change for non-union participants as discussed above.

Other changes in PRB assets and benefit obligations recognized in other comprehensive loss in 2021 and 2020 are as follows:

<i>(dollars in millions)</i>	2021	2020
Actuarial (gain) loss arising during the period	\$ (88)	\$ 47
Amortization of actuarial gain	6	12
Current year prior service cost (credit)	—	(7)
Amortization of prior service credit	3	3
Net settlement and curtailment	—	(1)
Other	—	5
Total recognized in other comprehensive (income) loss	(79)	59
Net recognized in net periodic benefit (income) cost and other comprehensive loss	\$ (78)	\$ 75

The Actuarial gain arising in 2021 was primarily due to an increase in discount rates during 2021 and asset returns exceeding our expected return on assets on our funded plans.

The Actuarial loss arising in 2020 was primarily due to a decrease in discount rates during 2020, partially offset by asset returns exceeding our expected return on assets on our funded plans.

The table below reflects the total benefit payments expected to be paid from the plans or from corporate assets.

<i>(dollars in millions)</i>	Pension	PRB
2022	\$ 4,473	\$ 116
2023	3,842	109
2024	3,821	104
2025	3,796	98
2026	3,748	92
2027-2031	18,142	388

Major assumptions used in determining the pension benefit obligation and net periodic pension benefit (income) expense are presented in the following table as weighted-averages:

	Benefit Obligation		Net Periodic Benefit (Income) Expense		
	2021	2020	2021	2020	2019
Discount rate					
PBO	2.8 %	2.5 %	2.5 %	3.2 %	4.0 %
Interest cost ⁽¹⁾	N/A	N/A	1.8 %	2.8 %	3.7 %
Service cost ⁽¹⁾	N/A	N/A	2.8 %	3.5 %	3.7 %
Salary scale	4.4 %	4.3 %	4.4 %	4.3 %	4.3 %
Expected return on plan assets	N/A	N/A	6.5 %	6.5 %	6.8 %
Interest crediting rate	4.0 %	3.8 %	3.8 %	3.8 %	3.8 %

(1) The discount rates used to measure the service cost and interest cost applies to our significant plans. The PBO discount rate is used for the service cost and interest cost measurements for non-significant plans.

Major assumptions used in determining the PRB benefit obligation and net periodic PRB (income) expense are presented in the following table as weighted-averages:

	Benefit Obligation		Net Periodic Benefit (Income) Expense		
	2021	2020	2021	2020	2019
Discount rate	2.8 %	2.4 %	2.4 %	3.1 %	4.0 %
Expected return on assets	N/A	N/A	5.7 %	5.7 %	7.0 %

Assumed health care cost trend rates used in determining the PRB benefit obligation and net periodic PRB (income) expense are as follows:

	2021	2020
Health care cost trend rate assumed for next year	4.7 %	5.0 %
Ultimate health care cost trend rate	4.2 %	4.3 %
Year that the rate reaches the ultimate health care cost trend rate	2026	2026

The weighted-average discount rates used to measure pension and PRB liabilities are based on yield curves developed using high-quality corporate bonds as well as plan specific expected cash flows. For our significant plans, we utilize a full yield curve approach in the estimation of the service cost and interest cost components of net periodic benefit expense by applying the specific spot rates along the yield curve used in determination of the benefit obligation to the relevant discounted projected cash flows.

In determining the EROA assumption, we consider the target asset allocation of plan assets, as well as economic and other indicators of future performance. We may consult with and consider the opinions of financial and other professionals in determining the appropriate capital market assumptions. Return projections are validated using a simulation model that incorporates yield curves, credit spreads and risk premiums to project long-term prospective returns. As a result of this analysis at year end 2021, our weighted average pension EROA assumption for 2022 is 6.5%.

Plan Assets. The plans' investment management objectives include providing the liquidity and asset levels needed to meet current and future benefit payments, while maintaining a prudent degree of portfolio diversification considering interest rate risk and market volatility. Globally, investment strategies generally target a mix of 50% to 55% of growth seeking assets and 45% to 50% of income generating and hedging assets using a wide set of diversified asset types, fund strategies and investment managers. The growth seeking allocation consists of global public equities in developed and emerging countries, private equity, real estate and multi-asset class strategies. Growth assets include an enhanced alpha strategy that invests in publicly traded equity and fixed income securities, derivatives and foreign currency. Investments in private equity are primarily via limited partnership interests in buy-out strategies with smaller allocations to distressed debt funds. The real estate strategy is principally concentrated in directly held U.S. core investments with some smaller investments in international, value-added and opportunistic strategies. Within the income generating assets, the fixed income portfolio consists of mainly government and broadly diversified high quality corporate bonds.

The plans have continued their pension risk management techniques designed to reduce their interest rate risk. Specifically, the plans have incorporated liability hedging programs that include the adoption of a risk reduction objective as part of the long-term investment strategy. Under this objective the interest rate hedge is intended to increase as funded status improves. The

hedging programs incorporate a range of assets and investment tools, each with varying interest rate sensitivities. The investment portfolios are currently hedging approximately 30% to 70% of the interest rate sensitivity of the pension plan liabilities, depending on the funded status of the plan.

The fair values of pension plan assets at December 31, 2021 and 2020 by asset category are as follows:

<i>(dollars in millions)</i>	Quoted Prices in Active Markets For Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Not Subject to Leveling ⁽⁸⁾	Total
Asset Category:					
Public Equities					
Global Equities	\$ 9,411	\$ 6	\$ —	\$ —	\$ 9,417
Global Equity Commingled Funds ⁽¹⁾	3	929	—	—	932
Enhanced Global Equities ⁽²⁾	46	163	—	—	209
Other Public Equities	—	—	—	8,495	8,495
Private Equities ⁽³⁾	—	—	—	4,490	4,490
Fixed Income Securities					
Governments	1,933	1,172	—	—	3,105
Corporate Bonds	1	18,681	—	—	18,682
Structured Products	—	25	—	—	25
Other Fixed Income	—	—	—	7,367	7,367
Real Estate ⁽⁴⁾	—	—	1,885	1,743	3,628
Other ⁽⁵⁾	—	91	—	5,351	5,442
Cash & Cash Equivalents ⁽⁶⁾	—	111	—	220	331
Subtotal	\$ 11,394	\$ 21,178	\$ 1,885	\$ 27,666	\$ 62,123
Other Assets & Liabilities ⁽⁷⁾					1,200
Total at December 31, 2021				\$	63,323
Public Equities					
Global Equities	\$ 8,437	\$ 5	\$ —	\$ —	\$ 8,442
Global Equity Commingled Funds ⁽¹⁾	1	2,686	—	—	2,687
Enhanced Global Equities ⁽²⁾	56	185	—	—	241
Other Public Equities	—	—	—	9,008	9,008
Private Equities ⁽³⁾	—	—	—	3,646	3,646
Fixed Income Securities					
Governments	1,740	1,480	—	—	3,220
Corporate Bonds	3	18,489	2	305	18,799
Structured Products	—	24	—	—	24
Other Fixed Income	—	—	—	6,631	6,631
Real Estate ⁽⁴⁾	—	—	1,647	1,737	3,384
Other ⁽⁵⁾	—	99	—	5,088	5,187
Cash & Cash Equivalents ⁽⁶⁾	9	97	—	154	260
Subtotal	\$ 10,246	\$ 23,065	\$ 1,649	\$ 26,569	\$ 61,529
Other Assets & Liabilities ⁽⁷⁾					789
Total at December 31, 2020				\$	62,318

(1) Represents commingled funds that invest primarily in common stocks.

(2) Represents enhanced equity separate account and commingled fund portfolios. A portion of the portfolio may include long-short market neutral and relative value strategies that invest in publicly traded, equity and fixed income securities, as well as derivatives of equity and fixed income securities and foreign currency.

- (3) Represents limited partnership investments with general partners that primarily invest in equity and debt.
- (4) Represents investments in real estate including commingled funds and directly held properties.
- (5) Represents global balanced risk commingled funds that invest in multiple asset classes including equity, fixed income and some commodities. "Other" also includes insurance contracts.
- (6) Represents short-term commercial paper, bonds and other cash or cash-like instruments.
- (7) Represents receivables, payables and certain individually immaterial international plan assets that are not levered.
- (8) In accordance with ASU 2015-07, *Fair Value Measurement (Topic 820)*, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented for the total pension benefits plan assets.

Derivatives in the plan are primarily used to manage risk and gain asset class exposure while still maintaining liquidity. Derivative instruments mainly consist of equity futures, interest rate futures, interest rate swaps and currency forward contracts. The fair market value of the plans' derivatives through direct or separate account investments was approximately \$98 million and \$176 million as of December 31, 2021 and 2020, respectively.

We review our assets at least quarterly to ensure we are within the targeted asset allocation ranges and, if necessary, asset balances are adjusted back within target allocations. We employ a broadly diversified investment manager structure that includes diversification by active and passive management, style, capitalization, country, sector, industry and number of investment managers. No individual investment represented more than 5% of the plan assets as of December 31, 2021.

The fair value measurement of plan assets using significant unobservable inputs (Level 3) changed due to the following:

<i>(dollars in millions)</i>	Private Equities		Corporate Bonds		Real Estate		Total
Balance, December 31, 2019	\$	202	\$	5	\$	1,464	\$ 1,671
Realized gains		—		—		7	7
Unrealized gains (losses) relating to instruments still held in the reporting period		16		—		(129)	(113)
Purchases, sales, and settlements, net		10		(3)		77	84
Transfers in/out, net		(228)		—		228	—
Balance, December 31, 2020		—		2		1,647	1,649
Realized gains		—		—		212	212
Unrealized gains relating to instruments still held in the reporting period		—		—		50	50
Purchases, sales, and settlements, net		—		—		(24)	(24)
Transfers in/out, net		—		(2)		—	(2)
Balance, December 31, 2021	\$	—	\$	—	\$	1,885	\$ 1,885

Quoted market prices are used to value investments when available. Investments in securities traded on exchanges, including listed futures and options, are valued at the last reported sale prices on the last business day of the year or, if not available, the last reported bid prices. Fixed income securities are primarily measured using a market approach pricing methodology, where observable prices are obtained by market transactions involving identical or comparable securities of issuers with similar credit ratings. Mortgages have been valued on the basis of their future principal and interest payments discounted at prevailing interest rates for similar investments. Investment contracts are valued at fair value by discounting the related cash flows based on current yields of similar instruments with comparable durations. Real estate investments are valued on a quarterly basis using discounted cash flow models which consider long-term lease estimates, future rental receipts and estimated residual values. Valuation estimates are supplemented by third-party appraisals on an annual basis.

Private equity limited partnerships are valued quarterly using discounted cash flows, earnings multiples and market multiples. Valuation adjustments reflect changes in operating results, financial condition, or prospects of the applicable portfolio company. Over-the-counter securities and government obligations are valued at the bid prices or the average of the bid and ask prices on the last business day of the year from published sources or, if not available, from other sources considered reliable, generally broker quotes. Temporary cash investments are stated at cost, which approximates fair value.

The fair market value of assets related to our PRB benefits was \$389 million and \$381 million as of December 31, 2021 and 2020, respectively. These assets include \$147 million and \$149 million of which are invested in our domestic qualified pension plan trust at December 31, 2021 and 2020, respectively. The remaining PRB investments are held within Voluntary Employees' Beneficiary Association (VEBA) trusts. The VEBA assets are generally invested in mutual funds and are valued primarily using quoted prices in active markets (Level 1). There were no Level 3 investments in the VEBA trusts as of December 31, 2021 or 2020.

We have set aside assets in separate trusts, which we expect to be used to pay for certain nonqualified defined benefit and defined contribution plan obligations in excess of qualified plan limits. These assets are included in Other assets in our Consolidated Balance Sheet. The fair value of marketable securities held in trusts as of December 31 was as follows:

<i>(dollars in millions)</i>	2021	2020
Marketable securities held in trusts	\$ 965	\$ 881

NOTE 12: LEASES

Operating lease expense was \$525 million, \$497 million, and \$323 million for 2021, 2020, and 2019 respectively. Finance leases and leases where we are the lessor are not considered significant to our Consolidated Balance Sheet or Consolidated Statement of Operations.

In both 2021 and 2020, we entered into sale and leaseback transactions for the sale of equipment and related maintenance. We subsequently leased back the equipment sold for a limited timeframe, which is accounted for as an operating lease. The proceeds received as a result of the equipment sales are classified in Receipts from customer financing assets within the Investing Activities in our Consolidated Statement of Cash Flows, and the portion related to future maintenance services are classified within Operating Activities. The net gains as a result of these transactions were not material.

Supplemental cash flow information related to operating leases were as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Operating cash flows used in the measurement of operating lease liabilities	\$ 490	\$ 420	\$ 411
Operating lease right-of-use assets obtained in exchange for operating lease obligations	535	299	123

Future lease payments related to our operating lease liabilities as of December 31, 2021 are as follows:

<i>(dollars in millions)</i>	2021	2020
2022		\$ 421
2023		359
2024		295
2025		248
2026		198
Thereafter		839
Total undiscounted lease payments		2,360
Less imputed interest		(292)
Total discounted lease payments		\$ 2,068

Our lease liabilities recognized in our Consolidated Balance Sheet were as follows as of December 31:

<i>(dollars in millions)</i>	2021	2020
Operating lease liabilities, current (included in Other accrued liabilities)	\$ 411	\$ 482
Operating lease liabilities, noncurrent	1,657	1,516
Total operating lease liabilities	\$ 2,068	\$ 1,998

The weighted-average remaining lease term related to our operating leases was 9 years and 8 years as of December 31, 2021 and 2020, respectively. The weighted-average discount rate related to our operating leases was 2.8% and 3.1% as of December 31, 2021 and 2020, respectively.

NOTE 13: INCOME TAXES

Income Before Income Taxes. The sources of income (loss) from continuing operations before income taxes are:

<i>(dollars in millions)</i>	2021	2020	2019
United States	\$ 3,498	\$ (2,762)	\$ 1,594
Foreign	1,433	409	2,558
Income (loss) from continuing operations before income taxes	\$ 4,931	\$ (2,353)	\$ 4,152

The Company no longer intends to reinvest certain undistributed earnings of its international subsidiaries that have been previously taxed in the U.S. As such, we recorded the taxes associated with the future remittance of these earnings. For the remainder of the Company's undistributed international earnings, unless tax effective to repatriate, the Company will continue to permanently reinvest these earnings. As of December 31, 2021, such undistributed earnings were approximately \$15 billion, excluding other comprehensive income amounts. It is not practicable to estimate the amount of tax that might be payable on the remaining amounts.

Provision for Income Taxes. The income tax expense (benefit) for the years ended December 31 are as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Current:			
United States:			
Federal	\$ 387	\$ 324	\$ (100)
State	60	45	(58)
Foreign	427	305	541
	874	674	383
Future:			
United States:			
Federal	(26)	(264)	121
State	41	258	56
Foreign	(103)	(93)	(139)
	(88)	(99)	38
Income tax expense	\$ 786	\$ 575	\$ 421

Reconciliation of Effective Income Tax Rate. Differences between effective income tax rates and the statutory U.S. federal income tax rate are as follows:

<i>(dollars in millions)</i>	2021		2020		2019	
	Amount	Rate	Amount	Rate	Amount	Rate
Statutory U.S. federal income tax rate	\$ 1,036	21.0 %	\$ (494)	21.0 %	\$ 872	21.0 %
Tax on international activities	(204)	(4.1)	27	(1.1)	32	0.7
Tax audit settlements	—	—	—	—	(290)	(7.0)
Tax charges related to Separation Transactions and Raytheon Merger	(39)	(0.8)	416	(17.7)	—	—
Disposals of businesses	108	2.2	177	(7.5)	—	—
U.S. research and development credit	(172)	(3.5)	(142)	6.1	(101)	(2.4)
Goodwill impairment	—	—	668	(28.4)	—	—
State income tax, net	33	0.7	(56)	2.4	16	0.4
Foreign Derived Intangible Income (FDII)	(121)	(2.5)	(83)	3.5	(138)	(3.3)
U.K. corporate tax rate enactment	73	1.5	8	(0.4)	—	—
Other	72	1.4	54	(2.3)	30	0.7
Effective income tax rate	\$ 786	15.9 %	\$ 575	(24.4)%	\$ 421	10.1 %

The 2021 effective tax rate includes tax benefits of \$244 million included in international activities associated with legal entity and operational reorganizations implemented in the third quarter of 2021, \$172 million associated with U.S. research and development credits and \$121 million associated with Foreign Derived Intangible Income (FDII), and tax charges of \$73 million associated with the revaluation of deferred taxes resulting from the increase in the United Kingdom (U.K.) corporate tax rate to 25% enacted in 2021 and effective in 2023. In the first quarter of 2021, we recorded \$148 million of tax charges associated with the sale of the Forcepoint business, and subsequently recognized a \$104 million tax benefit due to the revaluation of that tax benefit as a result of completing the divestiture of RIS's global training and services business for a gain in the fourth quarter of 2021.

The 2020 negative effective tax rate is a result of having tax expense of \$575 million on a loss from continuing operations before income taxes of \$2.4 billion. The loss from continuing operations before income taxes in 2020 includes the \$3.2 billion goodwill impairment as described in "Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets," most of which was non-deductible for tax purposes. Tax expense includes net deferred tax charges of \$416 million resulting from the Separation Transactions and the Raytheon Merger primarily related to the impairment of deferred tax assets and the revaluation of certain international tax incentives, and incremental tax expense of \$177 million related to the disposal of businesses, including the sales of businesses at Collins Aerospace, the airborne tactical radios business at RIS and the entry into a definitive agreement to sell Forcepoint, as described in "Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets." Also included in the 2020 effective tax rate are tax benefits of \$142 million associated with U.S. research and development credits and \$83 million associated with FDII.

The 2019 effective tax rate includes tax benefits of \$290 million primarily associated with the conclusion of the audit by the Examination Division of the Internal Revenue Service (IRS) for the Company's 2014, 2015 and 2016 tax years and the filing by a subsidiary of the Company to participate in an amnesty program offered by the Italian Tax Authority. The 2019 effective tax rate also includes tax benefits of \$101 million related to U.S. research and development credits and \$138 million associated with FDII.

Deferred Tax Assets and Liabilities. The tax effects of temporary differences and tax carryforwards which gave rise to future income tax benefits and payables at December 31, 2021 and 2020 are as follows:

<i>(dollars in millions)</i>	2021	2020
Future income tax benefits:		
Insurance and employee benefits	\$ 1,831	\$ 3,004
Inventory and contract balances	756	822
Warranty provisions	248	220
Other basis differences	878	637
Tax loss carryforwards	251	196
Tax credit carryforwards	1,088	959
Valuation allowances	(825)	(757)
Total future income tax benefits	\$ 4,227	\$ 5,081
Future income taxes payable:		
Goodwill and Intangible assets	\$ 7,168	\$ 7,786
Fixed assets	1,746	1,637
Other basis differences	323	151
Total future income tax payable	\$ 9,237	\$ 9,574

Valuation allowances have been established primarily for tax credit carryforwards, tax loss carryforwards, and certain temporary differences to reduce the future income tax benefits to expected realizable amounts.

Tax Credit and Loss Carryforwards. At December 31, 2021, tax credit carryforwards, principally state and foreign, and tax loss carryforwards, principally state and foreign, were as follows:

<i>(dollars in millions)</i>	Tax Credit Carryforwards	Tax Loss Carryforwards
Expiration period:		
2022-2026	\$ 65	\$ 364
2027-2031	115	141
2032-2041	391	257
Indefinite	517	1,058
Total	\$ 1,088	\$ 1,820

Unrecognized Tax Benefits. At December 31, 2021, we had gross tax-effected unrecognized tax benefits of \$1,458 million, of which \$1,313 million, if recognized, would impact the effective tax rate. A reconciliation of the beginning and ending amounts of unrecognized tax benefits and interest expense related to unrecognized tax benefits for the years ended December 31, 2021, 2020 and 2019 is as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Balance at January 1	\$ 1,225	\$ 1,347	\$ 1,619
Additions for tax positions related to the current year	110	125	131
Additions for tax positions of prior years	282	323	73
Reductions for tax positions of prior years	(49)	(83)	(101)
Settlements	(110)	(48)	(375)
Separation of Carrier and Otis	—	(439)	—
Balance at December 31	\$ 1,458	\$ 1,225	\$ 1,347
Gross interest expense related to unrecognized tax benefits	\$ 39	\$ 50	\$ 57
Total accrued interest balance at December 31	165	141	249

The unrecognized tax benefit table includes discontinued operations activity in 2020 and 2019.

As a result of the Separation Transactions and the Distributions in April 2020, we transferred unrecognized tax benefits to Carrier and Otis of \$439 million and associated interest of approximately \$165 million. Pursuant to the terms of the separation agreements, certain other unrecognized tax benefits retained by the Company are subject to indemnification. Total unrecognized tax benefits at December 31, 2019 included \$437 million of benefits related to discontinued operations, and associated interest of approximately \$155 million.

The 2020 additions for tax positions of prior years in the table above include amounts related to the Raytheon Merger.

Management has determined that the distributions of Carrier and Otis on April 3, 2020, and certain related internal business separation transactions, qualified as tax-free under applicable law. In making these determinations, we applied the tax law in the relevant jurisdictions to our facts and circumstances and obtained tax rulings from the relevant taxing authorities, tax opinions, and/or other external tax advice related to the concluded tax treatment. If the completed distributions of Carrier or Otis, in each case, or certain internal business separation transactions, were to fail to qualify for tax-free treatment, the Company could be subject to significant liabilities, and there could be material adverse impacts on the Company's business, results of operations, financial condition or liquidity in future reporting periods.

We conduct business globally and, as a result, Raytheon Technologies or one or more of our subsidiaries files income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. In the normal course of business we are subject to examination by taxing authorities throughout the world, including such major jurisdictions as Canada, China, France, Germany, India, Poland, Saudi Arabia, Singapore, Switzerland, the United Kingdom and the United States. With few exceptions, we are no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations for years before 2012.

During the fourth quarter of 2020, the Company recognized a non-cash gain of approximately \$25 million, primarily tax, as a result of the statute of limitations expiration of the 2016 tax year of a subsidiary acquired as part of the RTC's acquisition of Rockwell Collins.

During 2019, the Company recognized a non-cash net gain of approximately \$307 million, including pre-tax interest of approximately \$56 million as a result of the conclusion of the IRS audit of the Company's 2014, 2015 and 2016 tax years.

The Examination Division of the IRS is currently auditing Raytheon Technologies tax years 2017 and 2018 and pre-merger Raytheon Company tax periods 2017, 2018 and 2019 as well as certain refund claims of Raytheon Company for tax years 2014, 2015 and 2016 filed prior to the Raytheon Merger.

The Examination Division of the IRS is also auditing pre-acquisition Rockwell Collins fiscal tax years 2016 and 2017, which is projected to close within the next six to twelve months. As a result of the projected closure of the audit of Rockwell Collins fiscal tax years 2016 and 2017, it is reasonably possible that the Company may recognize non-cash gains in the range of \$20 million to \$100 million, within the next six to twelve months.

It is reasonably possible that a net reduction within the range of \$100 million to \$500 million of unrecognized tax benefits may occur over the next 12 months as a result of the revaluation of uncertain tax positions arising from the issuance of legislation, regulatory or other guidance or developments in examinations, in appeals, or in the courts, or the closure of tax statutes.

NOTE 14: RESTRUCTURING COSTS

Restructuring costs are generally expensed as incurred. All U.S. government unallowable restructuring costs related to the Raytheon Merger are recorded within Corporate expenses and other unallocated items, as these costs are not included in management's evaluation of the segments' performance, and as a result, there are no unallowable restructuring costs at the RIS and RMD segments. During 2021, we recorded net pre-tax restructuring costs totaling \$143 million for new and ongoing restructuring actions. We recorded charges in the segments as follows:

(dollars in millions)

Pratt & Whitney	\$	7
Collins Aerospace Systems		40
Corporate expenses and other unallocated items		96
Total	\$	143

Restructuring charges incurred in 2021 primarily relate to actions initiated during 2021 and were recorded as follows:

(dollars in millions)

Cost of sales	\$	34
Selling, general & administrative		109
Total	\$	143

2021 Actions. During 2021, we recorded net pre-tax restructuring costs totaling \$137 million for restructuring actions initiated in 2021, consisting of \$97 million in Selling, general and administrative and \$40 million in Cost of sales. The 2021 actions primarily consist of severance costs related to ongoing cost reduction efforts, and to a much lesser extent, the exit and consolidation of facilities.

We are targeting to complete in 2022 the majority of the remaining cost reduction actions initiated in 2021. No specific plans for other significant actions have been finalized at this time. The following table summarizes our accrual balances for the 2021 restructuring actions, which is included in Other accrued liabilities on our Consolidated Balance Sheet:

(dollars in millions)

Net pre-tax restructuring costs	\$	137
Utilization, foreign exchange and other costs		(50)
Balance at December 31, 2021	\$	87

The following table summarizes expected, incurred and remaining costs for the 2021 restructuring actions by segment:

<i>(dollars in millions)</i>	Expected Costs	Cost Incurred During 2021	Remaining Costs at December 31, 2021
Pratt & Whitney	\$ 60	\$ (24)	\$ 36
Collins Aerospace Systems	62	(36)	26
Corporate expenses and other unallocated items	77	(77)	—
Total	\$ 199	\$ (137)	\$ 62

2020 Actions. During 2021, we reversed net pre-tax restructuring costs totaling \$23 million for restructuring actions initiated in 2020, consisting of a reversal of \$14 million in Cost of sales and \$9 million in Selling, general and administrative expenses. The 2020 actions primarily consist of severance costs principally related to restructuring actions at Pratt & Whitney and Collins Aerospace in response to the impact on our operating results from the economic environment primarily caused by the COVID-19 pandemic, actions at Corporate related to the Raytheon Merger, and ongoing cost reduction efforts including workforce reductions, and to a lesser extent, consolidation of field operations. The following table summarizes the accrual balance for the 2020 restructuring actions for the year ended 2021, which is included in Other accrued liabilities on our Consolidated Balance Sheet:

<i>(dollars in millions)</i>	
Restructuring accruals at January 1, 2021	\$ 340
Net pre-tax restructuring costs	(23)
Utilization, foreign exchange and other costs	(267)
Balance at December 31, 2021	\$ 50

The following table summarizes expected, incurred and remaining costs for the 2020 programs by segment:

<i>(dollars in millions)</i>	Expected Costs	Costs Incurred During 2020	Costs (Incurred) Reversed During 2021	Remaining Costs at December 31, 2021
Pratt & Whitney	\$ 188	\$ (205)	\$ 17	\$ —
Collins Aerospace Systems	312	(333)	25	4
Corporate expenses and other unallocated items	251	(232)	(19)	—
Total	\$ 751	\$ (770)	\$ 23	\$ 4

2019 and Prior Actions. During 2021, we recorded net pre-tax restructuring costs totaling \$29 million for restructuring actions initiated in 2019 and prior. As of December 31, 2021, we had \$25 million of accrual balances remaining related to 2019 and prior actions.

NOTE 15: FINANCIAL INSTRUMENTS

We enter into derivative instruments primarily for risk management purposes, including derivatives designated as hedging instruments and those utilized as economic hedges. We operate internationally and in the normal course of business, are exposed to fluctuations in interest rates, foreign exchange rates and commodity prices. These fluctuations can increase the costs of financing, investing and operating the business. We have used derivative instruments, including swaps, forward contracts and options to manage certain foreign currency, interest rate and commodity price exposures.

The aggregate notional amount of our outstanding foreign currency hedges was \$8.5 billion and \$11.6 billion at December 31, 2021 and 2020, respectively. Additional information pertaining to foreign exchange and hedging activities is included in "Note 1: Basis of Presentation and Summary of Accounting Principles."

The following table summarizes the fair value and presentation in the Consolidated Balance Sheet for derivative instruments as of December 31:

<i>(dollars in millions)</i>	Balance Sheet Location	2021		2020	
Derivatives designated as hedging instruments:					
Foreign exchange contracts	Other assets, current	\$	59	\$	197
	Other accrued liabilities		202		66
Derivatives not designated as hedging instruments:					
Foreign exchange contracts	Other assets, current	\$	11	\$	44
	Other accrued liabilities		11		32

The effect of cash flow hedging relationships on Accumulated other comprehensive income (loss) and on the Consolidated Statement of Operations in 2021 and 2020 are presented in the table below. The amounts of gain or (loss) are attributable to foreign exchange contract activity and are primarily recorded as a component of Products sales when reclassified from Accumulated other comprehensive loss.

<i>(dollars in millions)</i>	2021		2020		2019	
Gain (loss) recorded in Accumulated other comprehensive loss	\$	(226)	\$	181	\$	(33)
(Gain) loss reclassified from Accumulated other comprehensive loss		(28)		82		51

The Company utilizes the critical terms match method in assessing derivatives for hedge effectiveness. Accordingly, the hedged items and derivatives designated as hedging instruments are highly effective.

As of December 31, 2021, we have €500 million of euro-denominated long-term debt outstanding, which qualifies as a net investment hedge against our investments in European businesses, which is deemed to be effective.

Assuming current market conditions continue, a \$28 million pre-tax loss is expected to be reclassified from Accumulated other comprehensive loss into Products sales to reflect the fixed prices obtained from foreign exchange hedging within the next 12 months. At December 31, 2021, all derivative contracts accounted for as cash flow hedges will mature by January 2028.

The effect of derivatives not designated as hedging instruments within Other income, net, on the Consolidated Statement of Operations was as follows:

<i>(dollars in millions)</i>	2021		2020		2019	
Gain (loss) on non-designated foreign exchange contracts	\$	(24)	\$	(76)	\$	91

NOTE 16: FAIR VALUE MEASUREMENTS

The following tables provide the valuation hierarchy classification of assets and liabilities that are carried at fair value and measured on a recurring basis in our Consolidated Balance Sheet as of December 31, 2021 and 2020:

<i>(dollars in millions)</i>	December 31, 2021			
	Total	Level 1	Level 2	Level 3
Recurring fair value measurements:				
Marketable securities held in trusts	\$ 965	\$ 890	\$ 75	\$ —
Derivative assets	70	—	70	—
Derivative liabilities	(213)	—	(213)	—
<i>(dollars in millions)</i>	December 31, 2020			
	Total	Level 1	Level 2	Level 3
Recurring fair value measurements:				
Marketable securities held in trusts	\$ 881	\$ 773	\$ 108	\$ —
Derivative assets	241	—	241	—
Derivative liabilities	(98)	—	(98)	—

Valuation Techniques. Our derivative assets and liabilities include foreign exchange contracts that are measured at fair value using internal models based on observable market inputs such as forward rates, interest rates, our own credit risk and our counterparties' credit risks.

As of December 31, 2021, there has not been any significant impact to the fair value of our derivative liabilities due to our own credit risk. Similarly, there has not been any significant adverse impact to our derivative assets based on our evaluation of our counterparties' credit risks.

The following table provides carrying amounts and fair values of financial instruments that are not carried at fair value in our Consolidated Balance Sheet at December 31:

<i>(dollars in millions)</i>	2021		2020	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Customer financing notes receivables	\$ 195	\$ 192	\$ 271	\$ 264
Long-term debt (excluding finance leases)	(31,250)	(35,828)	(31,512)	(38,615)

The following table provides the valuation hierarchy classification of assets and liabilities that are not carried at fair value in our Consolidated Balance Sheet as of December 31, 2021 and 2020:

<i>(dollars in millions)</i>	December 31, 2021			
	Total	Level 1	Level 2	Level 3
Customer financing notes receivables	\$ 192	\$ —	\$ 192	\$ —
Long-term debt (excluding finance leases)	(35,828)	—	(35,778)	(50)

<i>(dollars in millions)</i>	December 31, 2020			
	Total	Level 1	Level 2	Level 3
Customer financing notes receivables	\$ 264	\$ —	\$ 264	\$ —
Long-term debt (excluding finance leases)	(38,615)	—	(38,540)	(75)

The fair value of our Short-term borrowings approximates the carrying value due to their short-term nature, with commercial paper classified as level 2 and other short-term borrowings classified as level 3 within the fair value hierarchy.

NOTE 17: VARIABLE INTEREST ENTITIES

Pratt & Whitney holds a 61% program share interest in the International Aero Engines AG (IAE) collaboration with MTU Aero Engines AG (MTU) and Japanese Aero Engines Corporation (JAEC) and a 49.5% ownership interest in IAE. IAE's business purpose is to coordinate the design, development, manufacturing and product support of the V2500 engine program through involvement with the collaborators. Additionally, Pratt & Whitney, JAEC and MTU are participants in International Aero Engines, LLC (IAE LLC), whose business purpose is to coordinate the design, development, manufacturing and product support for the PW1100G-JM engine for the Airbus A320neo aircraft and the PW1400G-JM engine for the Irkut MC-21 aircraft. Pratt & Whitney holds a 59% program share interest and a 59% ownership interest in IAE LLC. IAE and IAE LLC retain limited equity with the primary economics of the programs passed to the participants. As such, we have determined that IAE and IAE LLC are variable interest entities with Pratt & Whitney as the primary beneficiary. IAE and IAE LLC have, therefore, been consolidated. The carrying amounts and classification of assets and liabilities for variable interest entities in our Consolidated Balance Sheet as of December 31, 2021 and 2020 are as follows:

<i>(dollars in millions)</i>	2021	2020
Current assets	\$ 7,081	\$ 6,652
Noncurrent assets	825	868
Total assets	\$ 7,906	\$ 7,520
Current liabilities	\$ 7,965	\$ 7,365
Noncurrent liabilities	54	89
Total liabilities	\$ 8,019	\$ 7,454

NOTE 18: GUARANTEES

We extend a variety of financial, market value and product performance guarantees to third parties. These instruments expire on various dates through 2028. Additional guarantees of project performance for which there is no stated value also remain outstanding. As of December 31, 2021 and 2020, the following financial guarantees were outstanding:

<i>(dollars in millions)</i>	December 31, 2021		December 31, 2020	
	Maximum Potential Payment	Carrying Amount of Liability	Maximum Potential Payment	Carrying Amount of Liability
Commercial aerospace financing guarantees	\$ 309	\$ 3	\$ 322	\$ 6
Third party guarantees	511	5	386	3

We have made residual value and other guarantees related to various commercial aerospace customer financing arrangements. The estimated fair market values of the guaranteed assets equal or exceed the value of the related guarantees, net of existing reserves. Collaboration partners' share of these financing guarantees is \$141 million and \$142 million at December 31, 2021 and 2020, respectively.

We also have obligations arising from sales of certain businesses and assets, including those from representations and warranties and related indemnities for environmental, health and safety, tax and employment matters. The maximum potential payment related to these obligations is not a specified amount as a number of the obligations do not contain financial caps. The carrying amount of liabilities related to these obligations was \$120 million at both December 31, 2021 and 2020. For additional information regarding the environmental indemnifications, see "Note 19: Commitments and Contingencies."

We accrue for costs associated with guarantees when it is probable that a liability has been incurred and the amount can be reasonably estimated. The most likely cost to be incurred is accrued based on an evaluation of currently available facts, and where no amount within a range of estimates is more likely, the minimum is accrued.

We also provide service and warranty policies on our products and extend performance and operating cost guarantees beyond our normal service and warranty policies on some of our products, particularly commercial aircraft engines. In addition, we incur discretionary costs to service our products in connection with specific product performance issues. Liabilities for performance and operating cost guarantees are based upon future product performance and durability, and are largely estimated based upon historical experience. Adjustments are made to accruals as claims data and historical experience warrant. The changes in the carrying amount of service and product warranties and product performance guarantees for the years ended December 31, 2021 and 2020 were as follows:

<i>(dollars in millions)</i>	2021	2020
Balance as of January 1	\$ 1,057	\$ 1,033
Warranties and performance guarantees issued	380	311
Settlements	(272)	(292)
Other	(8)	5
Balance as of December 31	\$ 1,157	\$ 1,057

NOTE 19: COMMITMENTS AND CONTINGENCIES

Except as otherwise noted, while we are unable to predict the final outcome, based on information currently available, we do not believe that resolution of any of the following matters will have a material adverse effect upon our competitive position, results of operations, financial condition or liquidity.

Environmental. Our operations are subject to environmental regulation by federal, state and local authorities in the United States and regulatory authorities with jurisdiction over our foreign operations. We have accrued for the costs of environmental remediation activities, including but not limited to investigatory, remediation, operating and maintenance costs and performance guarantees, and periodically reassess these amounts. We do not expect any additional liability to have a material adverse effect on our results of operations, financial condition or liquidity. As of December 31, 2021 and 2020, we had \$834 million and \$835 million, respectively, reserved for environmental remediation. Additional information pertaining to environmental matters is included in "Note 1: Basis of Presentation and Summary of Accounting Principles."

Commercial Aerospace Financing and Other Commitments. We had commercial aerospace financing commitments and other contractual commitments of approximately \$15.6 billion and \$13.4 billion as of December 31, 2021 and 2020, respectively, on a gross basis before reduction for our collaboration partners' share. Aircraft financing commitments, in the

form of debt or lease financing, are provided to certain commercial aerospace customers. The extent to which the financing commitments will be utilized is not currently known, since customers may be able to obtain more favorable terms from other financing sources. We may also arrange for third-party investors to assume a portion of these commitments. The majority of financing commitments are collateralized arrangements. We may also lease aircraft and subsequently sublease the aircraft to customers under long-term non-cancelable operating leases, or pay deposits on behalf of our customers to secure production slots with the airframers (pre-delivery payments). Our financing commitments with customers are contingent upon maintenance of certain levels of financial condition by the customers.

Associated risks on these commitments are mitigated due to the fact that interest rates are variable during the commitment term and are set at the date of funding based on current market conditions, the fair value of the underlying collateral and the credit worthiness of the customers. As a result, the fair value of these financing commitments is expected to equal the amounts funded.

We also have other contractual commitments, including commitments to make payments to secure certain contractual rights to provide product on new aircraft platforms. The estimated amount and timing of these payments, which are generally based on future sales or engine flight hours, are reflected in "Other commercial aerospace commitments" in the table below. Payments made on these contractual commitments are included within intangible assets as exclusivity assets and are amortized over the term of underlying economic benefit. We have entered into certain collaboration arrangements, which may include participation by our collaboration partners in these commitments. In addition, in connection with our 2012 agreement to acquire Rolls-Royce's ownership and collaboration interests in IAE, additional payments are due to Rolls-Royce contingent upon each hour flown through June 2027 by the V2500-powered aircraft in service as of the acquisition date. These flight hour payments, which are considered in "Other commercial aerospace commitments" below, will be capitalized as collaboration intangible assets as payments are made.

The following is the expected maturity of our commercial aerospace industry commitments as of December 31, 2021:

<i>(dollars in millions)</i>	Committed	2022	2023	2024	2025	2026	Thereafter
Commercial aerospace financing commitments	\$ 4,552	\$ 1,222	\$ 1,051	\$ 1,380	\$ 344	\$ 443	\$ 112
Other commercial aerospace commitments	11,014	735	1,053	765	739	597	7,125
Collaboration partners' share	(5,907)	(665)	(659)	(814)	(423)	(444)	(2,902)
Total commercial aerospace commitments	\$ 9,659	\$ 1,292	\$ 1,445	\$ 1,331	\$ 660	\$ 596	\$ 4,335

Other Financing Arrangements. We have entered into standby letters of credit and surety bonds with financial institutions to meet various bid, performance, warranty, retention and advance payment obligations for us or our affiliates. We enter into these agreements to assist certain affiliates in obtaining financing on more favorable terms, making bids on contracts and performing their contractual obligations. The stated values of these letters of credit agreements and surety bonds totaled \$3.9 billion as of December 31, 2021.

Offset Obligations. We have entered into industrial cooperation agreements, sometimes in the form of either offset agreements or ICIP agreements, as a condition to obtaining orders for our products and services from certain customers in foreign countries. At December 31, 2021, the aggregate amount of our offset agreements, both agreed to and anticipated to be agreed to, had an outstanding notional value of approximately \$10.3 billion. These agreements are designed to return economic value to the foreign country by requiring us to engage in activities supporting local defense or commercial industries, promoting a balance of trade, developing in-country technology capabilities or addressing other local development priorities. Offset agreements may be satisfied through activities that do not require a direct cash payment, including transferring technology, providing manufacturing, training and other consulting support to in-country projects, and the purchase by third parties (e.g., our vendors) of supplies from in-country vendors. These agreements may also be satisfied through our use of cash for activities such as subcontracting with local partners, purchasing supplies from in-country vendors, providing financial support for in-country projects and making investments in local ventures. Such activities may also vary by country depending upon requirements as dictated by their governments. We typically do not commit to offset agreements until orders for our products or services are definitive. The amounts ultimately applied against our offset agreements are based on negotiations with the customers and typically require cash outlays that represent only a fraction of the notional value in the offset agreements. Offset programs usually extend over several or more years and may provide for penalties in the event we fail to perform in accordance with offset requirements. Historically, we have not been required to pay any penalties of significance.

Government Oversight. In the ordinary course of business, the Company and its subsidiaries and our properties are subject to regulatory and governmental examinations, information gathering requests, inquiries, investigations and threatened legal actions and proceedings. For example, we are now, and believe that, in light of the current U.S. government contracting environment,

we will continue to be the subject of one or more U.S. government investigations. Our contracts with the U.S. government are also subject to audits. Agencies that oversee contract performance include: the Defense Contract Audit Agency (DCAA), the Defense Contract Management Agency (DCMA), the Inspectors General of the U.S. Department of Defense (DoD) and other departments and agencies, the Government Accountability Office (GAO), the Department of Justice (DOJ), and Congressional Committees. Other areas of our business operations may also be subject to audit and investigation by these and other agencies. From time to time, agencies investigate or conduct audits to determine whether our operations are being conducted in accordance with applicable requirements. Such investigations and audits may be initiated due to a number of reasons, including as a result of a whistleblower complaint. Such investigations and audits could result in administrative, civil or criminal liabilities, including repayments, fines, treble or other damages, forfeitures, restitution, or penalties being imposed upon us, the suspension of government export licenses or the suspension or debarment from future U.S. government contracting. U.S. government investigations often take years to complete. The U.S. government also reserves the right to debar a contractor from receiving new government contracts for fraudulent, criminal or other seriously improper conduct. The U.S. government could void any contracts found to be tainted by fraud. Like many defense contractors, we have received audit reports recommending the reduction of certain contract prices because, for example, cost or pricing data or cost accounting practices used to price and negotiate those contracts may not have conformed to government regulations. Some of these audit reports recommend that certain payments be repaid, delayed, or withheld, and may involve substantial amounts. We have made voluntary refunds in those cases we believe appropriate, have settled some allegations and, in some cases, continue to negotiate and/or litigate. The Company may be, and in some cases has been, required to make payments into escrow of disputed liabilities while the related litigation is pending. If the litigation is resolved in the Company's favor, any such payments will be returned to the Company with interest. Our final allowable incurred costs for each year are also subject to audit and have, from time to time, resulted in disputes between us and the U.S. government, with litigation resulting at the Court of Federal Claims (COFC) or the Armed Services Board of Contract Appeals (ASBCA) or their related courts of appeals. In addition, the DOJ has, from time to time, convened grand juries to investigate possible irregularities by us. We also provide products and services to customers outside of the U.S., and those sales are subject to local government laws, regulations and procurement policies and practices. Our compliance with such local government regulations or any applicable U.S. government regulations (e.g., the Foreign Corrupt Practices Act (FCPA) and International Traffic in Arms Regulations (ITAR)) may also be investigated or audited. In addition, we accrue for liabilities associated with those matters that are probable and can be reasonably estimated. The most likely liability amount to be incurred is accrued based upon a range of estimates. Where no amount within a range of estimates is more likely, then we accrue the minimum amount. Other than as specifically disclosed in this Form 10-K, we do not expect these audits, investigations or disputes to have a material effect on our results of operations, financial condition or liquidity, either individually or in the aggregate.

Legal Proceedings. The Company and its subsidiaries are subject to various contract pricing disputes, government investigations and litigation matters across jurisdictions, updates to certain of which are set forth below.

Cost Accounting Standards Claims

As previously disclosed, in April 2019, a Divisional Administrative Contracting Officer (DACO) of the United States DCMA asserted a claim against Pratt & Whitney to recover alleged overpayments of approximately \$1.73 billion plus interest (\$730 million at December 31, 2021). The claim is based on Pratt & Whitney's alleged noncompliance with Cost Accounting Standards (CAS) from January 1, 2007 to March 31, 2019, due to its method of allocating independent research and development costs to government contracts. Pratt & Whitney believes that the claim is without merit and filed an appeal to the ASBCA on June 7, 2019.

As previously disclosed, in December 2013, a DCMA DACO asserted a claim against Pratt & Whitney to recover alleged overpayments of approximately \$177 million plus interest (\$118 million at December 31, 2021). The claim is based on Pratt & Whitney's alleged noncompliance with CAS from January 1, 2005 to December 31, 2012, due to its method of determining the cost of collaborator parts used in the calculation of material overhead costs for government contracts. In 2014, Pratt & Whitney filed an appeal to the ASBCA. An evidentiary hearing was held and completed in June 2019. On November 22, 2021, the ASBCA issued its written decision sustaining in part and denying in part Pratt & Whitney's appeal. The ASBCA rejected the DCMA's asserted measure of the cost of collaborator parts, and ruled substantially in Pratt & Whitney's favor on other liability issues. The ASBCA remanded the appeal to the parties for resolution of damages issues, which could require further proceedings at the ASBCA. On December 23, 2021, the DCMA filed a motion with the ASBCA seeking partial reconsideration of the November 22, 2021 decision. Although the ASBCA decision may also be subject to further appellate review, we believe that the ASBCA's rejection of the DCMA's asserted measure of the cost of collaborator parts is well supported in fact and law and likely will be sustained. In December 2018, a DCMA DACO issued a second claim against Pratt & Whitney that similarly alleges that its method of determining the cost of collaborator parts does not comply with the CAS for calendar years 2013 through 2017. This second claim, which asserts the same measure of the cost of collaborator parts rejected by the ASBCA's recent decision, demands payment of \$269 million plus interest (\$80 million at December 31, 2021). Pratt & Whitney appealed

this second claim to the ASBCA in January 2019. Although subject to further litigation at the ASBCA and potentially further appellate proceedings, we believe that the November 22, 2021 decision in the first claim will apply with equal legal effect to the second claim. Accordingly, we believe that the amounts demanded by the DCMA as set forth in the two claims are without legal basis and that any damages owed to the U.S. government for the two claims will not have a material adverse effect on our results of operations, financial condition or liquidity.

Thales-Raytheon Systems Matter

As previously disclosed, in 2019, Raytheon Company received a subpoena from the Securities and Exchange Commission (SEC) seeking information in connection with an investigation into whether there were improper payments made by Thales-Raytheon Systems (TRS) or anyone acting on their behalf in connection with TRS or Raytheon Company contracts in certain Middle East countries since 2014. In the first quarter of 2020, the DOJ advised Raytheon Company it had opened a parallel criminal investigation. In the third quarter of 2020, Raytheon Company received an additional subpoena from the SEC, seeking information and documents as part of its ongoing investigation. The Company maintains a rigorous anti-corruption compliance program, is cooperating fully with the SEC's and DOJ's inquiry, and is examining whether there has been any conduct that is in violation of Raytheon Company policy. At this time, the Company is unable to predict the outcome of the SEC's or DOJ's inquiry. Based on the information available to date, however, we do not believe the results of this inquiry will have a material adverse effect on our results of operations, financial condition or liquidity.

DOJ Investigation, Contract Pricing Disputes and Related Civil Litigation

As previously disclosed, on October 8, 2020, the Company received a criminal subpoena from the DOJ seeking information and documents in connection with an investigation relating to financial accounting, internal controls over financial reporting, and cost reporting regarding Raytheon Company's Missiles & Defense (RMD) business since 2009. The investigation involves multi-year contracts subject to governmental regulation, including potential civil defective pricing claims for three RMD contracts entered into between 2011 and 2013. As part of the same investigation, on March 24, 2021, the Company received a second criminal subpoena from the DOJ seeking documents relating to a different RMD contract entered into in 2017. We are cooperating fully with, and will continue to review the issues raised by, the DOJ's ongoing investigation. We have made substantial progress in our internal review of the issues raised by the DOJ investigation. Although we continue to believe we have defenses to the potential claims, the Company has determined that there is a probable risk of liability for damages, interest and potential penalties and has accrued approximately \$290 million for this matter. We are currently unable to estimate an incremental loss, if any, which may result following the completion of our internal review and resolution of the DOJ investigation. Based on the information available to date, we do not believe the results of the investigation or of any potential civil litigation will have a material adverse effect on our results of operations, financial condition or liquidity.

Four shareholder lawsuits were filed against the Company after the DOJ investigation was first disclosed. A putative securities class action lawsuit was filed in the United States District Court for the District of Arizona against the Company and certain of its executives alleging that the defendants violated federal securities laws by making material misstatements in regulatory filings regarding internal controls over financial reporting in RMD. Three shareholder derivative lawsuits were filed in the United States District Court for the District of Delaware against the former Raytheon Company Board of Directors, the Company and certain of its executives, each alleging that defendants violated federal securities laws and breached their fiduciary duties by engaging in improper accounting practices, failing to implement sufficient internal financial and compliance controls, and making a series of false and misleading statements in regulatory filings. We believe that each of these lawsuits lacks merit.

Darnis, et al.

As previously disclosed, on August 12, 2020, several former employees of UTC or its subsidiaries filed a putative class action complaint in the United States District Court for the District of Connecticut against the Company, Otis, Carrier, the former members of the UTC Board of Directors, and the members of the Carrier and Otis Boards of Directors (Geraud Darnis, et al. v. Raytheon Technologies Corporation, et al.). The complaint challenged the method by which UTC equity awards were converted to Company, Otis, and Carrier equity awards following the separation of UTC into three independent, publicly-traded companies on April 3, 2020. The complaint also claimed that the defendants are liable for breach of certain equity compensation plans and also asserted claims under certain provisions of the Employee Retirement Income Security Act of 1974 (ERISA). On September 13, 2021, Plaintiffs filed an amended complaint which supersedes the initial complaint and continues to assert claims for breach of the equity compensation plans against the Company, Otis and Carrier, but no longer asserts ERISA claims. Further, no claim is made in the amended complaint against any current or former director of any of the three companies. Plaintiffs seek money damages, attorneys' fees and other relief. We continue to believe that the Company has meritorious defenses to these claims. At this time, the Company is unable to predict the outcome; however, based on the

information available to date, we do not believe that this matter will have a material adverse effect on our results of operations, financial condition or liquidity.

DOJ Grand Jury Investigation and Related Civil Litigation

The Company received a grand jury subpoena in late 2019, as part of a DOJ criminal investigation into purported agreements not to solicit or hire employees in violation of the federal antitrust laws. While the investigation has focused on alleged hiring restrictions between and among Pratt & Whitney and certain of its suppliers of outsourced engineering services, the subpoena also included requests regarding Collins Aerospace. Since receipt of the subpoena, the Company has been cooperating with the DOJ investigation. On December 15, 2021, a criminal indictment was filed in the United States District Court for the District of Connecticut, against a former Pratt & Whitney employee and other employees of certain outsourced engineering suppliers charging each of them with one count of violating the federal antitrust laws. No current or former Collins Aerospace employees were named in the indictment. We were recently advised that the Company is a target of the DOJ investigation, and we continue to cooperate with the investigation. No criminal charge has been filed against the Company or its affiliates.

After the criminal charges against the individuals were filed, numerous civil class action antitrust lawsuits have been filed against Pratt & Whitney and other corporate and individual defendants in the United States District Court for the District of Connecticut. The allegations in each of the civil lawsuits track the factual assertions in the criminal indictment and generally allege that Pratt & Whitney and the other defendants agreed to restrict the hiring and recruiting of certain engineers and skilled laborers in a manner that violated federal antitrust laws. Plaintiffs in each of the civil lawsuits seek to represent different purported classes of engineers and skilled laborers employed by Pratt & Whitney and other supplier-defendants since 2011. Collins Aerospace was also named as a defendant in some of the lawsuits. Plaintiffs in each of the lawsuits seek treble damages in an undetermined amount, plus attorneys' fees and costs of suit. We expect that all the lawsuits ultimately will be consolidated into a single joint complaint. We believe that each of these lawsuits lacks merit. Based on the information available to date, we do not believe that this matter will have a material adverse effect on our results of operations, financial condition or liquidity.

Where appropriate, we have recorded loss contingency accruals for the above-referenced matters, and the amounts individually, or in the aggregate, are not material.

Other. As described in "Note 18: Guarantees," we extend performance and operating cost guarantees beyond our normal warranty and service policies for extended periods on some of our products. We have accrued our estimate of the liability that may result under these guarantees and for service costs that are probable and can be reasonably estimated.

We also have other commitments and contingent liabilities related to legal proceedings, self-insurance programs and matters arising out of the normal course of business. We accrue contingencies based upon a range of possible outcomes. If no amount within this range is a better estimate than any other, then we accrue the minimum amount.

In the ordinary course of business, the Company and its subsidiaries are also routinely defendants in, parties to or otherwise subject to many pending and threatened legal actions, claims, disputes and proceedings. These matters are often based on alleged violations of contract, product liability, warranty, regulatory, environmental, health and safety, employment, intellectual property, tax and other laws. In some instances, claims for substantial monetary damages are asserted against the Company and its subsidiaries and could result in fines, penalties, compensatory or treble damages or non-monetary relief. We do not believe that these matters will have a material adverse effect upon our results of operations, financial condition or liquidity.

NOTE 20: ACCUMULATED OTHER COMPREHENSIVE INCOME

A summary of the changes in each component of Accumulated other comprehensive (loss) income, net of tax is provided below:

<i>(dollars in millions)</i>		Foreign Currency Translation	Defined Benefit Pension and Postretirement Plans	Unrealized Hedging (Losses) Gains	Accumulated Other Comprehensive (Loss) Income
Balance at December 31, 2018	\$	(3,442)	\$ (5,718)	\$ (173)	\$ (9,333)
Other comprehensive income (loss) before reclassifications, net		280	(584)	(33)	(337)
Amounts reclassified, pre-tax		2	170	51	223
Tax benefit (expense)		(43)	97	(11)	43
ASU 2018-02 adoption impact		(8)	(737)	—	(745)
Balance at December 31, 2019	\$	(3,211)	\$ (6,772)	\$ (166)	\$ (10,149)
Other comprehensive income before reclassifications, net		609	1,842	181	2,632
Amounts reclassified, pre-tax		—	373	82	455
Tax benefit (expense)		25	(510)	(62)	(547)
Separation of Carrier and Otis, net of tax		3,287	584	4	3,875
Balance at December 31, 2020	\$	710	\$ (4,483)	\$ 39	\$ (3,734)
Other comprehensive income (loss) before reclassifications, net		(647)	3,210	(226)	2,337
Amounts reclassified, pre-tax		—	258	(28)	230
Tax benefit (expense)		(14)	(813)	79	(748)
Balance at December 31, 2021	\$	49	\$ (1,828)	\$ (136)	\$ (1,915)

In February 2018, the FASB issued ASU 2018-02, *Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income (Topic 220)*. The standard allows companies to reclassify to retained earnings the stranded tax effects in Accumulated other comprehensive income (AOCI) from the Tax Cuts and Jobs Act of 2017 (TCJA). We elected to reclassify the income tax effects of TCJA from AOCI of \$745 million to retained earnings, effective January 1, 2019.

Amounts reclassified that relate to our defined benefit pension and postretirement plans include the amortization of prior service costs and actuarial net gains or losses recognized during each period presented. These costs are recorded as components of net periodic pension income for each period presented. See “Note 11: Employee Benefit Plans” for additional details.

All noncontrolling interests with redemption features, such as put options, that are not solely within our control (redeemable noncontrolling interests) are reported in the mezzanine section of the Consolidated Balance Sheet, between liabilities and equity, at the greater of redemption value or initial carrying value.

NOTE 21: STOCK-BASED COMPENSATION

RTC’s long-term incentive plans authorize various types of market and performance based incentive awards that may be granted to officers and key employees. Certain historic awards remain outstanding under predecessor plans. The Raytheon Technologies Corporation 2018 Long-Term Incentive Plan, as amended and restated (2018 LTIP) was approved by shareowners on April 26, 2021. A total of 134.8 million shares have been authorized for issuance pursuant to awards under the 2018 LTIP including shares assumed from predecessor plans. There is also an additional 21.5 million shares for future issuance due to adjustments related to the Separation Transactions. As of December 31, 2021, approximately 99.2 million shares remain available for awards under the 2018 LTIP. The 2018 LTIP does not contain aggregate annual award limits, however, it sets an annual award limit per participant. The 2018 LTIP will expire after all authorized shares have been awarded or April 26, 2031, whichever is sooner.

Under the 2018 LTIP, the exercise price of awards is set on the grant date and may not be less than the fair market value per share on that date. Generally, stock appreciation rights and stock options have a term of ten years and a three-year vesting period, subject to limited exceptions. In the event of retirement, annual stock appreciation rights, stock options, and RSUs held for more than one year may become vested and exercisable, subject to certain terms and conditions. LTIP awards with performance-based vesting generally have a minimum three-year vesting period and vest based on actual performance against pre-established metrics. In the event of retirement, performance-based awards held for more than one year, remain eligible to vest based on actual performance relative to performance goals. We have historically repurchased shares of our common stock

in an amount at least equal to the number of shares issued under our equity compensation arrangements and will continue to evaluate this policy in conjunction with our overall share repurchase program.

We measure the cost of all share-based payments, including stock options and stock appreciation rights, at fair value on the grant date and recognize this cost in the Consolidated Statement of Operations, net of expected forfeitures, as follows:

<i>(dollars in millions)</i>	2021	2020	2019
Total compensation cost recognized	\$ 442	\$ 330	\$ 268

The associated future income tax benefit recognized was \$83 million, \$63 million and \$47 million for the years ended December 31, 2021, 2020 and 2019, respectively.

For the years ended December 31, 2021, 2020 and 2019, the amount of cash received from the exercise of stock options was \$7 million, \$15 million and \$27 million, respectively, with an associated tax benefit realized of \$42 million, \$48 million and \$75 million, respectively. In addition, for the years ended December 31, 2021, 2020 and 2019, the associated tax benefit realized from the vesting of performance share units (PSUs), restricted stock awards and RSUs was \$44 million, \$58 million and \$36 million, respectively.

At December 31, 2021, there was \$328 million of total unrecognized compensation cost related to non-vested equity awards granted under long-term incentive plans. This cost is expected to be recognized ratably over a weighted-average period of 2.4 years.

A summary of the transactions under our long-term incentive plans for the year ended December 31, 2021 follows.

<i>(shares and units in thousands)</i>	Stock Options		Stock Appreciation Rights		Performance Share Units		Restricted Stock and RSUs	
	Shares	Average Price ⁽¹⁾	Shares	Average Price ⁽¹⁾	Units	Average Price ⁽¹⁾	Units	Average Price ⁽¹⁾
Outstanding at:								
December 31, 2020	1,944	\$ 77.88	33,550	\$ 77.93	—	\$ —	11,034	\$ 62.92
Granted	64	72.49	2,371	73.07	1,339	73.75	4,426	73.28
Exercised / earned	(109)	61.85	(2,291)	61.90	—	—	(3,431)	64.77
Cancelled	(50)	88.01	(569)	81.90	(74)	73.65	(586)	65.44
December 31, 2021	1,849	\$ 78.36	33,061	\$ 78.62	1,265	\$ 73.75	11,443	\$ 66.18

(1) Weighted-average grant / exercise price.

The weighted-average grant date fair value of stock options and stock appreciation rights granted during 2021, 2020 and 2019 was \$15.60, \$23.37 and \$20.81, respectively. The weighted-average grant date fair value of performance share units, which vest upon achieving certain performance metrics, granted during 2021 and 2019 was \$73.75 and \$117.87, respectively. There were no performance share units granted in 2020, and all PSUs granted in 2019 were converted to RSUs in connection with the Separation Transactions and Distributions. The total fair value of awards vested during the years ended December 31, 2021, 2020 and 2019 was \$287 million, \$284 million and \$211 million, respectively. The total intrinsic value (which is the amount by which the stock price exceeded the exercise price on the date of exercise) of stock options and stock appreciation rights exercised during the years ended December 31, 2021, 2020 and 2019 was \$54 million, \$206 million and \$383 million, respectively. The total intrinsic value (which is the stock price at vesting multiplied by the number of underlying shares) of performance share units and other restricted awards vested was \$256 million, \$295 million and \$188 million during the years ended December 31, 2021, 2020 and 2019, respectively.

The following table summarizes information about equity awards outstanding that are vested and expected to vest as well as equity awards outstanding that are exercisable at December 31, 2021:

<i>(shares in thousands; aggregate intrinsic value in millions)</i>	Equity Awards Vested and Expected to Vest				Equity Awards That Are Exercisable			
	Awards	Average Price ⁽¹⁾	Aggregate Intrinsic Value	Remaining Term ⁽²⁾	Awards	Average Price ⁽¹⁾	Aggregate Intrinsic Value	Remaining Term ⁽²⁾
Stock Options	1,841	\$ 78.33	\$ 8	7.71	1,029	\$ 76.04	\$ 11	4.30
Stock Appreciation Rights	32,860	78.60	155	7.82	19,276	77.34	176	4.46
Performance Share Units	1,127	73.76	97	2.11				
Restricted Stock and RSUs	10,660	66.29	1,174	1.61				

(1) Weighted-average exercise price per share.

(2) Weighted-average contractual remaining term in years.

The fair value of each option award is estimated on the date of grant using a binomial lattice model. The following table indicates the assumptions used in estimating fair value for awards granted during 2021, 2020 and 2019. Lattice-based option models incorporate ranges of assumptions for inputs; those ranges are as follows:

	2021	2020	2019
Expected volatility	29.9%	18.8%	18.8% - 19.7%
Weighted-average volatility	30 %	19 %	20 %
Expected term (in years)	6.5	6.5	6.5 - 6.6
Expected dividend yield	2.6 %	1.9 %	2.4 %
Risk-free rate	0.04% - 1.2%	1.4% - 1.6%	2.3% - 2.7%

Expected volatilities are based on the returns of our stock, including implied volatilities from traded options on our stock for the binomial lattice model. We use historical data to estimate equity award exercise and employee termination behavior within the valuation model. The expected term represents an estimate of the period of time equity awards are expected to remain outstanding. The risk-free rate is based on the term structure of interest rates at the time of equity award grant.

NOTE 22: SEGMENT FINANCIAL DATA

Our operations for the periods presented herein are classified into four principal segments: Collins Aerospace, Pratt & Whitney, RIS and RMD. The segments are generally based on the management structure of the businesses and the grouping of similar operating companies, where each management organization has general operating autonomy over diversified products and services. The results of RIS and RMD reflect the period subsequent to the completion of the Raytheon Merger on April 3, 2020.

Collins Aerospace Systems is a leading global provider of technologically advanced aerospace and defense products and aftermarket service solutions for aircraft manufacturers, airlines, and regional, business and general aviation, as well as for defense and commercial space operations. Collins Aerospace's product lines include integrated avionics systems, aviation systems, communications systems, navigation systems, electric power generation, management and distribution systems, environmental control systems, flight control systems, air data and aircraft sensing systems, engine control systems, engine components, engine nacelle systems, including thrust reversers and mounting pylons, interior and exterior aircraft lighting, aircraft seating and cargo systems, evacuation systems, landing systems, including landing gear, wheels and braking systems, hoists and winches, fire and ice detection and protection systems, actuation systems, and propeller systems. Collins Aerospace also designs, manufactures, and supports cabin interior, oxygen systems, food and beverage preparation, storage and galley systems, lavatory and wastewater management systems. Collins Aerospace solutions support human space exploration with environmental control and power systems and extravehicular activity suits and support government and defense customer missions by providing airborne intelligence, surveillance and reconnaissance systems, test and training range systems, crew escape systems, and simulation and training solutions. Collins Aerospace also provides connected aviation solutions and services through worldwide voice and data communication networks and solutions. Aftermarket services include spare parts, overhaul and repair, engineering and technical support, training and fleet management solutions, asset management services and information management services.

Pratt & Whitney is among the world's leading suppliers of aircraft engines for commercial, military, business jet and general aviation customers. Pratt & Whitney's Commercial Engines and Military Engines businesses design, develop, produce and maintain families of large engines for wide- and narrow-body and large regional aircraft for commercial customers and for fighter, bomber, tanker and transport aircraft for military customers. Pratt & Whitney's small engine business, Pratt & Whitney Canada (P&WC), is among the world's leading suppliers of engines powering regional airlines, general and business aviation, as well as helicopters. Pratt & Whitney also produces, sells and services military and commercial auxiliary power units. Pratt & Whitney provides fleet management services and aftermarket maintenance, repair and overhaul services in all of these segments.

Raytheon Intelligence & Space is a global leading developer and provider of integrated space, communication and sensor systems for advanced missions in all domains, and cyber and software solutions to intelligence, defense, federal and commercial customers. These systems and solutions include end-to-end space solutions, data processing systems, multi-domain intelligence solutions, electronic warfare solutions, including high-energy laser weapons systems, secure sensor solutions, command and control systems, modernization services, and advanced cyber analytics, systems defense and services.

Raytheon Missiles & Defense is a leading designer, developer, integrator producer and sustainer of integrated air and missile defense systems; defensive and combat solutions; large land- and sea-based radars; ballistic and hypersonic missile defense systems; and naval and undersea sensor solutions for the U.S. and foreign government customers. RMD's integrated air and missile defense systems include the proven Patriot air and missile defense system and its Lower Tier Air and Missile Defense

Sensor (LTAMDS), the first in a family of radars known as GhostEye™, as well as next-generation radar systems to defeat advanced threats. Its defensive solutions include counter-unmanned aircraft systems and ship defense systems. Its combat solutions include precision munitions, missiles, hypersonics, high power microwave and other weapons. RMD's naval and undersea solutions include combat and ship electronic and sensing systems, as well as undersea sensing and effects solutions. Ballistic and hypersonic missile defense systems include portable radar systems and a portfolio of effectors. Its sustainment solutions include maintenance, depot support, training and predictive analytics services.

Segment Information. Total sales and operating profit by segment include inter-segment sales which are generally recorded at cost-plus a specified fee or at a negotiated fixed price. These pricing arrangements may result in margins different than what the purchasing segment realizes on the ultimate third-party sales.

We present a FAS/CAS operating adjustment outside of segment results, which represents the difference between the service cost component of our pension and PRB expense under the Financial Accounting Standards (FAS) requirements of U.S. GAAP and our pension and PRB expense under U.S. government Cost Accounting Standards (CAS) primarily related to our RIS and RMD segments. While the ultimate liability for pension and PRB costs under FAS and CAS is similar, the pattern of cost recognition is different. Over time, we generally expect to recover the related RIS and RMD pension and PRB liabilities through the pricing of our products and services to the U.S. government. Collins Aerospace and Pratt & Whitney segments generally record pension and PRB expense on a FAS basis.

Acquisition accounting adjustments include the amortization of acquired intangible assets related to acquisitions, the amortization of the property, plant and equipment fair value adjustment acquired through acquisitions and the amortization of customer contractual obligations related to loss making or below market contracts acquired. These adjustments are not considered part of management's evaluation of segment results.

As previously announced, effective January 1, 2021, we reorganized certain product areas of our RIS and RMD businesses to more efficiently leverage our capabilities. The amounts and presentation of our business segments, including intersegment activity, set forth in this Form 10-K reflect this reorganization. The reorganization does not impact our previously reported Collins Aerospace Systems and Pratt & Whitney segment results, or our consolidated balance sheets, statements of operations or statements of cash flows.

Segment information for the years ended December 31 are as follows:

<i>(dollars in millions)</i>	Net Sales			Operating Profit (Loss)			Operating Profit (Loss) Margins		
	2021	2020	2019	2021	2020	2019	2021	2020	2019
Collins Aerospace Systems	\$ 18,449	\$ 19,288	\$ 26,028	\$ 1,759	\$ 1,466	\$ 4,508	9.5 %	7.6 %	17.3 %
Pratt & Whitney	18,150	16,799	20,902	454	(564)	1,801	2.5 %	(3.4)%	8.6 %
Raytheon Intelligence & Space	15,180	11,069	—	1,833	1,020	—	12.1 %	9.2 %	— %
Raytheon Missiles & Defense	15,539	11,396	—	2,004	880	—	12.9 %	7.7 %	— %
Total segment	67,318	58,552	46,930	6,050	2,802	6,309	9.0 %	4.8 %	13.4 %
Eliminations and other ⁽¹⁾	(2,930)	(1,965)	(1,581)	(133)	(107)	(140)			
Corporate expenses and other unallocated items ⁽²⁾	—	—	—	(552)	(590)	(367)			
FAS/CAS operating adjustment	—	—	—	1,796	1,106	—			
Acquisition accounting adjustments ⁽³⁾	—	—	—	(2,203)	(5,100)	(888)			
Consolidated	\$ 64,388	\$ 56,587	\$ 45,349	\$ 4,958	\$ (1,889)	\$ 4,914	7.7 %	(3.3)%	10.8 %

(1) Includes the operating results of certain smaller non-reportable business segments. 2020 amounts include Forcepoint, LLC, which was acquired as part of the Raytheon Merger, and subsequently disposed of on January 8, 2021.

(2) Corporate expenses and other unallocated items in 2021 and 2020 include the net expenses related to the U.S. Army's Lower Tier Air and Missile Defense Sensor (LTAMDS) project. No amounts were recorded in 2019.

(3) Operating profit (loss) in 2020 includes the \$3.2 billion goodwill impairment charge in the second quarter of 2020 related to two Collins Aerospace reporting units. Refer to "Note 2: Business Acquisitions, Dispositions, Goodwill and Intangible Assets" for additional information.

<i>(dollars in millions)</i>	Total Assets		Capital Expenditures			Depreciation & Amortization		
	2021	2020	2021	2020	2019	2021	2020	2019
Collins Aerospace Systems ⁽¹⁾	\$ 67,564	\$ 68,701	\$ 665	\$ 638	\$ 959	\$ 728	\$ 736	\$ 695
Pratt & Whitney ⁽¹⁾	33,414	32,780	700	565	822	642	729	614
Raytheon Intelligence & Space ⁽¹⁾	21,545	21,573	305	218	—	187	154	—
Raytheon Missiles & Defense ⁽¹⁾	28,766	29,337	287	280	—	333	228	—
Total segment	151,289	152,391	1,957	1,701	1,781	1,890	1,847	1,309
Corporate, eliminations and other	10,115	9,762	177	94	87	152	155	165
Acquisition accounting adjustments						2,515	2,154	1,234
Consolidated	\$ 161,404	\$ 162,153	\$ 2,134	\$ 1,795	\$ 1,868	\$ 4,557	\$ 4,156	\$ 2,708

(1) Total assets include acquired intangible assets and the property, plant and equipment fair value adjustment. Related amortization expense is included in Acquisition accounting adjustments.

Geographic External Sales by Origin and Long-Lived Assets. Geographic external sales are attributed to the geographic regions based on their location of origin. U.S. external sales include export sales to commercial customers outside the U.S. and sales to the U.S. government, commercial and affiliated customers, which are known to be for resale to customers outside the U.S. Long-lived assets are Fixed assets, net attributed to the specific geographic regions.

<i>(dollars in millions)</i>	External Net Sales			Long-Lived Assets	
	2021	2020	2019	2021	2020
United States	\$ 55,837	\$ 48,560	\$ 35,125	\$ 11,731	\$ 11,560
International					
Europe	3,630	3,696	4,419	1,255	1,371
Asia Pacific	1,748	1,574	1,989	854	893
Middle East and North Africa	136	103	203	129	137
Other	3,037	2,654	3,613	1,003	1,001
Consolidated	\$ 64,388	\$ 56,587	\$ 45,349	\$ 14,972	\$ 14,962

Disaggregation of Revenue. We also disaggregate our contracts from customers by geographic location based on customer location, by customer and by sales type. Our geographic location based on customer location uses end user customer location where known or practical to determine, or in instances where the end user customer is not known or not practical to determine, we utilize “ship to” location as the customer location. In addition, for our RIS and RMD segments, we disaggregate our contracts from customers by contract type. We believe these categories best depict how the nature, amount, timing and uncertainty of our revenue and cash flows are affected by economic factors.

Segment sales disaggregated by geographic region for the years ended December 31 are as follows:

<i>(dollars in millions)</i>	2021					Total
	Collins Aerospace Systems	Pratt & Whitney	Raytheon Intelligence & Space	Raytheon Missiles & Defense	Other	
United States	\$ 9,341	\$ 9,034	\$ 12,126	\$ 9,495	\$ 15	\$ 40,011
Europe	4,421	3,488	434	1,255	—	9,598
Asia Pacific	1,851	3,885	771	1,462	—	7,969
Middle East and North Africa	462	441	469	3,007	—	4,379
Canada and All Other	915	1,302	144	70	—	2,431
Consolidated net sales	16,990	18,150	13,944	15,289	15	64,388
Inter-segment sales	1,459	—	1,236	250	(2,945)	—
Business segment sales	\$ 18,449	\$ 18,150	\$ 15,180	\$ 15,539	\$ (2,930)	\$ 64,388

<i>(dollars in millions)</i>	2020					Total
	Collins Aerospace Systems	Pratt & Whitney	Raytheon Intelligence & Space	Raytheon Missiles & Defense	Other	
United States	\$ 10,132	\$ 8,534	\$ 8,704	\$ 6,906	\$ 284	\$ 34,560
Europe	4,643	2,726	307	1,031	149	8,856
Asia Pacific	1,810	4,024	637	1,132	41	7,644
Middle East and North Africa	421	505	410	2,077	30	3,443
Canada and All Other	904	1,001	83	73	23	2,084
Consolidated net sales	17,910	16,790	10,141	11,219	527	56,587
Inter-segment sales	1,378	9	928	177	(2,492)	—
Business segment sales	\$ 19,288	\$ 16,799	\$ 11,069	\$ 11,396	\$ (1,965)	\$ 56,587

<i>(dollars in millions)</i>	2019					Total
	Collins Aerospace Systems	Pratt & Whitney	Raytheon Intelligence & Space	Raytheon Missiles & Defense	Other	
United States	\$ 12,762	\$ 8,622	\$ —	\$ —	\$ 13	\$ 21,397
Europe	7,051	4,327	—	—	—	11,378
Asia Pacific	2,473	5,462	—	—	—	7,935
Middle East and North Africa	693	837	—	—	—	1,530
Canada and All Other	1,452	1,657	—	—	—	3,109
Consolidated net sales	24,431	20,905	—	—	13	45,349
Inter-segment sales	1,597	(3)	—	—	(1,594)	—
Business segment sales	\$ 26,028	\$ 20,902	\$ —	\$ —	\$ (1,581)	\$ 45,349

Segment sales disaggregated by customer for the years ended December 31 are as follows:

<i>(dollars in millions)</i>	2021					
	Collins Aerospace Systems	Pratt & Whitney	Raytheon Intelligence & Space	Raytheon Missiles & Defense	Other	Total
U.S. government ⁽¹⁾	\$ 4,685	\$ 5,140	\$ 11,844	\$ 9,493	\$ 15	\$ 31,177
Foreign military sales through the U.S. government	168	1,273	825	3,280	—	5,546
Foreign government direct commercial sales	1,095	541	844	2,513	—	4,993
Commercial aerospace and other commercial	11,042	11,196	431	3	—	22,672
Consolidated net sales	16,990	18,150	13,944	15,289	15	64,388
Inter-segment sales	1,459	—	1,236	250	(2,945)	—
Business segment sales	\$ 18,449	\$ 18,150	\$ 15,180	\$ 15,539	\$ (2,930)	\$ 64,388

(1) Excludes foreign military sales through the U.S. government.

<i>(dollars in millions)</i>	2020					
	Collins Aerospace Systems	Pratt & Whitney	Raytheon Intelligence & Space	Raytheon Missiles & Defense	Other	Total
U.S. government ⁽¹⁾	\$ 5,159	\$ 5,193	\$ 8,512	\$ 6,896	\$ 202	\$ 25,962
Foreign military sales through the U.S. government	218	1,229	640	2,498	—	4,585
Foreign government direct commercial sales	923	583	740	1,725	3	3,974
Commercial aerospace and other commercial	11,610	9,785	249	100	322	22,066
Consolidated net sales	17,910	16,790	10,141	11,219	527	56,587
Inter-segment sales	1,378	9	928	177	(2,492)	—
Business segment sales	\$ 19,288	\$ 16,799	\$ 11,069	\$ 11,396	\$ (1,965)	\$ 56,587

(1) Excludes foreign military sales through the U.S. government.

<i>(dollars in millions)</i>	2019					
	Collins Aerospace Systems	Pratt & Whitney	Raytheon Intelligence & Space	Raytheon Missiles & Defense	Other	Total
U.S. government ⁽¹⁾	\$ 4,781	\$ 4,313	\$ —	\$ —	\$ —	\$ 9,094
Foreign military sales through the U.S. government	255	1,316	—	—	—	1,571
Foreign government direct commercial sales	937	561	—	—	—	1,498
Commercial aerospace and other commercial	18,458	14,715	—	—	13	33,186
Consolidated net sales	24,431	20,905	—	—	13	45,349
Inter-segment sales	1,597	(3)	—	—	(1,594)	—
Business segment sales	\$ 26,028	\$ 20,902	\$ —	\$ —	\$ (1,581)	\$ 45,349

(1) Excludes foreign military sales through the U.S. government.

Sales to Airbus primarily relate to Pratt & Whitney and Collins Aerospace products, and prior to discounts and incentives were approximately 12%, 13% and 22% of total net sales in 2021, 2020 and 2019, respectively.

Segment sales disaggregated by sales type for the years ended December 31 are as follows:

<i>(dollars in millions)</i>	2021					Total
	Collins Aerospace Systems	Pratt & Whitney	Raytheon Intelligence & Space	Raytheon Missiles & Defense	Other	
Products	\$ 13,404	\$ 11,189	\$ 10,735	\$ 13,927	\$ 15	\$ 49,270
Services	3,586	6,961	3,209	1,362	—	15,118
Consolidated net sales	16,990	18,150	13,944	15,289	15	64,388
Inter-segment sales	1,459	—	1,236	250	(2,945)	—
Business segment sales	\$ 18,449	\$ 18,150	\$ 15,180	\$ 15,539	\$ (2,930)	\$ 64,388

<i>(dollars in millions)</i>	2020					Total
	Collins Aerospace Systems	Pratt & Whitney	Raytheon Intelligence & Space	Raytheon Missiles & Defense	Other	
Products	\$ 14,664	\$ 10,186	\$ 7,775	\$ 10,232	\$ 462	\$ 43,319
Services	3,246	6,604	2,366	987	65	13,268
Consolidated net sales	17,910	16,790	10,141	11,219	527	56,587
Inter-segment sales	1,378	9	928	177	(2,492)	—
Business segment sales	\$ 19,288	\$ 16,799	\$ 11,069	\$ 11,396	\$ (1,965)	\$ 56,587

<i>(dollars in millions)</i>	2019					Total
	Collins Aerospace Systems	Pratt & Whitney	Raytheon Intelligence & Space	Raytheon Missiles & Defense	Other	
Products	\$ 19,991	\$ 12,994	\$ —	\$ —	\$ 13	\$ 32,998
Services	4,440	7,911	—	—	—	12,351
Consolidated net sales	24,431	20,905	—	—	13	45,349
Inter-segment sales	1,597	(3)	—	—	(1,594)	—
Business segment sales	\$ 26,028	\$ 20,902	\$ —	\$ —	\$ (1,581)	\$ 45,349

RIS and RMD segment sales disaggregated by contract type for the year ended December 31 are as follows:

<i>(dollars in millions)</i>	2021		2020	
	Raytheon Intelligence & Space	Raytheon Missiles & Defense	Raytheon Intelligence & Space	Raytheon Missiles & Defense
Fixed-price	\$ 6,338	\$ 9,406	\$ 4,526	\$ 7,080
Cost-type	7,606	5,883	5,615	4,139
Consolidated net sales	13,944	15,289	10,141	11,219
Inter-segment sales	1,236	250	928	177
Business segment sales	\$ 15,180	\$ 15,539	\$ 11,069	\$ 11,396

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

As required by Rule 13a-15 under the Securities Exchange Act of 1934, as amended, we carried out an evaluation under the supervision and with the participation of our management, including the President and Chief Executive Officer (CEO), the Executive Vice President and Chief Financial Officer (CFO) and the Corporate Vice President and Controller (Controller), of the effectiveness of the design and operation of our disclosure controls and procedures. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives. Based upon our evaluation, our CEO, CFO and Controller concluded that our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the applicable rules and forms, and that it is accumulated and communicated to our management, including our CEO, CFO and Controller, as appropriate, to allow timely decisions regarding required disclosure.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with accounting principles generally accepted in the U.S. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Our management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2021. In making its assessment, management has utilized the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in its 2013 Internal Control – Integrated Framework. Our management has concluded that based on its assessment, our internal control over financial reporting was effective as of December 31, 2021. The effectiveness of our internal control over financial reporting as of December 31, 2021 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in its report which is set forth in Item 8 of this Annual Report on Form 10-K. There were no changes in our internal control over financial reporting during the quarter ended December 31, 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by Item 10 with respect to directors, the Audit Committee of the Board of Directors, audit committee financial experts, and the procedures by which our shareowners may recommend nominees to our Board of Directors is incorporated herein by reference to the sections of our Proxy Statement for the 2022 Annual Meeting of Shareowners titled “Election of Directors” (including under the subheadings “Nominees” and “How Candidates Are Identified”) and “Corporate Governance” (including under the subheading “Board Committees”).

Information about our Executive Officers

The following persons are executive officers of Raytheon Technologies Corporation:

Name	Title	Other Business Experience Since 1/1/2017	Age as of 2/11/2022
Roy Azevedo	President, Raytheon Intelligence & Space (since April 2020)	Vice President of Raytheon Company and President of its Space and Airborne Systems (SAS) business unit; Vice President and General Manager of the Intelligence, Surveillance and Reconnaissance Systems product line within SAS; Vice President and General Manager of the Secure Sensor Solutions product line within SAS	61
Christopher T. Calio	President, Pratt & Whitney (since January 2020)	President, Commercial Engines, Pratt & Whitney; Executive Assistant to the Chairman & CEO, United Technologies Corporation;	48
Kevin G. DaSilva	Corporate Vice President, Treasurer, Raytheon Technologies Corporation (since April 2020)	Vice President and Treasurer, Raytheon Company	58
Michael R. Dumais	Executive Vice President, Chief Transformation Officer, Raytheon Technologies Corporation (since January 2021)	Executive Vice President, Corporate Strategy & Development, United Technologies Corporation; Executive Vice President, Operations & Strategy, United Technologies Corporation;	55
Gregory J. Hayes	Chairman (since June 2021), President and Chief Executive Officer, Raytheon Technologies Corporation (since November 2014)	President, Chief Executive Officer and Director, Raytheon Technologies Corporation; Chairman, President and Chief Executive Officer, United Technologies Corporation	61
Amy L. Johnson	Corporate Vice President, Controller, Raytheon Technologies Corporation (since September 2021)	Vice President, Finance, Pratt & Whitney Commercial Engines; Vice President and Controller, Pratt & Whitney	47
Wesley D. Kremer	President, Raytheon Missiles & Defense (since April 2020)	Vice President of Raytheon Company and President of its Missile Systems business unit; President, Integrated Defense Systems, Raytheon Company	57
Neil G. Mitchill, Jr.	Executive Vice President and Chief Financial Officer, Raytheon Technologies Corporation (since April 2021)	Corporate Vice President, Financial Planning & Analysis & Investor Relations, Raytheon Technologies Corporation; Acting Senior Vice President & Chief Financial Officer, United Technologies Corporation; Corporate Vice President, FP&A and Investor Relations, United Technologies Corporation; Vice President & Chief Financial Officer, Pratt & Whitney	46

Name	Title	Other Business Experience Since 1/1/2017	Age as of 2/11/2022
Ramsaran Maharajh, Jr.	Executive Vice President and General Counsel, Raytheon Technologies Corporation (since December 2021)	Vice President, Legal, Raytheon Technologies Corporation; Chief of Staff, Office of the Chief Executive Officer, Raytheon Technologies Corporation; Executive Assistant to Chairman & CEO, United Technologies Corporation; Vice President & General Counsel, Pratt & Whitney	50
Stephen J. Timm	President, Collins Aerospace Systems (since February 2020)	President, Avionics, Collins Aerospace Systems; Vice President and General Manager, Avionics, Collins Aerospace Systems; Vice President and General Manager, Avionics, Rockwell Collins, Inc.; Vice President & General Manager, Air Transport Systems, Rockwell Collins, Inc.	53
Dantaya M. Williams	Executive Vice President & Chief Human Resources Officer, Raytheon Technologies Corporation (since June 2020)	Vice President, Human Resources, Pratt & Whitney Commercial Engines	47

All of the officers serve at the pleasure of the Board of Directors of Raytheon Technologies Corporation or the subsidiary designated.

Information concerning Section 16(a) compliance is incorporated herein by reference to the section of our Proxy Statement for the 2022 Annual Meeting of Shareowners titled “Other Important Information” under the heading “Delinquent Section 16(a) Reports.” We have adopted a code of conduct that applies to all our directors, officers, employees and representatives. Information regarding our Code of Conduct is incorporated herein by reference to the section of our Proxy Statement for the 2022 Annual Meeting of Shareowners titled “Other Important Information” under the heading “Corporate Governance Information, Code of Conduct and How to Contact the Board.” This code is publicly available on our website at <http://www.rtx.com/Our-Company/ethics-and-compliance>. Amendments to the code of conduct and any grant of a waiver from a provision of the code requiring disclosure under applicable Securities and Exchange Commission (SEC) rules will be disclosed on our website. Our Corporate Governance Guidelines and the charters of our Board of Directors’ Audit Committee, Finance Committee, Committee on Governance and Public Policy, Human Capital and Compensation Committee and Special Activities Committee are available on our website at <https://www.rtx.com/Our-Company/corporate-governance>. These materials may also be requested in print free of charge by writing to our Investor Relations Department at Raytheon Technologies Corporation, 870 Winter Street, Investor Relations, Waltham, MA 02451.

ITEM 11. EXECUTIVE COMPENSATION

The information required by Item 11 is incorporated herein by reference to the sections of our Proxy Statement for the 2022 Annual Meeting of Shareowners titled “Executive Compensation,” “Compensation of Directors” and “Report of the Compensation Committee.”

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information relating to security ownership of certain beneficial owners and management is incorporated herein by reference to the sections of our Proxy Statement for the 2022 Annual Meeting of Shareowners titled “Share Ownership.”

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information about our equity compensation plans that authorize the issuance of shares of our common stock as of December 31, 2021.

	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted average exercise price of outstanding options, warrants and rights (\$/share) (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by shareowners	14,149,632 ⁽¹⁾	\$ 78.61	99,190,302 ⁽³⁾
Equity compensation plans not approved by shareowners	1,072,217 ⁽²⁾	—	—

- (1) Consists of issuable shares of Common Stock under the Raytheon Technologies Corporation 2018 Long-Term Incentive Plan, as amended and restated, effective April 26, 2021 (2018 LTIP) authorized for issuance: (i) upon the exercise of outstanding non-qualified stock options; (ii) upon the exercise of outstanding Stock Appreciation rights (SARs); (iii) pursuant to outstanding RSU awards; and (iv) upon the settlement of outstanding deferred stock units and RSUs awarded under the Raytheon Technologies Corporation Board of Directors Deferred Stock Unit Plan, as amended and restated effective January 1, 2020. Under the RTX LTIPs, each SAR referred to in clause (ii) is exercisable for a number of shares of Common Stock having a value equal to the difference between the market price of RTX on the exercise date and the exercise price. For purposes of determining the total number of shares to be issued in respect of outstanding SARs as reflected in column (a) above, we have used the NYSE closing price for a share of Common Stock on December 31, 2021 of \$86.06. The weighted-average exercise price of outstanding options, warrants and rights shown in column (b) takes into account only the shares identified in clauses (i) and (ii).
- (2) Consists of shares of Common Stock issuable pursuant to outstanding RSUs awards granted under the Raytheon Company 2019 Stock Plan and the Raytheon Company 2010 Stock Plan, as amended (RTN Stock Plans), that were assumed upon the Merger of UTC and RTN.
- (3) Represents the maximum number of shares of Common Stock available to be awarded under the Plan as of December 31, 2021. RSUs and PSUs (full-value awards) will result in a reduction in the number of shares of Common Stock available for delivery under the Plan in an amount equal to 4.03 times the number of shares subject to the awards. SARs and stock options are not full-value awards and will result in a reduction in the number of shares of Common Stock available for delivery under the Plan on a one-for-one basis.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by Item 13 is incorporated herein by reference to the sections of our Proxy Statement for the 2022 Annual Meeting of Shareowners titled “Corporate Governance” (under the subheading “Director Independence”) and “Other Important Information” (under the subheading “Transactions with Related Persons”).

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by Item 14 is incorporated by reference to the section of our Proxy Statement for the 2022 Annual Meeting of Shareowners titled “Appoint PwC LLP to Serve as Independent Auditor for 2022,” including the information provided in that section with regard to “Audit Fees,” “Audit-Related Fees,” “Tax Fees” and “All Other Fees.”

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Financial Statements and Schedules

- (1) The following financial statements of Raytheon Technologies Corporation, supplemental information and report of independent registered public accounting firm are included in this Form 10-K:

Report of Independent Registered Public Accounting Firm (PCAOB ID 238)
Consolidated Statement of Operations for the Years Ended December 31, 2021, 2020 and 2019
Consolidated Statement of Comprehensive Income (Loss) for the Years Ended December 31, 2021, 2020 and 2019
Consolidated Balance Sheet at December 31, 2021 and 2020
Consolidated Statement of Cash Flows for the Years Ended December 31, 2021, 2020 and 2019
Consolidated Statement of Changes in Equity for the Years Ended December 31, 2021, 2020 and 2019
Notes to Consolidated Financial Statements

- (2) List of financial statement schedules:

	<u>Page Number in Form 10-K</u>
SCHEDULE II—Valuation and Qualifying Accounts for the three years ended December 31, 2021	134

All schedules have been omitted because they are not required, not applicable or the information is otherwise included.

(b) Exhibits:

The following list of exhibits includes exhibits submitted with this Form 10-K as filed with the Securities and Exchange Commission (SEC) and those incorporated by reference to other filings.

- 2.1 [Separation and Distribution Agreement, dated as of April 2, 2020, by and among United Technologies Corporation, Otis Worldwide Corporation and Carrier Global Corporation \(incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K \(Commission file number 1-812\) filed with the SEC on April 8, 2020\).](#)
- 3(i) [Restated Certificate of Incorporation, restated as of April 3, 2020, incorporated by reference to Exhibit 3.1\(b\) to the Company's Current Report on Form 8-K \(Commission file number 1-812\) filed with the SEC on April 8, 2020.](#)
- 3(ii) [Bylaws as amended and restated effective April 3, 2020, incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K \(Commission file number 1-812\) filed with the SEC on April 8, 2020.](#)
- 4.1 [Amended and Restated Indenture, dated as of May 1, 2001, between UTC and The Bank of New York, as trustee, incorporated by reference to Exhibit 4\(a\) to the Company's Registration Statement on Form S-3 \(Commission file number 333-60276\) filed with the SEC on May 4, 2001. The Company hereby agrees to furnish to the Commission upon request a copy of each other instrument defining the rights of holders of long-term debt of the Company and its consolidated subsidiaries and any unconsolidated subsidiaries.](#)
- 4.2 [Description of Securities, incorporated by reference to Exhibit 4.2 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2020.](#)
- 10.1 United Technologies Corporation Annual Executive Incentive Compensation Plan, incorporated by reference to Exhibit A to the Company's Proxy Statement for the 1975 Annual Meeting of Shareowners, [Amendment No. 1](#) thereto, effective January 1, 1995, incorporated by reference to Exhibit 10.2 to the Company's Annual Report on Form 10-K (Commission file number 1-812) for the fiscal year ended December 31, 1995, and [Amendment No. 2](#) thereto, effective January 1, 2009, incorporated by reference to Exhibit 10.1 to the Company's Annual Report on Form 10-K (Commission file number 1-812) for the fiscal year ended December 31, 2008.

- 10.2 [United Technologies Corporation Pension Preservation Plan, as amended and restated, effective January 1, 2020, incorporated by reference to Exhibit 10.2 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2020.](#)
- 10.3 [United Technologies Corporation Senior Executive Severance Plan, incorporated by reference to Exhibit 10\(vi\) to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 1992, as amended by \[Amendment thereto, effective December 10, 2003\]\(#\), incorporated by reference to Exhibit 10.4 of the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2003, and \[Amendment thereto, effective June 11, 2008\]\(#\), incorporated by reference to Exhibit 10.4 of the Company's Quarterly Report on Form 10-Q \(Commission file number 1-812\) for the quarterly period ended June 30, 2008, and \[Amendment thereto, effective February 10, 2011\]\(#\), incorporated by reference to Exhibit 10.4 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2010.](#)
- 10.4 [United Technologies Corporation Deferred Compensation Plan, as amended and restated, effective January 1, 2011, incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q \(Commission file number 1-812\) for the quarterly period ended June 30, 2018.](#)
- 10.5 [United Technologies Corporation Executive Leadership Group Program, as amended and restated, effective October 15, 2013, incorporated by reference to Exhibit 10.11 to the Company's Quarterly Report on Form 10-Q \(Commission file number 1-812\) for the quarterly period ended September 30, 2013; United Technologies Executive Leadership Group Program, effective April 1, 2019; and Raytheon Technologies Corporation Executive Leadership Group Program, effective April 3, 2020, incorporated by reference to Exhibit 10.5 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2020.](#)
- 10.6 [Schedule of Terms for Restricted Share Unit Retention Awards relating to the United Technologies Corporation Executive Leadership Group Program \(referred to above in Exhibit 10.6\), incorporated by reference to Exhibit 10.12 to the Company's Quarterly Report on Form 10-Q \(Commission file number 1-812\) for the quarterly period ended September 30, 2013; and Schedule of Terms of Restricted Share Unit Retention Awards relating to the United Technologies Leadership Group Program, effective April 1, 2019 \(referred to above in Exhibit 10.5\).](#)
- 10.7 [Form of Award Agreement for Restricted Share Unit Retention Awards relating to the United Technologies Corporation Executive Leadership Group Program \(referred to above in Exhibit 10.6\), incorporated by reference to Exhibit 10.13 to the Company's Quarterly Report on Form 10-Q \(Commission file number 1-812\) for the quarterly period ended September 30, 2013; and Form of Award Agreement for Restricted Share Unit Retention Awards relating to the United Technologies Leadership Group Program, effective April 1, 2019 \(referred to above in Exhibit 10.5\).](#)
- 10.8 [United Technologies Corporation Board of Directors Deferred Stock Unit Plan, as Amended and Restated, effective as of April 29, 2019, incorporated by reference to Exhibit 10.8 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2018.](#)
- 10.9 [Retainer Payment Election Form for United Technologies Corporation Board of Directors Deferred Stock Unit Plan \(referred to above in Exhibit 10.8\), incorporated by reference to Exhibit 10.9 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2018.](#)
- 10.10 [Form of Deferred Restricted Stock Unit Award relating to the United Technologies Corporation Board of Directors Deferred Stock Unit Plan \(referred to above in Exhibit 10.8\), incorporated by reference to Exhibit 10.10 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2018.](#)
- 10.11 [United Technologies Corporation Long-Term Incentive Plan, as amended and restated effective April 28, 2014, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K \(Commission file number 1-812\) filed with the SEC on May 2, 2014, as further amended by \[Amendment No. 1, effective as of February 5, 2016\]\(#\), incorporated by reference to Exhibit 10.12 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2015.](#)
- 10.12 [Schedule of Terms for restricted stock awards relating to the United Technologies Corporation Long-Term Incentive Plan \(referred to above in Exhibit 10.11\) \(Rev. January 2016\), incorporated by reference to Exhibit 10.13 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2015.](#)

- 10.13 [Schedule of Terms for non-qualified stock option awards relating to the United Technologies Corporation Long-Term Incentive Plan \(referred to above in Exhibit 10.11\) \(Rev. January 2016\), incorporated by reference to Exhibit 10.15 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2015.](#)
- 10.14 [Form of Award Agreement for non-qualified stock option awards relating to the United Technologies Corporation Long-Term Incentive Plan \(referred to above in Exhibit 10.11\), incorporated by reference to Exhibit 10.15 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2016.](#)
- 10.15 [Schedule of Terms for performance share unit awards relating to the United Technologies Corporation Long-Term Incentive Plan \(referred to above in Exhibit 10.11\) \(Rev. January 2016\), incorporated by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2015.](#)
- 10.16 [Schedule of Terms for stock appreciation rights awards relating to the United Technologies Corporation 2005 Long-Term Incentive Plan \(referred to above in Exhibit 10.11\) \(Rev. January 2016\), incorporated by reference to Exhibit 10.18 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2015.](#)
- 10.17 [Form of Award Agreement for restricted stock unit, performance share unit and stock appreciation rights awards relating to the United Technologies Corporation Long-Term Incentive Plan \(referred to above in Exhibit 10.11\), incorporated by reference to Exhibit 10.18 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2016.](#)
- 10.18 [United Technologies Corporation LTIP Performance Share Unit Deferral Plan, relating to the Long-Term Incentive Plan \(referred to above in Exhibit 10.11\) as amended and restated, effective January 1, 2020, incorporated by reference to Exhibit 10.18 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2020.](#)
- 10.19 [United Technologies Corporation International Deferred Compensation Replacement Plan, effective January 1, 2005, incorporated by reference to Exhibit 10.35 of the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2008.](#)
- 10.20 [United Technologies Corporation Company Automatic Contribution Excess Plan, as amended and restated, effective January 1, 2020, incorporated by reference to Exhibit 10.20 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2020.](#)
- 10.21 [United Technologies Corporation Savings Restoration Plan executed July 16, 2018 \(amended and restated as of January 1, 2011\), incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q \(Commission file number 1-812\) for the quarterly period ended June 30, 2018.](#)
- 10.22 [Raytheon Technologies Corporation 2018 Long-Term Incentive Plan, incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K \(Commission file number 1-812\) filed with the SEC on May 3, 2018, as amended by Amendment No. 1, effective as of December 6, 2020, incorporated by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2020.](#)
- 10.23 [Schedule of Terms for restricted stock unit awards relating to the Raytheon Technologies Corporation 2018 Long-Term Incentive Plan, as amended \(referred to above in Exhibit 10.22\), incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q \(Commission file number 1-812\) for the quarterly period ended March 31, 2021.](#)
- 10.24 [Schedule of Terms for stock appreciation right awards relating to the Raytheon Technologies Corporation 2018 Long-Term Incentive Plan, as amended \(referred to above in Exhibit 10.22\), incorporated by reference to Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q \(Commission file number 1-812\) for the quarterly period ended March 31, 2021.](#)
- 10.25 [Schedule of Terms for performance share unit awards relating to the Raytheon Technologies Corporation 2018 Long-Term Incentive Plan, as amended \(referred to above in Exhibit 10.22\), incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q \(Commission file number 1-812\) for the quarterly period ended March 31, 2021.](#)

- 10.26 [Schedule of Terms for stock option awards relating to the Raytheon Technologies Corporation 2018 Long-Term Incentive Plan, as amended \(referred to above in Exhibit 10.22\), incorporated by reference to Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q \(Commission file number 1-812\) for the quarterly period ended March 31, 2021.](#)
- 10.27 [Rockwell Collins' 2015 Long-Term Incentives Plan, incorporated by reference to Appendix B to Rockwell Collins' Notice and Proxy Statement \(Commission file number 0001-16445\) dated December 17, 2014.](#)
- 10.28 [Form of Performance Share Agreement under Rockwell Collins' 2015 Long-Term Incentives Plan \(referred to above in Exhibit 10.27\), incorporated by reference to Exhibit 10-a-1 to Rockwell Collins' Quarterly Report on Form 10-Q \(Commission file number 0001-16445\) for the quarterly period ended December 31, 2017.](#)
- 10.29 [Form of Restricted Stock Unit Agreement under Rockwell Collins' 2015 Long-Term Incentives Plan \(referred to above in Exhibit 10.27\), incorporated by reference to Exhibit 10-a-2 to Rockwell Collins' Quarterly Report on Form 10-Q \(Commission file number 0001-16445\) for the quarterly period ended December 31, 2017.](#)
- 10.30 [Compensation Recovery Policy acknowledgment and agreement, incorporated by reference to Exhibit 10-c-1 to Rockwell Collins' Quarterly Report on Form 10-Q \(Commission file number 0001-16445\) for the quarterly period ended December 31, 2012.](#)
- 10.31 [Rockwell Collins' Deferred Compensation Plan, as amended, incorporated by referenced to Exhibit 10-f-2 to Rockwell Collins' Annual Report on Form 10-K \(Commission file number 0001-16445\) for the fiscal year ended September 30, 2007; Amendment No. 1 to Rockwell Collins' Deferred Compensation Plan, as amended, incorporated by reference to Exhibit 10-f-2 to Rockwell Collins' Annual Report on Form 10-K/A \(Commission file number 0001-16445\) for the fiscal year ended September 30, 2018.](#)
- 10.32 [Rockwell Collins' 2005 Deferred Compensation Plan, as amended and restated as of June 27, 2017, incorporated by reference to Exhibit 10-f-1 to Rockwell Collins' Quarterly Report on Form 10-Q \(Commission file number 0001-16445\) for the quarterly period ended June 30, 2017; Amendment No. 1 to Rockwell Collins' 2005 Deferred Compensation Plan, incorporated by reference to Exhibit 10-f-1 to Rockwell Collins' Quarterly Report on Form 10-Q \(Commission file number 0001-16445\) for the quarterly period ended December 31, 2017; Amendment No. 2 to Rockwell Collins' 2005 Deferred Compensation Plan, as amended, incorporated by reference to Exhibit 10-f-6 to Rockwell Collins' Annual Report on Form 10-K/A \(Commission file number 0001-16445\) for the fiscal year ended September 30, 2018.](#)
- 10.33 [Rockwell Collins' Non-Qualified Savings Plan, as amended, incorporated by referenced to Exhibit 10-g-2 to Rockwell Collins' Annual Report on Form 10-K \(Commission file number 0001-16445\) for the fiscal year ended September 30, 2007; Amendment No. 1 to Rockwell Collins' Non-Qualified Savings Plan, incorporated by reference to Exhibit 10-g-2 Rockwell Collins' Annual Report on Form 10-K/A \(Commission file number 0001-16445\) for the fiscal year ended September 30, 2018.](#)
- 10.34 [Rockwell Collins' 2005 Non-Qualified Retirement Savings Plan, as amended and restated as of July 17, 2018, incorporated by referenced to Exhibit 10-g-6 to Rockwell Collins' Annual Report on Form 10-K/A \(Commission file number 0001-16445\) for the fiscal year ended September 30, 2018.](#)
- 10.35 [Rockwell Collins' 2005 Non-Qualified Pension Plan, as amended, incorporated by reference to Exhibit 10-h-1 to Rockwell Collins' Quarterly Report on Form 10-Q \(Commission file number 0001-16445\) for the quarterly period ended June 30, 2012; Amendment No. 1 to Rockwell Collins' Non-Qualified Pension Plan, as amended, incorporated by reference to Exhibit 10-h-1 to Rockwell Collins' Quarterly Report on Form 10-Q \(Commission file number 0001-16445\) for the quarterly period ended December 31, 2015; Amendment No. 2 to Rockwell Collins' 2005 Non-Qualified Pension Plan, as amended, incorporated by reference to Exhibit 10-h-3 to Rockwell Collins' Annual Report on Form 10-K/A \(Commission file number 0001-16445\) for the fiscal year ended September 30, 2018.](#)
- 10.36 [Rockwell Collins' Master Trust, as amended, incorporated by reference to Exhibit 10-i-2 to Rockwell Collins' Annual Report on Form 10-K \(Commission file number 0001-16445\) for the fiscal year ended September 30, 2007; Amendment No. 1 to Rockwell Collins' Master Trust, as amended, incorporated by reference to Exhibit 10-i-2 to Rockwell Collins' Annual Report on Form 10-K/A \(Commission file number 0001-16445\) for the fiscal year ended September 30, 2018; Amendment No. 2 to Rockwell Collins' Master Trust, as amended; and Amendment No.3 to Rockwell Collins' Master Trust, as amended, incorporated by reference to Exhibit 10.35 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2018.](#)

- 10.37 [Rockwell Collins' Short-term Relocation Benefit to Rockwell Collins' CEO, CFO and two other executive officers, incorporated by reference to Exhibit 10-e-1 to Rockwell Collins' Quarterly Report on Form 10-Q \(Commission file number 0001-16445\) for the quarterly period ended March 31, 2018; Description of the Extension to the Short-Term Relocation Benefit for the Company's CEO, CFO and two other executive officers, incorporated by reference to Exhibit 10-j-2 to Rockwell Collins' Annual Report on Form 10-K/A \(Commission file number 0001-16445\) for the fiscal year ended September 30, 2018.](#)
- 10.38 [Compensation & Covenants Agreement between United Technologies Corporation and Robert K. Ortberg, effective as of November 26, 2018, incorporated by reference to Exhibit 10.37 to the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2018.](#)
- 10.39 [Employment Agreement, dated as of June 9, 2019, by and between United Technologies Corporation and Gregory J. Hayes, incorporated by reference to Exhibit 10.1 the Company's Current Report on Form 8-K \(Commission file number 1-812\) filed with the SEC on June 10, 2019.](#)
- 10.40 [First Amendment, dated March 4, 2021, to Employment Agreement \(referred to above in Exhibit 10.38\) between Gregory J. Hayes and Raytheon Technologies Corporation, incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K \(Commission file number 1-812\) filed with the SEC on March 5, 2021.](#)
- 10.41 [United Technologies Corporation Merger Severance Plan for Corporate Office Executives and Other Key Employees, incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q \(Commission file number 1-812\) for the quarterly period ended June 30, 2019.](#)
- 10.42 [Amendment dated February 3, 2020, to the terms of certain awards granted under the Company's Long Term Incentive Plans \(referred to above in Exhibits 10.11 and 10.22\), by and between United Technologies Corporation and Judy Marks incorporated by reference to Exhibit 10.40 of the Company's Annual Report on Form 10-K \(Commission file number 1-812\) for the fiscal year ended December 31, 2019.](#)
- 10.43 [Transition Services Agreement, dated as of April 2, 2020, by and among United Technologies Corporation, Otis Worldwide Corporation and Carrier Global Corporation \(incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K \(Commission file number 1-812\) filed with the SEC on April 8, 2020\).](#)
- 10.44 [Tax Matters Agreement, dated as of April 2, 2020, by and among United Technologies Corporation, Otis Worldwide Corporation and Carrier Global Corporation \(incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K \(Commission file number 1-812\) filed with the SEC on April 8, 2020\).](#)
- 10.45 [Employee Matters Agreement, dated as of April 2, 2020, by and among United Technologies Corporation, Otis Worldwide Corporation and Carrier Global Corporation \(incorporated by reference to Exhibit 10.3 of the Company's Current Report on Form 8-K \(Commission file number 1-812\) filed with the SEC on April 8, 2020\).](#)
- 10.46 [First Amendment to Employee Matters Agreement \(referred to above in Exhibit 10.45\), dated as of May 22, 2020 \(incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K \(Commission file number 1-812\) filed with the SEC on May 29, 2020\).](#)
- 10.47 [Intellectual Property Agreement, dated as of April 2, 2020, by and among United Technologies Corporation, Otis Worldwide Corporation and Carrier Global Corporation \(incorporated by reference to Exhibit 10.4 of the Company's Current Report on Form 8-K \(Commission file number 1-812\) filed with the SEC on April 8, 2020\).](#)
- 10.48 [Employment Agreement, dated as of June 9, 2019, between Thomas A. Kennedy and United Technologies Corporation, incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q \(Commission file number 1-812\) for the quarterly period ended March 31, 2021.](#)
- 10.49 [First Amendment, dated March 4, 2021, to Employment Agreement between Thomas A. Kennedy and Raytheon Technologies Corporation \(referred to above in Exhibit 10.48\), incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2021.](#)
- 10.50 [Separation Agreement, dated as of May 24, 2021, between Thomas A. Kennedy and Raytheon Technologies Corporation, incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2021.](#)
- 10.51 [Raytheon Company 2010 Stock Plan, as amended as of May 24, 2017, incorporated by reference to Exhibit 10.2 to Raytheon Company's Quarterly Report on Form 10-Q for the quarter ended July 2, 2017.](#)

- 10.52 [Raytheon Company Excess Savings Plan, as amended and restated effective as of January 1, 2009, as further amended effective January 1, 2010 and November 1, 2013, incorporated by reference to Exhibit 10.9 to Raytheon Company's Annual Report on Form 10-K for the year ended December 31, 2013.](#)
- 10.53 [Raytheon Company Excess Pension Plan, as amended and restated effective as of January 1, 2009, as further amended effective January 1, 2009, incorporated by reference to Exhibit 10.10 to Raytheon Company's Annual Report on Form 10-K for the year ended December 31, 2013.](#)
- 10.54 [Raytheon Company Supplemental Executive Retirement Plan, as amended and restated effective as of January 1, 2009, as further amended effective January 1, 2011, incorporated by reference to Exhibit 10.11 to Raytheon Company's Annual Report on Form 10-K for the year ended December 31, 2013.](#)
- 10.55 [Raytheon Company Deferred Compensation Plan, as amended and restated effective as of January 1, 2009, as further amended effective January 1, 2009, January 1, 2010, May 6, 2010 and November 1, 2013, incorporated by reference to Exhibit 10.12 to Raytheon Company's Annual Report on Form 10-K for the year ended December 31, 2013.](#)
- 10.56 [Raytheon 2019 Stock Plan, incorporated by reference to Appendix A to Raytheon Company's definitive proxy statement, filed on April 16, 2019.](#)
- 10.57 [Form of Change in Control Severance Agreement between Raytheon Company and certain executive officers \(providing for benefits in the event of a qualified termination upon a change in control of two times base salary and bonus\), incorporated by reference to Exhibit 10.22 to Raytheon Company's Annual Report on Form 10-K for the year ended December 31, 2009.](#)
- 10.58 [Form of Amendment to Change in Control Severance Agreement between Raytheon Company and its executive officers, incorporated by reference to Exhibit 10.60 to Raytheon Company's Annual Report on Form 10-K for the year ended December 31, 2009.](#)
- 10.59 [Form of Change in Control Severance Agreement between Raytheon Company and certain executive officers \(providing for benefits in the event of a qualified termination upon a change in control of one times base salary and bonus\), incorporated by reference to Exhibit 10.4 to Raytheon Company's Quarterly Report on Form 10-Q for the quarter ended April 3, 2016.](#)
- 10.60 [Letter Agreement dated January 21, 2015 by and between Raytheon Company and Anthony F. O'Brien, incorporated by reference to Exhibit 10.1 to Raytheon Company's Quarterly Report on Form 10-Q for the quarter ended April 3, 2016.](#)
- 10.61 [Letter Agreement dated December 16, 2014 by and between Raytheon Company and Frank R. Jimenez, incorporated by reference to Exhibit 10.2 to Raytheon Company's Quarterly Report on Form 10-Q for the quarter ended April 3, 2016.](#)
- 10.62 [Amendment to Letter Agreement dated January 23, 2015 by and between Raytheon Company and Frank R. Jimenez, incorporated by reference to Exhibit 10.3 to Raytheon Company's Quarterly Report on Form 10-Q for the quarter ended April 3, 2016.](#)
- 10.63 [Enhanced Severance Plan for Senior Leadership Team Members, incorporated by reference to Exhibit 10.1 to Raytheon Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019.](#)
- 10.64 [Letter Agreement, dated July 23, 2015, by Raytheon Company and Wesley D. Kremer, incorporated by reference to Exhibit 10.1 to Raytheon Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2019.](#)
- 10.65 [Amendment to Letter Agreement, dated March 21, 2019, by Raytheon Company and Wesley D. Kremer, incorporated by reference to Exhibit 10.2 to Raytheon Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2019.](#)
- 14 Code of Conduct. The RTC Code of Conduct may be accessed via RTC's website at <https://www.rtx.com/our-company/ethics-and-compliance>.
- 21 [Subsidiaries of Raytheon Technologies Corporation.*](#)
- 23 [Consent of PricewaterhouseCoopers LLP.*](#)

24 [Powers of Attorney of Tracy A. Atkinson, Bernard A. Harris, Jr., Marshall O. Larsen, George R. Oliver, Robert K. Ortberg, Margaret L. O'Sullivan, Dinesh C. Paliwal, Ellen M. Pawlikowski, Denise L. Ramos, Fredric G. Reynolds, Brian C. Rogers, James A. Winnefeld, Jr. and Robert O. Work.*](#)

31.1 [Rule 13a-14\(a\)/15d-14\(a\) Certification.*](#)

31.2 [Rule 13a-14\(a\)/15d-14\(a\) Certification.*](#)

31.3 [Rule 13a-14\(a\)/15d-14\(a\) Certification.*](#)

32 [Section 1350 Certifications.*](#)

101.INS eXtensible Business Reporting Language (XBRL) Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.

101.SCH Inline XBRL Taxonomy Extension Schema Document.*

101.CAL Inline XBRL Taxonomy Extension Calculation Linkbase Document.*

101.DEF Inline XBRL Taxonomy Extension Definition Linkbase Document.*

101.LAB Inline XBRL Taxonomy Extension Label Linkbase Document.*

101.PRE Inline XBRL Taxonomy Extension Presentation Linkbase Document.*

104 The cover page from the Company's Annual Report on Form 10-K for the year ended December 31, 2021, formatted in Inline XBRL and contained in Exhibit 101.

(Exhibits marked with an asterisk (*) are filed electronically herewith.)

ITEM 16. FORM 10-K SUMMARY

Not applicable.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ GREGORY J. HAYES</u> (Gregory J. Hayes)	Chairman, President and Chief Executive Officer (Principal Executive Officer)	February 11, 2022
<u>/s/ NEIL G. MITCHILL, JR.</u> (Neil G. Mitchill, Jr.)	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 11, 2022
<u>/s/ AMY L. JOHNSON</u> (Amy L. Johnson)	Corporate Vice President and Controller (Principal Accounting Officer)	February 11, 2022
<u>/s/ TRACY A. ATKINSON *</u> (Tracy A. Atkinson)	Director	February 11, 2022
<u>/s/ BERNARD A. HARRIS, JR. *</u> (Bernard A. Harris, Jr.)	Director	February 11, 2022
<u>/s/ MARSHALL O. LARSEN *</u> (Marshall O. Larsen)	Director	February 11, 2022
<u>/s/ GEORGE R. OLIVER *</u> (George R. Oliver)	Director	February 11, 2022
<u>/s/ ROBERT K. ORTBERG *</u> (Robert K. Ortberg)	Director	February 11, 2022
<u>/s/ MARGARET L. O'SULLIVAN *</u> (Margaret L. O'Sullivan)	Director	February 11, 2022
<u>/s/ DINESH C. PALIWAL *</u> (Dinesh C. Paliwal)	Director	February 11, 2022
<u>/s/ ELLEN M. PAWLIKOWSKI *</u> (Ellen M. Pawlikowski)	Director	February 11, 2022
<u>/s/ DENISE L. RAMOS *</u> (Denise L. Ramos)	Director	February 11, 2022
<u>/s/ FREDRIC G. REYNOLDS *</u> (Fredric G. Reynolds)	Director	February 11, 2022
<u>/s/ BRIAN C. ROGERS *</u> (Brian C. Rogers)	Director	February 11, 2022
<u>/s/ JAMES A. WINNEFELD, JR. *</u> (James A. Winnefeld, Jr.)	Director	February 11, 2022
<u>/s/ ROBERT O. WORK *</u> (Robert O. Work)	Director	February 11, 2022

*By: /s/ RAMSARAN MAHARAJH, JR.
Ramsaran Maharajh, Jr.
Executive Vice President and General Counsel

Date: February 11, 2022

RAYTHEON TECHNOLOGIES CORPORATION AND SUBSIDIARIES
SCHEDULE II - Valuation and Qualifying Accounts
Three years ended December 31, 2021
(Millions of Dollars)

Future Income Tax Benefits—Valuation allowance:	
Balance, December 31, 2018 ⁽¹⁾	\$ 605
Additions charged to income tax expense	117
Additions charged to goodwill, due to acquisitions	2
Reductions credited to income tax expense	(15)
Other adjustments	(93)
Balance, December 31, 2019 ⁽¹⁾	616
Additions charged to income tax expense	581
Additions charged to goodwill, due to acquisitions	29
Reductions credited to income tax expense	(36)
Other adjustments, including the Separation of Carrier and Otis	(433)
Balance, December 31, 2020	757
Additions charged to income tax expense	136
Reductions credited to goodwill, due to acquisitions	(19)
Reductions credited to income tax expense	(37)
Other adjustments	(12)
Balance, December 31, 2021	\$ 825

(1) Amounts prior to 2020 within this schedule include valuation allowances related to discontinued operations.

Raytheon Technologies Corporation
Subsidiary and Affiliate Listing
December 31, 2021

<u>Entity Name</u>	<u>Place of Incorporation</u>
B/E Aerospace (UK) Limited	United Kingdom
B/E Aerospace B.V. - Philippines	Philippines
B/E Aerospace, Inc.	Delaware
Commonwealth Luxembourg Holdings S.à r.l.	Grand-Duchy of Luxembourg
Delancey Limited Partnership	Delaware
Eagle Services Asia Private Limited	Singapore
Goodrich Actuation Systems Limited	United Kingdom
Goodrich Actuation Systems SAS	France
Goodrich Aerospace Canada Ltd	Ontario
Goodrich Control Systems	United Kingdom
Goodrich Corporation	New York
Goodrich XCH GmbH	Switzerland
Hamilton Sundstrand Corporation	Delaware
Hamilton Sundstrand de Puerto Rico, Inc.	Delaware
Hamilton Sundstrand Poland Sp. z o.o.	Poland
Hamilton Sundstrand Space Systems International, Inc.	Delaware
IAE International Aero Engines AG	Switzerland
Keeney Hill Limited	United Kingdom
Kidde Technologies Inc.*	Delaware
Latin American Holding, Inc.	Delaware
Nicoll Holdings S.a.r.l.	Grand-Duchy of Luxembourg
NLX Holding Corporation	Delaware
Pearl Elise Holdings LLC	Delaware
Pratt & Whitney Aero Engines International GmbH	Switzerland
Pratt & Whitney Air New Zealand Services	New Zealand
Pratt & Whitney Canada Corp.	Nova Scotia
Pratt & Whitney Canada Distribution USA, LLC	Delaware
Pratt & Whitney Canada Leasing, Limited Partnership	Québec
Pratt & Whitney Component Solutions, Inc.	Michigan
Pratt & Whitney Engine Services, Inc.	Delaware
Pratt & Whitney Materials International Sarl	Switzerland
Pratt & Whitney Military Aftermarket Services, Inc.	Delaware
Pratt & Whitney PurePower Engine Canada Distribution Corp. /Distribution Canada Pratt & Whitney Moteur PurePower Cie	Nova Scotia
Pratt & Whitney Rzeszow S.A.	Poland
Pratt & Whitney THY Teknik Ucak Motoru Bakim Merkezi Limited Sirketi	Turkey
Range Generation Next, LLC	Delaware
Ratier-Figeac, SAS	France
Raytheon Australia Pty Ltd	Australia
Raytheon Company	Delaware
Raytheon Systems Limited	United Kingdom
Raytheon Technologies Corporation	Delaware

Raytheon Technologies Corporation
Subsidiary and Affiliate Listing
December 31, 2021

<u>Entity Name</u>	<u>Place of Incorporation</u>
Rockwell Collins France S.A.S	France
Rockwell Collins, Inc.	Delaware
Rohr, Inc.	Delaware
Rosemount Aerospace Inc.	Delaware
RTX Canada Holdings, Inc.	Delaware
RTX Canada I ULC	Nova Scotia
Shanghai Pratt & Whitney Aircraft Engine Maintenance Company Limited	China
Simmonds Precision Products, Inc.	New York
UT Luxembourg Holding II S.à r.l.	Grand-Duchy of Luxembourg

* Kidde Technologies Inc. also conducts business as Kidde Aerospace & Defense, Fenwal Safety Systems and Kidde Dual Spectrum.

Other subsidiaries of the Registrant have been omitted from this listing since, considered in the aggregate as a single subsidiary, they would not constitute a significant subsidiary, as defined by Rule 1-02 of Regulation S-K.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement on Form S-3 (No. 333-234027) and in the Registration Statements on Form S-8 (Nos. 333-237576, 333-234086, 333-234085, 333-234084, 333-228649, 333-225839, 333-207193, 333-197704, 333-183123, 333-177517, 333-175781, 333-150643, 333-125293, 333-110020, 333-100724, 333-100723 and 333-100718) of Raytheon Technologies Corporation of our report dated February 11, 2022 relating to the financial statements and financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Boston, Massachusetts
February 11, 2022

RAYTHEON TECHNOLOGIES CORPORATION
Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ TRACY A. ATKINSON

Tracy A. Atkinson

RAYTHEON TECHNOLOGIES CORPORATION

Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ BERNARD A. HARRIS, JR.

Bernard A. Harris, Jr.

RAYTHEON TECHNOLOGIES CORPORATION
Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ MARSHALL O. LARSEN

Marshall O. Larsen

RAYTHEON TECHNOLOGIES CORPORATION
Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ GEORGE R. OLIVER

George R. Oliver

RAYTHEON TECHNOLOGIES CORPORATION
Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ ROBERT K. ORTBERG

Robert K. Ortberg

RAYTHEON TECHNOLOGIES CORPORATION

Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ MARGARET L. O'SULLIVAN

Margaret L. O'Sullivan

RAYTHEON TECHNOLOGIES CORPORATION
Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ DINESH C. PALIWAL

Dinesh C. Paliwal

RAYTHEON TECHNOLOGIES CORPORATION
Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ ELLEN M. PAWLIKOWSKI

Ellen M. Pawlikowski

RAYTHEON TECHNOLOGIES CORPORATION

Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ DENISE L. RAMOS

Denise L. Ramos

RAYTHEON TECHNOLOGIES CORPORATION

Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ FREDRIC G. REYNOLDS

Fredric G. Reynolds

RAYTHEON TECHNOLOGIES CORPORATION
Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ BRIAN C. ROGERS

Brian C. Rogers

RAYTHEON TECHNOLOGIES CORPORATION

Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ JAMES A. WINNEFELD, JR.

James A. Winnefeld, Jr.

RAYTHEON TECHNOLOGIES CORPORATION

Power of Attorney

The undersigned, as a member of the Board of Directors, or as an officer of RAYTHEON TECHNOLOGIES CORPORATION, a Delaware corporation (the "Corporation"), or as a member of a committee of said Board, or in all of said capacities, hereby constitutes and appoints GREGORY J. HAYES, NEIL G. MITCHILL, JR. and RAMSARAN MAHARAJH, JR., or any one of them, his or her true and lawful attorneys and agents to do any and all acts and things and execute any and all instruments which the said attorneys and agents may deem necessary or advisable to enable the Corporation to comply with the Securities Exchange Act of 1934 and any rules and regulations and requirements of the Securities and Exchange Commission in respect thereof in connection with the filing of the Annual Report of the Corporation on Form 10-K for the fiscal year ended December 31, 2021, including specifically, but without limiting the generality of the foregoing, the power and authority to sign the name of the undersigned, in the capacities aforesaid or in any other capacity, to such Form 10-K Annual Report filed or to be filed with the Securities and Exchange Commission, and any and all amendments to the said Form 10-K Annual Report, and any and all instruments and documents filed as a part of or in connection with the said Form 10-K Annual Report or any amendments thereto; hereby ratifying and confirming all that the said attorneys and agents, or any one of them, have done, shall do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed this 11th day of February, 2022.

/s/ ROBERT O. WORK

Robert O. Work

CERTIFICATION

I, Gregory J. Hayes, certify that:

1. I have reviewed this annual report on Form 10-K of Raytheon Technologies Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 11, 2022

/s/ GREGORY J. HAYES

Gregory J. Hayes
President and Chief Executive Officer

CERTIFICATION

I, Neil G. Mitchill, Jr., certify that:

1. I have reviewed this annual report on Form 10-K of Raytheon Technologies Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 11, 2022

/s/ NEIL G. MITCHILL, JR.

Neil G. Mitchill, Jr.

Executive Vice President and Chief Financial Officer

CERTIFICATION

I, Amy L. Johnson, certify that:

1. I have reviewed this annual report on Form 10-K of Raytheon Technologies Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 11, 2022

/s/ AMY L. JOHNSON

Amy L. Johnson

Corporate Vice President and Controller

Section 1350 Certifications
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of Raytheon Technologies Corporation, a Delaware corporation (the "Corporation"), does hereby certify that:

The Annual Report on Form 10-K for the year ended December 31, 2021 (the "Form 10-K") of the Corporation fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Corporation.

Date: February 11, 2022

/s/ GREGORY J. HAYES

Gregory J. Hayes
President and Chief Executive Officer

Date: February 11, 2022

/s/ NEIL G. MITCHILL, JR.

Neil G. Mitchill, Jr.
Executive Vice President and Chief Financial Officer

Date: February 11, 2022

/s/ AMY L. JOHNSON

Amy L. Johnson
Corporate Vice President and Controller