

**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, 2020
or

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 1-7221

MOTOROLA SOLUTIONS, INC.

(Exact name of registrant as specified in its charter)

Delaware **36-1115800**
(State of Incorporation) (I.R.S. Employer Identification No.)

500 W. Monroe Street, Chicago, Illinois 60661
(Address of principal executive offices, zip code)

(847) 576-5000
Registrant's telephone number, including area code:

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

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock	MSI	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 15(d) of the Securities Exchange Act of 1934. 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 during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a 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. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company Emerging growth company

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. Yes No

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

The aggregate market value of voting and non-voting common equity held by non-affiliates of the registrant as of June 26, 2020 (the last business day of the Registrant's most recently completed second quarter) was approximately \$18.0 billion.

The number of shares of the registrant's Common Stock, \$.01 par value per share, outstanding as of February 1, 2021 was 169,028,294.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement to be delivered to stockholders in connection with its Annual Meeting of Stockholders to be held on May 18, 2021 (the "Proxy Statement"), are incorporated by reference into Part III of this Annual Report on Form 10-K (this "Form 10-K").

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Throughout this Form 10-K we “incorporate by reference” certain information in parts of other documents filed with the Securities and Exchange Commission (the “SEC”). The SEC allows us to disclose important information by referring to it in that manner. Please refer to such information.

“Motorola Solutions” (which may be referred to as the “Company,” “we,” “us,” or “our”) means Motorola Solutions, Inc. or Motorola Solutions, Inc. and its subsidiaries, or one of our segments, as the context requires. MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo, as well as iDEN are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license.

Forward-Looking Statements

Statements in this Form 10-K which are not historical in nature are forward-looking statements within the meaning of applicable federal securities law. These statements are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and generally include words such as “believes,” “expects,” “intends,” “aims,” “estimates” and similar expressions. We can give no assurance that any future results or events discussed in these statements will be achieved. Any forward-looking statements represent our views only as of today and should not be relied upon as representing our views as of any subsequent date. Readers are cautioned that such forward-looking statements are subject to a variety of risks and uncertainties that could cause our actual results to differ materially from the statements contained in this Form 10-K. Some of these risks and uncertainties include, but are not limited to, those discussed in “Part I. Item 1A. Risk Factors” of this Form 10-K and those described elsewhere in this Form 10-K or in our other SEC filings. Forward-looking statements include, but are not limited to, statements under the following headings: (1) “Business,” about: (a) industry growth and demand, including opportunities resulting from such growth, (b) future product development and the demand for, growth related to, and benefits of, new products, (c) growth of sales with existing customers, (d) customer spending and requests for vendor financing, (e) the impact of our strategy and focus areas, (f) the impact from the loss of key customers, (g) competitive position and our ability to maintain a leadership position in our core products, (h) increased competition, (i) our practice of subcontracting work to other companies to fulfill customer needs, (j) the continuing and future impact of the COVID-19 pandemic on our business, (k) the impact of recent acquisitions on our business, (l) the impact of regulatory matters, (m) the impact from the allocation and regulation of spectrum, particularly with respect to broadband spectrum, (n) the firmness of each segment's backlog, (o) the competitiveness of the patent portfolio, (p) the impact of research and development, (q) the availability of materials and components, energy supplies and labor, (r) the seasonality of the business, (s) our human capital management strategy and philosophy, and (t) our capital deployment model; (2) “Legal Proceedings,” about the ultimate disposition of pending legal matters and timing; (3) “Management's Discussion and Analysis of Financial Condition and Results of Operations,” about: (a) the continuing and future impact of COVID-19 on our business, (b) the impact of global economic and political conditions on our business, (c) the impact of acquisitions on our business, (d) market growth/contraction, demand, spending and resulting opportunities, (e) industry growth and demand, including opportunities resulting from such growth, (f) future product development and demand for, growth related to, and benefits of, new products, (g) the impact of foreign exchange rate fluctuations, (h) our continued ability to reduce our operating expenses, (i) expected improvements in operating leverage and operating margins, (j) the growth of sales opportunities in our Video Security and Analytics, Command Center Software and LMR Mission Critical Communications technologies, (k) the return of capital to shareholders through dividends and/or repurchasing shares, (l) our ability to invest in capital expenditures and research and development, (m) the success of our business strategy and portfolio, (n) future payments, charges, use of accruals and expected cost-saving and profitability benefits associated with our reorganization of business programs and employee separation costs, (o) our ability and cost to repatriate funds, (p) future cash contributions to pension plans or retiree health benefit plans, (q) the liquidity of our investments, (r) our ability and cost to access the capital markets, (s) our ability to borrow and the amount available under our credit facilities, (t) our ability to settle the principal amount of the New Senior Convertible Notes (as defined below) in cash, (u) our ability and cost to obtain performance bonds, (v) adequacy of internal resources to fund expected working capital and capital expenditure measurements, (w) expected payments pursuant to commitments under long-term agreements, (x) the ability to meet minimum purchase obligations, (y) our ability to sell accounts receivable and the terms and amounts of such sales, (z) the outcome and effect of ongoing and future legal proceedings, (aa) the impact of the loss of key customers, and (bb) the expected effective tax rate and deductibility of certain items, and (cc) the impact of the adoption of accounting pronouncements on our financial results; and (4) “Quantitative and Qualitative Disclosures about Market Risk,” about: (a) the impact of foreign currency exchange risks, (b) the impact of interest rate risk, (c) future hedging activity and expectations of the Company, and (d) the ability of counterparties to financial instruments to perform their obligations.

PART I

Item 1: Business

Overview

Motorola Solutions is a global leader in mission critical communications and analytics. Our technologies in Land Mobile Radio Mission Critical Communications (“LMR” or “LMR Mission Critical Communications”), Command Center Software and Video Security and Analytics, bolstered by managed and support services, make communities safer and help businesses stay productive and secure. We serve more than 100,000 public safety and commercial customers in over 100 countries, providing “purpose-built” solutions designed for their unique needs, and we have a rich heritage of innovation focusing on advancing global safety for more than 90 years.

We are incorporated under the laws of the State of Delaware as the successor to an Illinois corporation, Motorola, Inc., organized in 1928. We changed our name from Motorola, Inc. to Motorola Solutions, Inc. on January 4, 2011. Our principal executive offices are located at 500 W. Monroe St., Chicago, Illinois 60661.

Business Organization

We manage our business organizationally through two segments: “Products and Systems Integration” and “Software and Services.” Within these segments, the Company has principal product lines that also follow our three major technologies: LMR Mission Critical Communications, Command Center Software, and Video Security and Analytics.

- LMR Mission Critical Communications: Infrastructure, devices (two-way radio and broadband) and software that enable communications, inclusive of installation and integration, backed by services, to assure availability, security and resiliency.
- Command Center Software: Software suite that enables collaboration and seamless information sharing through the public safety workflow from 911 call to case closure.
- Video Security and Analytics: Cameras (fixed, body-worn, in-vehicle), access control, infrastructure, video management, software and artificial intelligence-enabled analytics that enable visibility “on scene” and bring attention to what’s important.

The Company has invested across these three technologies, evolving the Company’s LMR focus to purposefully integrate software, video security and analytics solutions for public safety and enterprise customers globally.

Our strategy is to generate value through the integration of each technology into our ecosystem, uniting voice, software, video and analytics to interoperate. While each technology individually strives to make users safer and more productive, we believe we can enable better outcomes between individuals, businesses and agencies united as one connected system. With our interplay of technologies, our goal is to help remove silos between systems, unify data, streamline workflows, simplify management and support evolving technologies. Examples of such interplay include sharing video feeds from a school to a police command center and officers’ devices in the field to improve situational awareness, uploading field reports or crime scene photos directly into an agency’s evidence system to save administration time, and connecting teams across networks to ensure messages are easily shared and teams can work as one. Our goal is to integrate technologies according to customers’ desired operational outcomes so they can work faster, smarter and more safely. Across all three technologies, we offer cloud-based solutions, cybersecurity services and managed and support services.

The principal products within each segment, by technology, are described below:

Products and Systems Integration Segment

In 2020, the segment’s net sales were \$4.6 billion, representing 63% of our consolidated net sales.

LMR Mission Critical Communications

Our LMR Mission Critical Communications technology includes infrastructure and devices for LMR, public safety Long Term Evolution (“LTE”) and enterprise-grade private LTE. We are a global leader in the two-way radio category, including Project 25 (“P25”), Terrestrial Trunked Radio (“TETRA”) and Digital Mobile Radio (“DMR”), as well as other professional and commercial radio (“PCR”) solutions. We also deliver LTE solutions for public safety, government and commercial users, including infrastructure and devices operating in 700 MHz, 900 MHz and Citizens’ Broadband Radio Service (“CBRS”) frequencies. Primary sources of revenue for this technology come from selling devices and building telecommunications networks, including infrastructure, installation and integration with our customers’ technology environments.

Our technology enables voice and multimedia collaborations across different two-way radio, WiFi or public LTE and private broadband networks. We believe that first responders continue to trust LMR communications because they are purpose-built and designed for reliability, availability, security and resiliency to withstand the most challenging conditions. By adding broadband data capabilities to our two-way radios, we strive to provide our customers greater functionality and access to the information and data they need in their workflows. Examples of such functionality include application services such as GPS location to better protect lone workers and over-the-air programming and updates to optimize device uptime.

The LMR technology within the Products and Systems Integration segment represented 86% of the net sales of the total segment in 2020.

Video Security and Analytics

Our Video Security and Analytics technology includes network video management infrastructure, fixed security and mobile video cameras (body-worn and in-vehicle) and access control solutions. We deploy video security solutions to thousands of government and commercial customers around the world including school campuses, transportation systems, healthcare centers, public venues, utilities, prisons, factories, casinos, airports, financial institutions, government facilities, state and local law enforcement agencies and retailers. Organizations such as these utilize video security to enable continuous monitoring that can improve situational awareness, particularly across large areas, and to visually verify critical events or incidents in real-time or investigate after they happen.

Our view is that government and public safety customers in particular are increasingly turning to video security technologies, including fixed street cameras, in-vehicle cameras and body-worn cameras, to increase visibility, accountability and safety for citizens, communities and first responders alike.

We have built our video security and analytics technology through strategic acquisitions. We acquired Avigilon Corporation (“Avigilon”) in 2018. Avigilon access control solutions, in addition to cameras, sensors and infrastructure embedded with advanced video analytics, are designed to be simple and easy to use. We expanded our fixed video security technology through our acquisitions of IndigoVision Group plc and Pelco, Inc. in 2020. We grew our mobile video security technology in 2019 through our acquisitions of WatchGuard Inc., which provides body-worn cameras and in-vehicle video systems for North America law enforcement agencies, and Edesix Ltd (acquired as part of the VaaS International Holdings acquisition), a provider of body-worn cameras in Europe for both law enforcement and commercial markets.

The Video Security and Analytics technology within the Products and Systems Integration segment represented 14% of the net sales of the total segment in 2020.

Software and Services Segment

In 2020, the segment’s net sales were \$2.8 billion, representing 37% of our consolidated net sales.

LMR Mission Critical Communications

LMR Mission Critical Communications services include support and managed services, which offer a broad continuum of support for our customers. Support services include repair and replacement, technical support and preventative maintenance, and more advanced offerings such as system monitoring, software updates and cybersecurity services. Managed services range from partial to full operational support of customer-owned or Motorola Solutions-owned networks. Our customers’ systems often have multi-year or multi-decade lifespans that help drive demand for software upgrades, device and infrastructure refresh opportunities, as well as additional services to monitor, manage, maintain and secure these complex networks and solutions. We strive to deliver services to our customers that help improve performance across their systems, devices and applications for greater safety and productivity.

Given the mission-critical nature of our customers’ LMR networks, availability, security and resiliency are imperative, along with keeping pace with technological advancements. We have a comprehensive approach to system upgrades that addresses hardware, software and implementation services. As new system releases become available, we work with our customers to upgrade software, hardware, or both, with respect to site controllers, comparators, routers, LAN switches, servers, dispatch consoles, logging equipment, network management terminals, network security devices such as firewalls and intrusion detection sensors, and more, on-site or remotely.

The LMR technology within the Software and Services segment represented 72% of the net sales of the total segment in 2020.

Command Center Software

Our Command Center Software suite, CommandCentral, supports the complex process of the public safety workflow from “911 call to case closure,” which involves an array of roles from the moment a citizen dials 911, such as dispatchers who route calls to police, fire and emergency medical services, first responders in the field, intelligence analysts who manage real-time operations, records specialists who preserve the integrity of information and evidence, crime analysts who identify patterns and accelerate investigations, and corrections officers who oversee jail and inmate management.

CommandCentral software supports these roles through the three phases of incident response: incident awareness, incident management and post-incident resolution. Incident awareness software includes community engagement applications for tip submissions, crime mapping and evidence submission, and 911 call-handling software (including multimedia) and next-generation core services for 911 call routing. Incident management software includes computer aided dispatch (“CAD”) for dispatch and coordinating first response, situational awareness software that shows a single, real-time view of video feeds and other alerts on a map, and field response and reporting to help frontline personnel collaborate, manage incident activity and file reports from the field. Post-incident resolution software includes centralized records and evidence management for record-keeping and judicial sharing, analytics including license plate recognition, and jail and inmate management to streamline the process and enable secure inter-agency information sharing.

As the public safety market continues to evolve toward software offerings that more efficiently run their operations, reduce response times and increase officer availability, we have focused on providing cloud-based software-as-a service (“SaaS”) with ancillary implementation and managed services in addition to on-premises solutions. Our PremierOne Cloud suite, hosted in Microsoft Azure Government, includes CAD, mobile and records in a single, integrated cloud-based offering. We believe that cloud deployment delivers agencies key benefits, including faster deployment, increased security, rapid scaling in the event of an emergency and a secure investment that keeps pace as technology advances.

Another area of public safety evolution is increasing adoption of Next Generation 911 Core Services (“NGCS”), a group of products and services needed to create infrastructure connectivity in order to process a 911 call using Next Generation (“NG”) technology. The NG infrastructure is an Emergency Service IP Network (“ESInet”), which can carry voice, data and multimedia. ESInet enables 911 call takers at public safety answering points to respond to text, video and data. Our NGCS can be offered as a managed service and includes call routing, ESInet, location services, Geographic Information Services, cybersecurity and our continuous network and security operations center dedicated to public safety. We believe that our solution is differentiated through its integration with our CommandCentral software suite to simplify the agency’s workflow and ensure better incident management and real-time intelligence.

Additional Command Center Software includes interoperability software that ensures communication is not limited by coverage area, network technology or device type. Our solutions, including Kodiak, WAVE PTX and CriticalConnect, enable

interoperability among devices across multiple networks. For example, a two-way radio network can connect with an LTE network making it possible for individuals to communicate securely and more easily across technologies.

The Command Center Software technology within the Software and Services segment represented 18% of the net sales of the total segment in 2020.

Video Security and Analytics

Video Security and Analytics software includes video network management software, digital evidence management software and advanced vehicle location data analysis software, including license plate recognition, each designed to complement respective video hardware systems.

Our video network management software is embedded with artificial intelligence (“AI”)-enabled analytics to deliver operational insights to our customers by bringing attention to important events within their video footage. Given the volume of video footage, we believe this is critical to monitor and manage to deliver meaningful, action-oriented insights. For example, AI-enabled analytics can detect unusual behavior such as a person at a facility out-of-hours, locate a missing child with our Appearance Search feature at a theme park, flag a blacklisted vehicle through license plate recognition at a school, or send an alert through access control if doors are propped open at a hospital.

Video Security and Analytics services include our video-as-service offering for law enforcement, simplifying procurement by bundling hardware and software into a single subscription. Body-worn cameras and in-car video systems can be paired with either on-premises or cloud-based digital evidence management software and complementary command center software products. Additionally, Avigilon fixed video systems connected to Avigilon Cloud Services (“ACS”) provide our customers with the ability to securely access video across their sites from a remote/central monitoring location and more easily integrate with their other systems.

The Video Security and Analytics technology within the Software and Services segment represented 10% of the net sales of the total segment in 2020.

Our Customers and Contracts

We serve government agencies, state and local public safety agencies, as well as commercial and industrial customers. Our customer base is fragmented and widespread when considering the many levels of governmental and first-responder decision-makers that procure and use our products and services. Serving this global customer base spanning federal, state, county, province, territory, municipal, and departmental independent bodies, along with our commercial and industrial customers, requires a significant go-to-market investment.

Our sales model includes both direct sales by our in-house sales force, which tend to focus on our largest accounts, and sales through our channel partner program. Our trained channel partners include independent dealers, distributors, and software vendors around the world. The dealers and distributors each have their own sales organizations that complement and extend the reach of our sales force. The independent software vendors offer customized applications that meet specific needs of the customers we serve.

Our largest customers are the U.S. government (through multiple contracts with its various branches and agencies, including the armed services) and the Home Office of the United Kingdom, representing approximately 9% and 8% of our consolidated net sales in 2020, respectively. The loss of these customers could have a material adverse effect on our revenue and earnings over several quarters as many of our contracts with these governments are long-term in nature. All contracts with the U.S. government, and certain other government agencies within the U.S., are subject to cancellation at the customer’s convenience. For a discussion of risks related to government contracting requirements, please refer to “Item 1A. Risk Factors” in this Form 10-K.

Payment terms with our customers vary worldwide. Generally, contractual payment terms range from 30 to 45 days from the invoice date within North America and typically do not exceed 90 days from the invoice date in regions outside of North America. A portion of our contracts include implementation milestones, such as delivery, installation, and system acceptance, which generally take 30 to 180 days to complete. Invoicing the customer is dependent on completion of the milestones. We generally do not grant extended payment terms. As required for competitive reasons, we may provide long-term financing in connection with equipment purchases. Financing may cover all or a portion of the purchase price. Refer to “Part 1. Item 1A. Risk Factors” in this Form 10-K for a discussion of risks related to requests by customers to provide vendor financing.

Generally, our contracts do not include a right of return, other than for standard warranty provisions. Due to customer purchasing patterns and the cyclical nature of the markets we serve, our sales tend to be somewhat higher in the second half of the year, with the fourth quarter being the highest.

Competition

We operate in highly competitive markets that are sensitive to technological advances. Competitive factors in these markets include product quality and reliability, technological capabilities, cost-effectiveness, and industry experience. In operating in these competitive markets, we have broadened how we work with our customers, expanding from our global LMR installed base to integrate Command Center Software and Video Security and Analytics. For example, our Command Center Software suite can integrate our customers’ LMR systems to provide unified voice and data information throughout the critical 911 workflow. Adding Video Security and Analytics enables multimedia collaboration and offers visibility for police officers within the

command center and in the field. The interplay of technologies, guided by our deep knowledge of the public safety workflow, delivers customers one connected system to unify their voice, data and video communication streams.

The specific solutions we integrate vary according to customers' requirements. We support our customers from various technological starting points, for example, we may integrate a customer's video system into a Command Center Software suite to simplify access to technologies that such customer uses to support its operations.

We experience widespread competition from a growing number of existing and new competitors, including large system integrators and manufacturers of private and public wireless network equipment and devices. As demand for fully integrated voice, data, broadband systems and video solutions continues to grow, we may face additional competition from public telecommunications carriers and telecommunications equipment providers to small video solutions startups.

As we continue to evolve our services strategy, we may subcontract work to other companies to fulfill customer needs in geographical areas that we do not have coverage or for additional services that we do not provide. For a description of risks related to our use of the services of subcontractors, refer to "Part 1. Item 1A. Risk Factors" of this Form 10-K.

Our major competitors within our LMR, Command Center Software, and Video Security and Analytics technologies include the following companies:

Technology	Competitor
LMR	L3Harris Technologies, Inc., Hytera, Airbus SE, Kenwood Corporation
Command Center Software	Central Square Technologies, Axon Enterprise, Inc., Tyler Technologies, Inc., West Corporation, Intergraph Corporation, Zetron, ComTech
Video Security and Analytics	Axis Communications, Hikvision, Dahua Technology Company, Hanwha Group, Genetec Inc., Axon Enterprise, Inc.

COVID-19

In response to the COVID-19 pandemic, there have been a broad number of governmental and commercial actions taken to limit the spread of the virus, including social distancing measures, stay-at-home orders, travel restrictions, business shutdowns and slowdowns. These actions have resulted in a significant decline in global economic activity. The COVID-19 pandemic negatively affected our sales and operating results for fiscal 2020, and may continue to have an impact on our financial condition, results of operations and liquidity in 2021. See "Part II. Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" of this Form 10-K for a discussion regarding the impact of the COVID-19 pandemic on our financial results, and "Part I. Item 1A. Risk Factors" of this Form 10-K for a discussion of the risks and uncertainties associated with the COVID-19 pandemic.

Other Information

Backlog

Our backlog includes orders that have been received and are believed to be firm. As of December 31, 2020 and December 31, 2019, our backlog was as follows:

<i>(In millions)</i>	<i>December 31</i>	
	2020	2019
Products and Systems Integration	\$ 3,120	\$ 3,158
Software and Services	8,314	8,101
	\$ 11,434	\$ 11,259

Approximately 47% of the Products and Systems Integration segment backlog and 24% of the Software and Services segment backlog is expected to be recognized as revenue during 2021. The firmness of such orders is subject to future events that may cause the amount recognized to change.

Recent Acquisitions

Technology	Segment	Acquisition	Description	Purchase Price	Date of Acquisition
Command Center Software	Software and Services	Callyo	Provider of cloud-based mobile applications for law enforcement in North America, including critical mobile technological capabilities that enable information to flow seamlessly from the field to the command center.	\$63 million, inclusive of share-based compensation of \$3 million	August 28, 2020
Video Security and Analytics	Products and Systems Integration Software and Services	Pelco, Inc.	Global provider of video security solutions, adding a broad range of products for a variety of commercial and industrial environments and use cases.	\$110 million	July 31, 2020
Video Security and Analytics	Products and Systems Integration Software and Services	IndigoVision Group plc	Provider of video security solutions to enhance geographical reach across a wider customer base.	\$37 million	June 16, 2020
LMR	Software and Services	Unnamed cybersecurity services business	Provider of vulnerability assessments, cybersecurity consulting, and managed services, including security monitoring of network operations.	\$32 million	April 30, 2020
LMR	Software and Services	Unnamed cybersecurity services business	Provider of vulnerability assessments, cybersecurity consulting, managed services, and remediation and response capabilities.	\$40 million, inclusive of share-based compensation of \$6 million	March 3, 2020
Video Security and Analytics	Software and Services	Unnamed data solutions business for vehicle location information	Provider of additional data to our existing license plate recognition database.	\$85 million	October 16, 2019
Video Security and Analytics	Products and Systems Integration Software and Services	WatchGuard, Inc.	Provider of in-car and body-worn video solutions.	\$271 million, inclusive of share-based compensation of \$16 million	July 11, 2019
LMR	Products and Systems Integration Software and Services	Avtec, Inc.	Provider of dispatch communications for U.S. public safety and commercial customers to communicate, coordinate resources, and secure their facilities.	\$136 million	March 11, 2019
Video Security and Analytics	Products and Systems Integration Software and Services	VaaS International Holdings	Global provider of data and image analytics for vehicle location.	\$445 million, inclusive of share-based compensation of \$38 million	January 7, 2019
Video Security and Analytics	Products and Systems Integration Software and Services	Avigilon Corporation	Provider of advanced security and video solutions including video analytics, network video management hardware and software, video cameras, and access control solutions.	\$974 million	March 28, 2018
Command Center Software	Software and Services	Plant Holdings, Inc.	Provider of next generation 911 solutions.	\$237 million	March 7, 2018

Research and Development

We prioritize investments in R&D to expand and improve our products through both new product introductions and continuous enhancements to our core products. Our R&D programs are focused on the development of: (i) LMR Mission Critical Communications, (ii) Command Center Software and (iii) Video Security and Analytics.

R&D expenditures were \$686 million in 2020, \$687 million in 2019, and \$637 million in 2018. As of December 31, 2020, we had approximately 6,000 employees engaged in R&D activities. In addition, we engage in R&D activities with joint development and manufacturing partners and outsource certain activities to engineering firms to further supplement our internal spend.

Intellectual Property Matters

Patent protection is an important aspect of our operations. We have a portfolio of U.S. and foreign utility and design patents relating to our products, systems, and technologies, including developments in radio frequency technology and circuits, wireless network technologies, over-the-air protocols, mission critical communications, software and services, video security and analytics and next-generation public safety. We also file new patent applications with the U.S. Patent and Trademark Office and foreign patent offices.

We license some of our patents to third-parties, but licensing is not a significant source of revenue for our business. We are also licensed to use certain patents owned by others. Royalty and licensing fees vary from year-to-year and are subject to the terms of the agreements and sales volumes of the products subject to the license. Motorola Solutions has a royalty-free license under all of the patents and patent applications assigned to Motorola Mobility at the time of the separation of the two businesses in 2011.

We actively participate in the development of standards for interoperable, mission critical digital two-way radio systems. Our patents are used in standards in which our products and services are based. We offer standards-based licenses to those patents on fair, reasonable, and non-discriminatory terms.

We believe that our patent portfolio will continue to provide us with a competitive advantage in our core product areas as well as provide leverage in the development of future technologies. While we are not dependent upon a single patent or even a few patents, we do have patents that protect features and functionality of our products and services. While these patents are important, our success also depends upon our extensive know-how, innovative culture, technological leadership, and distribution channels. We do not rely solely on patents or other intellectual property rights to protect or establish our market position; however, we will enforce our intellectual property rights when it is necessary to protect our innovation, or in some cases where attempts to negotiate mutually-agreeable licenses are not successful.

We seek to obtain patents, copyright registrations, and trademark registrations to protect our proprietary positions whenever possible and wherever practical. As of December 31, 2020, we owned approximately 6,100 granted patents in the U.S. and foreign countries. As of December 31, 2020, we had approximately 1,300 U.S. and foreign patent applications pending. Foreign patents and patent applications are mostly counterparts of our U.S. patents. During 2020, we were granted approximately 500 patents in the U.S. and in foreign countries.

We no longer own certain logos and other trademarks, trade names and service marks, including MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M logo and all derivatives thereof ("Motorola Marks") and, since 2010, we have licensed the Motorola Marks from Motorola Mobility Holdings, Inc. which is currently owned by Lenovo Group Limited. For a description of the risks we face related to intellectual property, refer to "Part 1. Item 1A. Risk Factors" in this Form 10-K.

Inventory and Raw Materials

Our practice is to carry reasonable amounts of inventory to meet customers' delivery requirements. We provide custom products that require the stocking of inventories and a large variety of piece parts and replacement parts in order to meet delivery and warranty requirements. To the extent supplier product life cycles are shorter than ours, stocking of lifetime buy inventories is required to meet long-term warranty and contractual requirements. In addition, replacement parts are stocked for delivery on customer demand within a short delivery cycle.

Availability of required materials and components is generally dependable; however, fluctuations in supply and market demand could cause selective shortages and affect our results of operations. We currently procure certain materials and components from single-source vendors. In addition, we import materials and components that are subject to import duties, including tariffs in connection with products procured in China. The duties and tariffs we are subject to do not have a significant impact on our financial results. A material disruption from a single-source vendor may have a material adverse impact on our results of operations. If certain single-source suppliers were to become capacity constrained or insolvent, it could result in a reduction or interruption in supplies, or an increase in the price of supplies, and adversely impact our financial results.

Natural gas, electricity and, to a lesser extent, oil are the primary sources of energy for our manufacturing operations. Each of these resources is currently in adequate supply for our operations. The cost to operate our facilities and freight costs are dependent on world oil prices and external third-party logistics rates for inbound and outbound air lanes. Labor is generally available in reasonable proximity to our manufacturing facilities and the manufacturing facilities of our largest outsourced manufacturing suppliers. Difficulties in obtaining any of the aforementioned resources, or significant cost increases, could affect our financial results. For a description of risks related to our supply chain, refer to "Part 1. Item 1A. Risk Factors" in this Form 10-K.

Government Regulations

Some of our operations use substances regulated under various federal, state, local, and international laws governing the environment and worker health and safety, including those governing the discharge of pollutants into the ground, air, and water, the management and disposal of hazardous substances and wastes, and the cleanup of contaminated sites, as well as relating to the protection of the environment. Certain products of ours are subject to various federal, state, local, and international laws governing chemical substances in electronic products. Compliance with these U.S. federal, state and local, and international laws did not have a material effect on our capital expenditures or competitive position in 2018 through 2020; however, we recorded a \$57 million charge in 2018 once to address additional remediation requirements for a designated Superfund site under the Comprehensive Environmental Response, Compensation and Liability Act (commonly known as the “Superfund Act”) incurred by a legacy business.

Radio spectrum is required to provide wireless voice, data, and video communications service. The allocation of spectrum is regulated in the U.S. and other countries and limited spectrum is allocated to wireless services and specifically to public safety users. We manufacture and market products in spectrum bands already allocated by regulatory bodies. These include voice and data infrastructure, mobile radios, and portable or hand-held devices. Consequently, our results could be positively or negatively affected by the rules and regulations adopted by regulatory agencies. Our products operate both on licensed and unlicensed spectrum. The availability of additional radio spectrum may provide new business opportunities. Conversely, the loss of available radio spectrum may result in the loss of business opportunities. Regulatory changes in current spectrum bands (e.g., the sharing of previously dedicated or other spectrum) may also provide opportunities or may require modifications to some of our products so they can continue to be manufactured and marketed.

The U.S. federal government and many state and local governments have adopted or are considering laws or regulations governing the use of artificial intelligence, biometrics, facial recognition and license plate recognition technology, primarily based on concerns about privacy or bias. (References to privacy-related legislation or laws in this document encompass all of these technologies.) Similar laws and regulations are being considered in some jurisdictions outside the U.S., including the European Union. Based on growing demands for broadband, regulators continue to consider repurposing narrowband spectrum to broadband. There are calls for more stringent health and safety requirements for occupational equipment for public safety and commercial users. Attention in the U.S. on supply chain vulnerabilities related to country of origin and national security continues. Our entrance into new service offerings could present new or additional regulatory burdens and compliance issues. For a description of the risks we face related to regulatory matters, refer to “Part 1. Item 1A. Risk Factors” of this Form 10-K.

Human Capital Management

We have a “people first” philosophy. Our high-performing employees are our driving force, drawn from all segments of our global society to make a difference for our customers.

As of December 31, 2020, we employed approximately 18,000 people globally with 52% in the North America region and 48% in the International region. Of our total global employees, 42% were employed in engineering. We believe a diverse, equitable and inclusive workplace is one where our employees feel that their unique opinions, cultures and abilities contribute to their personal success, as well as our company’s success.

We believe our management team has the experience necessary to effectively execute our strategy and advance our product and technology leadership. Our Chief Executive Officer and senior management leaders have extensive industry experience. They are supported by an experienced and talented management team that is dedicated to maintaining and expanding our position as a global leader for government, public safety and enterprise mission critical communications and analytics. For discussion of the risks relating to the attraction and retention of senior management and key technical employees, see “Part 1. Item 1A. Risk Factors” in this Form 10-K.

We believe the next big idea can come from anyone, anywhere, at any time. We invest in our employees’ development and training at all levels, challenging them to develop and grow skills to imagine new opportunities that will keep making a difference to public and enterprise safety. Employees have access to a wide variety of technical, functional and professional skills learning resources, including virtual, self-directed courses and on-the-job learning opportunities.

We strive for business growth by creating a supportive, fair and equitable environment where employees feel they belong and are engaged, connected to our business and invested in the collective success of our customers and communities. Our human resources team works with leaders within each business function to perform annual talent reviews to assess the performance of every team member and identify the best development opportunities. This extensive process fosters growth across our company through focus on our high performing and high potential talent and the rigor of succession plan development for our most critical roles. As part of our compensation philosophy, we strive to offer and maintain market competitive wages, incentives, and benefits for our employees in order to attract and retain superior talent.

We are focused on recruiting diverse candidates into our company by incorporating best practices into our hiring and creating partnerships with diversity organizations. In 2020, we appointed our first chief diversity officer, invested in development programs for high-potential female leaders, added an unconscious bias curriculum to our global workforce, and surveyed more than 4,000 employees to help leaders better understand the employee experience, particularly as it relates to diversity, equity and inclusion. In 2019, more than 170 leaders from all parts of the Company participated in a variety of blended learning programs that included in-person training, self-paced learning and practice activities, all geared toward building their leadership skills. In 2018, over 100 human resources professionals and hiring managers received several hours of specialized training on how to remove unconscious bias from the hiring process.

Our company-sponsored employee business councils support and promote mutual objectives of both the employees and the Company, including driving inclusion and diversity, enhancing company culture and impacting business results. As of December 31, 2020, we had six business councils: Women's Business Council, Multicultural Business Council, LGBT Business Council, People with Disabilities and Allies Council, Veterans Business Council and Global Young Professionals Group.

In 2020 we established a cross-collaborative advisory committee, the Motorola Solutions Technology Advisory Committee ("MTAC"), to ensure our technological advancements remain aligned with our purpose and ethics, and are informed by the broader implications to our customers, the communities we serve and society at large.

Additional information regarding how our purpose and ethics informs our approach to corporate responsibility can be found in our 2019 Corporate Responsibility Report, which is available on our website at www.motorolasolutions.com/en_us/about/company-overview/corporate-responsibility.html. The information contained on or accessible through our corporate website is not incorporated by reference into and is not a part of this Form 10-K.

Material Dispositions

None.

Available Information

We make available free of charge through the Investor Relations section of our website, www.motorolasolutions.com/investors, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements, other reports filed under the Securities Exchange Act of 1934 ("Exchange Act"), and all amendments to those reports simultaneously or as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. Our reports are also available free of charge on the SEC's website, www.sec.gov. Also available free of charge on our website are the following corporate governance documents:

- Motorola Solutions, Inc. Restated Certificate of Incorporation with Amendments
- Conformed Restated Certificate of Incorporation of Motorola Solutions, Inc. (amended Jan. 4, 2011)
- Certificate of Amendment to the Restated Certificate of Incorporation of Motorola, Inc. (effective Jan. 4, 2011)
- Certificate of Ownership and Merger of Motorola Name Change Corporation into Motorola, Inc. (effective Jan. 4, 2011)
- Motorola Solutions, Inc. Amended and Restated Bylaws
- Board Governance Guidelines
- Director Independence Guidelines
- Principles of Conduct for Members of the Motorola Solutions, Inc. Board of Directors
- Motorola Solutions Code of Business Conduct, which is applicable to all Motorola Solutions employees, including the principal executive officers, the principal financial officer and the controller (principal accounting officer)
- Audit Committee Charter
- Compensation and Leadership Committee Charter
- Governance and Nominating Committee Charter

All of our reports and corporate governance documents may also be obtained without charge by contacting Investor Relations, Motorola Solutions, Inc., Corporate Offices, 500 W. Monroe Street, Chicago, IL 60661, E-mail: investors@motorolasolutions.com. Our internet website and the information contained therein or incorporated therein are not intended to be incorporated into this Form 10-K.

Item 1A: Risk Factors

You should carefully consider the risks described below in addition to our other filings with the SEC and the other information set forth in this Form 10-K, including the “Management’s Discussion and Analysis of Financial Conditions and Results of Operations” section in Part II. Item 7 and our consolidated financial statements in Part II. Item 8. If any of the risks and uncertainties described in the cautionary factors described below actually occur or continue to occur, our business, financial condition and results of operations and the trading price of our common stock could be materially and adversely affected. COVID-19 amplifies and exacerbates many of the risks we face in our business operations, including those discussed below. Moreover, the risks below are not the only risks we face and additional risks not currently known to us or that we presently deem immaterial may emerge or become material at any time and may negatively impact our business, reputation, financial condition, results of operations or the trading price of our common stock.

Risks Related to Laws and Regulations

We are subject to complex and changing laws and regulations in various jurisdictions regarding privacy, data protection and information security, which exposes us to increased costs and potential liabilities in the event of any actual or perceived failure to comply with such legal obligations and could adversely affect our business.

The European Union (“E.U.”) adopted the General Data Protection Regulation (“GDPR”) which took effect on May 25, 2018 harmonizing data protection laws across the E.U. The GDPR strengthens individual privacy rights and enhances data protection obligations for processors and controllers of personal data. This includes expanded disclosures about how personal information is to be used, limitations on retention of information and mandatory data breach notification requirements. Noncompliance with the GDPR can trigger significant fines.

Also, U.S. federal, state and other foreign governments and agencies have adopted or are considering adopting laws and regulations regarding the collection, storage, use, processing and disclosure of personal data. State governments within the U.S. are starting to enact their own versions of “GDPR-like” privacy legislation which will create additional compliance challenges, risk, and administrative burden (e.g., the California Consumer Protection Act (“CCPA”) which went into effect on January 1, 2020). Even though comprehensive U.S. federal privacy legislation is being discussed seriously by lawmakers and other stakeholders, it is possible that a one-size fits all compliance program may be difficult to achieve/manage globally.

Because the interpretation and application of privacy and data protection laws are complex and still uncertain, it is possible that these laws may be interpreted and applied in a manner that is inconsistent with our existing practices or the features of our products, software and services. Cloud-based solutions may be subject to further regulation, including data localization requirements and other restrictions concerning international transfer of data, the operational and cost impact of which cannot be fully known at this time.

Any failure or perceived failure by us, our business partners, or third party service providers to comply with GDPR, CCPA, other related privacy and security-related or data protection laws, regulations and standards, or the privacy commitments in contracts could result in proceedings against us by governmental entities or others and significant fines, which could have a material adverse effect on our business and operating results and harm our reputation.

Further, some countries have or are considering legislation requiring local storage and processing of data that, if enacted, could increase the cost and complexity of offering our products, software and services or maintaining our business operations in those jurisdictions.

Existing or future legislation and regulations pertaining to AI and AI-enabled products (e.g., facial recognition technology) that apply to us or to our customers may make it more challenging, costly, or in some cases prohibit certain products or services from being offered or modified, which could adversely affect our business and results of operations. We could suffer reputational damage from negative publicity related to products and services that utilize AI, which could also adversely affect our business and results of operations.

Current or future privacy-related legislation and governmental regulations pertaining to AI and AI-enabled products may affect how our business is conducted. Legislation and governmental regulations related to AI may also influence our current and prospective customers’ activities, as well as their expectations and needs in relation to our products and services. Compliance with these laws and regulations may be onerous and expensive, and may be inconsistent from jurisdiction to jurisdiction, further increasing the cost of compliance. Any such increase in costs as a result of changes in these laws and regulations or in their interpretation could individually or in the aggregate make our products and services that use AI technologies less attractive to our customers, delay the introduction of new products, in one or more regions, cause us to change or limit our business practices or affect our financial condition and operating results.

We envision a future in which AI operating in our products and services will help our public safety and private sector customers build safer communities with stronger communication platforms. AI may be flawed and datasets may be insufficient or contain biased information. As we work to responsibly meet our customers’ needs for products and services that use AI, we could suffer reputational damage as a result of any inconsistencies in the application of the technology or ethical concerns both of which may generate negative publicity.

Government regulation of radio frequencies may limit the growth of private and public safety narrowband and broadband systems or reduce barriers to entry for new competitors.

Radio spectrum is required to provide wireless voice, data, and video communications service. The allocation of frequencies is regulated in the U.S. and other countries and limited spectrum is allocated to wireless services, including commercial and public safety users. The global demand for wireless communications has grown exponentially, and spurred

competition for access among various networks and users. In response, regulators are reassessing the allocations of spectrum among users, including public safety users, and considering whether to change the allocation of certain bands from narrowband to broadband use, or to require sharing of spectrum bands. Our results could be positively or negatively affected by the rules and regulations adopted by regulators. Our products operate both on licensed and unlicensed spectrum. The availability of additional radio spectrum may provide new business opportunities. Conversely, the loss of available radio spectrum may result in the loss of business opportunities. Regulatory changes in current spectrum bands (e.g., the sharing of previously dedicated or other spectrum) may also provide opportunities or may require modifications to some of our products so they can continue to be manufactured and marketed. Opportunities in the public safety broadband market may also be impacted by the First Responder Network Authority ("FirstNet") which was authorized by Congress to develop, build, and operate a nationwide broadband network for first responders.

A portion of our business is dependent upon U.S. government contracts and grants, which are highly regulated and subject to oversight audits by U.S. government representatives and subject to cancellations. Such audits or such noncompliance with such regulations and laws could result in adverse findings and negatively impact our business.

Our U.S. government business is subject to specific procurement regulations with numerous compliance requirements. These requirements, although customary in government contracting in the U.S., increase our performance and compliance costs. These costs may increase in the future, thereby reducing our margins, which could have an adverse effect on our financial condition. Failure to comply with these regulations or other compliance requirements could lead to suspension or debarment from U.S. government contracting or subcontracting for a period of time. Among the causes for debarment are violations of various laws or policies, including those related to procurement integrity, export control, U.S. government security regulations, employment practices, protection of criminal justice data, protection of the environment, accuracy of records, proper recording of costs, foreign corruption, Trade Agreements Act, Buy America Act, and the False Claims Act.

Generally, in the U.S., government contracts and grants are subject to oversight audits by government representatives. Such audits could result in adjustments to our contracts. For contracts covered by the Cost Accounting Standards, any costs found to be improperly allocated to a specific contract may not be allowed, and such costs already reimbursed may have to be refunded. Future audits and adjustments, if required, may materially reduce our revenues or profits upon completion and final negotiation of audits. Negative audit findings could also result in investigations, termination of a contract or grant, forfeiture of profits or reimbursements, suspension of payments, fines and suspension or prohibition from doing business with the U.S. government. All contracts with the U.S. government can be terminated for convenience by the government at any time.

In addition, contacts with government officials and participation in political activities are areas that are tightly controlled by federal, state, local and international laws. Failure to comply with these laws could cost us opportunities to seek certain government sales opportunities or even result in fines, prosecution, or debarment.

Risks Related to Our Ability to Grow Our Business

Catastrophic events, including the COVID-19 pandemic, natural disasters and other events beyond our control may interrupt our business, or our customers' or suppliers' business, which may adversely affect our business, results of operations, financial position, cash flows and stock price.

Our business operations, and the operations of our customers and suppliers, are subject to interruption by natural disasters, flooding, fire, power shortages, the widespread outbreak of infectious diseases and pandemics, such as the COVID-19 pandemic, terrorist acts or the outbreak or escalation of armed hostilities, and other events beyond our control. Any of these events could impair our ability to manage our business and/or cause disruption of economic activity, which could have an adverse effect on our business, results of operations, financial position, cash flows and stock price.

In particular, the COVID-19 pandemic has caused significant disruption to the global economy, including in all of the regions in which we, our suppliers, customers and business partners do business and in which our employees are located. The COVID-19 pandemic and efforts to manage it, including those by governmental authorities, have had, and could continue to have, significant impacts on global markets. While the duration and severity of those impacts on our business continue to be uncertain, they have had, and could continue to have, an adverse effect on our business, financial position, cash flows and stock price in many ways, including, but not limited to, the following:

- The COVID-19 pandemic and responses to it have significantly limited or prevented the movement of goods and services worldwide, which has resulted in and could continue to result in disruptions in our supply chain and distribution systems as well as the demand for our products and services. To date, we have been permitted to continue to operate in jurisdictions that have mandated the closure of certain businesses, and we expect to continue to do so in the future. Any future restrictions or closures could have a material impact on our business, results of operations, financial condition and cash flow and we may not be permitted to operate under such restrictions or closures. In particular, any limitations on, or closures of, our manufacturing facilities in Malaysia, Canada, Mexico and the United States (Illinois, Texas), or our distribution centers in Malaysia, Germany, Canada and the United States (Illinois, Texas), could have a material adverse impact on our ability to manufacture products and service customers. This extends as well to any potential disruptions to transportation including reduced availability of air transportation capacity and ocean freight capacity which can lead to longer transit times and increases in freight costs to deliver our products. If diminished transportation capacity levels continue, the speed at which we deliver our products will continue to be slower than the delivery times that we traditionally provide to our customers and could negatively impact our ability to meet customer demand.

- Our customers are, and continue to be, subject to significant risks and have had, and could continue to have, adverse impacts to their business operations and financial condition related to the COVID-19 pandemic, which could lead to a decrease in their liquidity and/or spending. This has resulted in, and could continue to result in, a decrease in demand for our products, solutions and services, as well as impact our customers' ability to pay for such products, solutions and services.
- Our workforce may be unable to work on-site or travel as a result of event cancellations, facility closures, shelter-in-place, travel and other restrictions and changes in industry practice, or if they, their co-workers or their family members become ill or otherwise require care arrangements. These workforce disruptions have adversely affected and could continue to adversely affect our ability to operate, including to develop, manufacture, generate sales of, promote, market and deliver our products, solutions and services, and provide customer support.
- We outsource certain business activities to third parties. As a result, we rely upon the successful implementation and execution of the business continuity planning of such entities in the current environment. If one or more of the third parties to whom we outsource certain business activities experience operational failures or business disruption as a result of the impacts from the spread of COVID-19, or claim that they cannot perform, it may have negative effects on our business and financial condition.

Even after the COVID-19 pandemic has subsided, we could experience materially adverse impacts to our business due to any resulting economic downturns. Additionally, concerns over the economic impact of COVID-19 have caused volatility in financial and other capital markets which has and may continue to adversely impact our stock price. To the extent the COVID-19 pandemic adversely affects our business and financial results it may also have the effect of heightening many of the other risks described in the Form 10-K, such as those relating to our products, financial performance, the global nature of our business or access to capital markets.

As we expand the technologies within our Products and Systems Integration and Software and Services segments, we face increased competition and increased areas of risk that we may not be able to properly assess or mitigate, which could harm our market share, results of operations and financial condition.

The process of developing new video security and software products and enhancing existing products is complex, costly and uncertain, and any failure by us to anticipate customers' changing needs, emerging technological trends and development costs accurately could significantly harm our market share, results of operations and financial condition. Any failure to accurately predict technological and business trends, control research and development costs or execute our innovation strategy could harm our business and financial performance. Our research and development initiatives may not be successful in whole or in part, including research and development projects which we have prioritized with respect to funding and/or personnel.

Further, we plan to continue to expand our services business by offering additional and expanded managed services for existing and new types of customers, such as designing, building, operating, managing and in some cases owning a public safety system or other commercial system. The offering of managed services involves the integration of multiple services, multiple vendors and multiple technologies, requiring that we partner with other solutions and services providers, often on multi-year projects. Additionally, our managed services business includes the hosting of software applications. This allows the customers to "consume" the software "as a service" and avoid the costs and complexities of acquiring and operating the software.

We may face increasing competition from traditional system integrators, the defense industry, commercial software companies, and commercial telecommunication carriers as services contracts become larger and more complicated. Expansion will bring us into contact with new regulatory requirements and restrictions, such as data security or data residency/localization obligations, with which we will have to comply and may increase the costs of doing business, reduce margins and delay or limit the range of new solutions and services which we will be able to offer. We may be required to agree to specific performance metrics that meet the customer's requirements for network security, availability, reliability, maintenance and support and, in some cases, if these performance metrics are not met we may not be paid.

Additionally, as our portfolio of products increases, we may be subject to new regulatory and statutory requirements and could result in additional compliance obligations and liabilities for our business, which may include additional regulation by the FCC, state regulatory commissions and foreign telecommunications regulatory bodies.

Our success depends in part on our timely introduction of new products and technologies and our results can be impacted by the effectiveness of our significant investments in new products and technologies.

The markets for certain products of ours are characterized by changing technologies and evolving industry standards and customer preferences. For example, the software industry is characterized by rapidly changing customer preferences in favor of digital capabilities, including public and private cloud solutions. In some cases, it is unclear what specific technology will be adopted in the market or what delivery model will prevail. In addition, new technologies such as voice over LTE and 5G or push-to-talk clients over LTE and 5G could reduce sales of our traditional products. The shift to smart public safety and the prevalence of data in our customer use cases results in our competing in a more fragmented marketplace. In addition, new technologies and new competitors continue to enter our markets at a faster pace than we have experienced in the past, resulting in increased competition from non-traditional suppliers, including public carriers, telecom equipment providers, consumer device manufacturers and software and video security companies. New products are expensive to develop and bring to market and additional complexities are added when this process is outsourced as we have done in certain cases or as we increase our reliance on third-party content and technology. Our success depends, in substantial part, on the timely and successful introduction of new products, upgrades and enhancements of current products to comply with emerging industry standards, laws

and regulations, including country specific proprietary technology requirements, and to address competing technological and product developments carried out by our competitors. Developing new technologies to compete in a specific market may not be financially viable, resulting in our inability to compete in that market. The research and development of new, technologically-advanced products is a complex and uncertain process requiring high levels of innovation and investment, as well as the accurate anticipation of technology and market trends. Many of our products and systems are complex and we may experience delays in completing development and introducing new products or technologies in the future. We may focus our resources on technologies that do not become widely accepted or are not commercially viable or involve compliance obligations with additional areas of regulatory requirements.

We expect to continue to make strategic acquisitions of other companies or businesses and these acquisitions introduce significant risks and uncertainties, including risks related to integrating the acquired businesses and achieving benefits from the acquisitions.

In order to position ourselves to take advantage of growth opportunities or to meet other strategic needs such as product or technology gaps, we have made, and expect to continue to make, strategic acquisitions that involve significant risks and uncertainties. These risks and uncertainties include: (i) the difficulty or inability in integrating newly-acquired businesses and operations in an efficient and effective manner, including ensuring proper integration of acquired businesses' legal and regulatory compliance programs, (ii) risks associated with integrating financial reporting and internal control systems, (iii) difficulties in integrating information technology systems and other business processes to accommodate the acquired businesses, (iv) challenges in integrating acquired businesses to create the operating platform for public safety, (v) the challenges in achieving strategic objectives, cost savings and other benefits from acquisitions, (vi) the risk that our contractual relationships or the markets served do not evolve as anticipated and that the technologies acquired do not prove to be those needed to be successful in those markets, (vii) the potential loss of key employees of the acquired businesses, (viii) the risk of diverting the attention of senior management from our operations, (ix) the risks of entering new markets in which we have limited experience, and (x) future impairments of goodwill of an acquired business. In particular, failure to achieve targeted cost and revenue synergies could negatively impact our business performance.

Certain acquisition candidates in the industries in which we participate may carry higher relative valuations (based on revenues, earnings, cash flow, or other relevant multiples) than we do. This is particularly evident in software and certain services businesses. Acquiring a business that has a higher relative valuation than Motorola Solutions may be dilutive to our earnings. In addition, we may not pursue opportunities that are highly dilutive to near-term earnings.

Key employees of acquired businesses may receive substantial value in connection with a transaction in the form of cash payments for their ownership interest, particularly in the case of founders and other shareholder employees, or as a result of change-in-control agreements, acceleration of stock options and the lifting of restrictions on other equity-based compensation rights. To retain such employees and integrate the acquired business, we may offer additional retention incentives, but it may still be difficult to retain certain key employees.

Risks Related to Information Technology and Intellectual Property

A security breach or other significant disruption of our IT systems, those of our outsource partners, suppliers or those we manufacture, install, and in some cases operate and maintain for our customers, caused by cyberattack or other means, could have a negative impact on our operations, sales, and operating results.

We rely extensively on our information systems to manage our business operations. All information technology systems are potentially vulnerable to damage, unauthorized access or interruption from a variety of sources, including but not limited to, cyber-attack, cyber intrusion, computer viruses, security breach, energy blackouts, natural disasters and severe weather conditions, terrorism, sabotage, war, insider trading, human error and computer and telecommunication failures. As a provider of mission critical communications systems for customers in critical infrastructure sectors of the U.S. and globally, including systems that we operate and maintain for certain customers of ours or as a software-based service, we face additional risk as a target of sophisticated attacks aimed at compromising both our company's and our customers' sensitive information and intellectual property. This risk is heightened because these systems may contain sensitive governmental information or personally identifiable or other protected information. Additionally, the sophistication of these threats continues to grow and the complexity and scale of the systems to be protected continues to increase. In an effort to protect against such attacks, we maintain insurance related to cybersecurity risks and employ a number of countermeasures and security controls, including training, audits, and utilization of commercial information security threat sharing networks. If we fail to effectively manage our investment in cybersecurity, our business, products, and services could suffer from the resulting weaknesses in our infrastructure, systems or controls.

Further, our company outsources certain business operations, including, but not limited to IT, HR information systems, manufacturing, repair, distribution and engineering services. We are dependent, in certain instances, upon our outsourced business partners, suppliers, and customers to adequately protect our IT systems and those IT systems that we manage for our customers, including the hosts of our cloud infrastructure on top of which our cloud-based solutions are built. Some of our customers are exploring broadband solutions that use public carrier networks on which our solutions would operate. We do not have direct oversight or influence over how public carrier networks manage the security, quality, or resiliency of their networks, and because they are an attractive high value target due to their role in critical infrastructure, they expose customers to an elevated risk over our private networks. In addition, we maintain certain networked equipment at customer locations and are reliant on those customers to protect and maintain that equipment.

A cyber-attack or other significant disruption involving our IT systems or those of our outsource partners, suppliers or our customers could result in substantial costs to repair or replace our IT systems or the loss of critical data and interruptions or delays in our ability to perform critical functions. Such disruption may also result in the unauthorized release of proprietary, confidential or sensitive information of ours or our customers, or the disruption of services provided to customers and essential for their mission. Such unauthorized access to, or release of, information or disruption of services could: (i) allow others to unfairly compete with us, (ii) compromise safety or security, given the mission critical nature of our customers' systems, (iii) subject us to claims for breach of contract, tort, and other civil claims without adequate indemnification from our suppliers, and (iv) damage our reputation. We could face regulatory penalties, enforcement actions, remediation obligations and/or private litigation by parties whose data is improperly disclosed or misused. The continued global trend to enforce data sovereignty and negate legitimate cross border data flows increases the risk that we, directly or through some third party service provider, may inappropriately transfer personal data. Any or all of the foregoing could have a negative impact on our business, financial condition, results of operations, and cash flow.

If we are unable to adequately protect our intellectual property, or if we, our customers and/or our suppliers are found to have infringed intellectual property rights of third parties, our competitive position and results of operations may be adversely impacted.

Our intellectual property rights protect our innovations and technology, and they may also generate income under license agreements. We attempt to protect our proprietary technology with intellectual property in the form of patents, copyrights, trademarks, trade secret laws, confidentiality agreements and other methods. We also generally restrict access to and distribution of our proprietary information. Despite these precautions, it may be possible for a third-party to obtain and use our proprietary information or develop similar technology independently. As we expand our business, including through acquisitions, and compete with new competitors in new markets, the breadth and strength of our intellectual property portfolio in those new markets may not be as developed as in our longer-standing businesses. This may expose us to a heightened risk of litigation and other challenges from competitors in these new markets. In addition, effective patent, copyright, trademark and trade secret protection may be unavailable or limited in certain foreign countries. Unauthorized use of our intellectual property rights by third-parties and the cost of any litigation necessary to enforce our intellectual property rights could have a negative impact on our financial results and competitive position.

Additionally, because our products are comprised of complex technology, we are often involved in or impacted by assertions, including both requests for licenses and litigation, regarding third-party patents and other intellectual property rights. Third-parties have asserted, and in the future may assert, intellectual property infringement claims against us and against our customers and suppliers. Many of these assertions are brought by non-practicing entities whose principal business model is to secure patent licensing-based revenue from product manufacturing companies. The patent holders often make broad and sweeping claims regarding the applicability of their patents to our products and services, seeking a percentage of sales as licenses fees, seeking injunctions to pressure us into taking a license, or a combination thereof. Defending claims may be expensive and divert the time and efforts of our management and employees. Third-parties may also seek broad injunctive relief, which could limit our ability to sell our products in the U.S. or elsewhere with intellectual property subject to the claims. If we do not succeed in any such litigation, we could be required to expend significant resources to pay damages, develop non-infringing products or to obtain licenses to the intellectual property that is the subject of such litigation, each of which could have a negative impact on our financial results. Such licenses, if available at all, may not be available to us on commercially reasonable terms. In some cases, we might be forced to stop delivering certain products if we or our customer or supplier are subject to a final injunction.

We face risks relating to intellectual property licenses and intellectual property indemnities in our customer and supplier contracts, which may fail to fully protect us and subject us to unexpected liabilities or harm our financial condition and results of operations.

We obtain some technology from suppliers through the purchase of components or licensing of software, and we attempt to negotiate favorable intellectual property indemnities with our suppliers for infringement of third-party intellectual property rights. With respect to such indemnities, we may not be successful in our negotiations, a supplier's indemnity may not fully protect us or cover all damages and losses suffered by us and our customers due to the infringing products, or a supplier may not choose to obtain a third-party license or modify or replace its products with non-infringing products which would otherwise mitigate such damages and losses. Such situations may subject us to unexpected liabilities or unfavorable conditions. Further, we may not be able to participate in intellectual property litigation involving a supplier and may not be able to influence any ultimate resolution or outcome that may negatively impact our sales or operations if a court enters an injunction that enjoins the supplier's products or if the International Trade Commission issues an exclusionary order that blocks our products from importation into the U.S. Intellectual property disputes involving our suppliers have resulted in our involvement in International Trade Commission proceedings from time to time. These proceedings are costly and entail the risk that we will be subjected to a ban on the importation of our products into the U.S. solely as a result of our use of a supplier's components.

In addition, our customers increasingly demand that we indemnify them broadly from all damages and losses resulting from intellectual property litigation against them. These demands may stem from non-practicing entities that engage in patent enforcement and litigation, sometimes seeking royalties and litigation judgments in proportion to the value of the use of our products, rather than in proportion to the cost of our products. Such demands can amount to many times the selling price of our products.

Further, competitors may be able to negotiate significantly more favorable terms for intellectual property than we are able to, which puts them at a competitive advantage. Moreover, with respect to our internally developed proprietary software, we may

be harmed if we are forced to make publicly available, under the relevant open-source licenses, some of that proprietary software as a result of either our use of open-source software code or the use of third-party software that contains open-source code.

We no longer own certain logos and other trademarks, trade names and service marks, including MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M logo and all derivatives and formatives thereof (“Motorola Marks”) and we license the Motorola Marks from Motorola Trademark Holdings, LLC (“MTH”), which is currently owned by Motorola Mobility, a subsidiary of Lenovo. Our joint use of the Motorola Marks could result in product and market confusion and negatively impact our ability to expand business under the Motorola brand. In addition, if we do not comply with the terms of the license agreement we could lose our rights to the Motorola Marks.

In 2010, we secured a worldwide, perpetual and royalty-free license from MTH to use the Motorola Marks as part of our corporate name and in connection with the manufacture, sale, and marketing of our current products and services. The license of the Motorola Marks is important to us because of the reputation of the Motorola brand for our products and services. There are risks associated with both Motorola Mobility and us using the Motorola Marks and our loss of ownership of the Motorola Marks. As both we and Motorola Mobility use the Motorola Marks, confusion could arise in the market, including customer confusion regarding the products offered by and the actions of the two companies. Also, any negative publicity associated with either company in the future could adversely affect the public image of the other.

Motorola Mobility was acquired by Lenovo in 2014, which resulted in Lenovo having effective control over the Motorola Marks. Our risks under the license could increase if Lenovo expands its use of the Motorola Marks, or if our products and those of Lenovo converge. In addition, because our license of the Motorola Marks is limited to products and services within our specified fields of use, we are not permitted to use the Motorola Marks in other fields of use without the approval of Motorola Mobility. As we continue to expand our business into any other fields of use, we either must do so with a brand other than the Motorola brand, which could take considerable time and expense, or assume the risk that our expanded field don't meet the definition of permitted fields of use under our license, which could result in loss of our rights to use the Motorola Marks.

We could lose our rights to use the Motorola Marks if we do not comply with the terms of the license agreement. Such a loss could negatively affect our business, results of operations and financial condition. Furthermore, MTH has certain rights to license the brand to third-parties and either Motorola Mobility or licensed third-parties may use the brand in ways that make the brand less attractive for customers of Motorola Solutions, creating increased risk that Motorola Solutions may need to develop an alternate or additional brand. Motorola Mobility may require us to adopt modifications to the Motorola Marks, and this could negatively impact our business, including costs associated with rebranding.

Neither Motorola Mobility nor Lenovo are prohibited from selling the Motorola Marks. In the event of a liquidation by Lenovo or the then-owner of the Motorola Marks, it is possible that a bankruptcy court would either (i) permit the Motorola Marks to be assigned to a third-party whose interests may be incompatible with ours, thereby potentially making the license arrangement difficult to administer and increasing the costs and risks of sharing the Motorola Marks, or (ii) refuse to uphold the license or certain of its terms, which could negatively affect our business, results of operations and financial condition.

Risks Related to the Operation of Our Business

Our employees, customers, suppliers and outsource partners are located throughout the world and, as a result, we face risks that other companies that are not global may not face.

Our customers and suppliers are located throughout the world. In 2020, 32% of our revenue was generated outside the U.S. In addition, we have a number of research and development, administrative and sales facilities outside the U.S. and 48% of our employees are employed outside the U.S. Most of our suppliers' operations are outside the U.S. and a significant portion of our products are manufactured outside the U.S., both internally and by third-parties.

A significant amount of manufacturing and research and development of our products takes place outside of the U.S. If the operations in these facilities is disrupted, our business, financial condition, results of operation, and cash flows could be negatively impacted.

Because we have sizable sales and operations, including outsourcing and procurement arrangements, outside of the U.S., we have more complexity in our operations and are exposed to a unique set of global risks that could negatively impact our business, financial condition, results of operations, and cash flows, including but not limited to: (i) currency fluctuations, including but not limited to increased pressure to agree to established currency conversion rates and cost of living adjustments as a result of foreign currency fluctuations, (ii) import/export regulations, tariffs, trade barriers and trade disputes, customs classifications and certifications, including but not limited to changes in classifications or errors or omissions related to such classifications and certifications, (iii) changes in U.S. and non-U.S. rules related to trade, labor and employment, environmental, health and safety, technical standards, consumer and intellectual property and consumer protection, (iv) longer payment cycles, (v) tax issues, such as tax law changes, variations in tax laws from country to country and as compared to the U.S., obligations under tax incentive agreements, and difficulties in securing local country approvals for cash repatriations, (vi) reduced financial flexibility given that a significant percentage of our cash and cash equivalents is currently held outside of the U.S., (vii) challenges in collecting accounts receivable, (viii) cultural and language differences, (ix) employment regulations and local labor conditions, (x) privacy and data protection regulations and restrictions, (xi) difficulties protecting intellectual property in foreign countries, (xii) instability in economic or political conditions, including inflation, recession and actual or anticipated military or political conflicts and terrorism, (xiii) natural disasters, (xiv) public health issues or outbreaks, (xv) changes in laws or regulations that negatively impact benefits being received by us or that require costly modifications in products sold or operations performed in such countries, (xvi) litigation in foreign court systems and foreign enforcement or administrative proceedings, and (xvii) applicability of

anti-corruption laws such as the Foreign Corrupt Practices Act (“FCPA”) and the U.K. Bribery Act. Any of these risks may be heightened by our practice of outsourcing or using third-parties to help sell our products or provide solutions and services, due to limits on our ability to oversee and control such third-parties’ conduct.

Additionally, the benefits we receive under various agreements we have entered into with non-U.S. governments and agencies relate to our operations and/or sales in such foreign jurisdictions. If our operations or sales are not at levels originally anticipated, we may be at risk of having to reimburse benefits already granted, which could increase our cost of doing business in such foreign jurisdictions.

Over the last several years we have utilized third-parties to develop, design and/or manufacture many of our components and some of our products, and to perform portions of certain business operations such as IT, HR information systems, manufacturing, repair, distribution and engineering services We expect to continue these practices in the future, which limit our control over these business operations and exposes us to additional risk as a result of the actions of our outsource partners.

We rely on third-parties to develop, design and/or manufacture many of our components and some of our products (including software), and to assist in performing certain IT, HR information systems, manufacturing, repair, distribution and engineering services. As we outsource more of such operations we are not able to directly control these activities. We could have difficulties fulfilling our orders and our sales and profits could decline if: (i) we are not able to engage such third-parties with the capabilities or capacities required by our business, (ii) such third-parties lack our desired level of performance or service, lack sufficient quality control or fail to deliver quality components, products, services or software on time and at reasonable prices, (iii) there are significant changes in the financial or business condition of such third-parties, (iv) our third-party providers fail to comply with legal or regulatory requirements, or (v) we have difficulties transitioning operations to such third-parties.

Our reliance on third-parties could also result in reputational damage in certain instances. For example, our supply chain is complex and if our suppliers are unable to verify that components and parts provided to us are free of defined “conflict minerals” originating from the Democratic Republic of Congo (“DRC”) or an adjoining country, then we may be required to publicly disclose that we are not currently able to determine if the products we manufactured are DRC conflict-free, which could harm our reputation.

As many of our outsource partners operate outside of the U.S., our outsourcing activity exposes us to information security vulnerabilities and increases our global risks. Once a business activity is outsourced we may be contractually prohibited from or may not practically be able to bring such activity back within the Company or move it to another outsource partner. The actions of our outsource partners could result in reputational damage to us and could negatively impact our business, financial conditions, results of operations, and cash flows.

We utilize the services of subcontractors to perform under many of our contracts and the inability of our subcontractors to perform in a timely and compliant manner or to adhere to our Human Rights Policy could negatively impact our business.

We engage subcontractors, including third-party integrators, on many of our contracts and as we expand our solutions and services business, our use of subcontractors has and will continue to increase. Our subcontractors may further subcontract performance and may supply third-party products and software from a number of smaller companies. In addition, it is our policy to require our subcontractors and other third-parties with whom we work to operate in compliance with applicable laws, rules and regulations, including our Human Rights Policy (and, in addition, for our suppliers to comply with our Supplier Code of Conduct).

We may have disputes with our subcontractors, including disputes regarding the quality and timeliness of work performed by the subcontractor or its subcontractors and the functionality, warranty and indemnities of products, software and services supplied by our subcontractor. We are not always successful in passing down customer requirements to our subcontractors or a customer may otherwise look to us to cover a loss or damage, and thus in some cases may be required to absorb contractual risks from our customers without corresponding back-to-back coverage from our subcontractor. Our subcontractors may not be able to acquire or maintain the quality of the materials, components, subsystems and services they supply, or secure preferred warranty and indemnity coverage from their suppliers which might result in greater product returns, service problems, warranty claims and costs and regulatory compliance issues. Further, one of our subcontractors or other third-parties subject to our Human Rights Policy could fail to comply with such policies or with applicable law or may engage in unethical business practices. Any of the foregoing could cause orders to be canceled, relationships to be terminated or our reputation to be damaged, which could harm our business, financial condition and results of operations.

Our future operating results depend on our ability to purchase at acceptable prices a sufficient amount of materials, parts, and components, as well as software and services, to meet the demands of our customers and any disruption to our suppliers or significant increase in the price of supplies could have a negative impact on our results of operations.

Our ability to meet customers’ demands depends, in part, on our ability to timely obtain an adequate delivery of quality materials, parts, and components, as well as software and services from our suppliers. For example, we have experienced, and could continue to experience, increased difficulties in obtaining a sufficient amount of materials in the semiconductor market, as prices of such materials increased and supply was more limited due to the expansion of server and cloud networks as a greater proportion of the global population worked remotely, the introduction of 5G and the continued electrification of vehicles. We attempted, and continue to attempt, to mitigate such supply disruptions by increasing our communications with our suppliers and modifying our purchase order coverage and inventory levels. If reduced supply of these materials in the semiconductor market continues, our ability to meet customer demand could be affected, which could negatively impact our results of operations.

In addition, certain supplies, including for some of our critical components, software and services solutions, are available only from a single source or limited sources and we may not be able to diversify sources in a timely manner. If demand for our products or services increases from our current expectations or if suppliers are unable to meet our demand for other reasons, including as a result of natural disasters or financial issues, we could experience an interruption in supply or a significant increase in the price of supply, including as a result of having to move to an alternative source, that could have a negative impact on our business as a result of increased cost or delay in or inability to deliver our products or services. This risk may increase as a result of consolidation of certain suppliers of ours. We have experienced shortages in the past that have negatively impacted our results of operations and may experience such shortages in the future. In addition, credit constraints at our suppliers could cause us to accelerate payment of accounts payable by us, impacting our cash flow.

We are exposed to risks under large, multi-year system and services contracts that may negatively impact our business.

We enter into large, multi-year system and services contracts with municipal, state, and nationwide government and commercial customers. In some cases, we may not be the prime contractor and may be dependent on other third-parties such as commercial carriers or systems integrators. Our entry into these contracts exposes us to risks, including among others: (i) technological risks, especially when, (ii) risk of defaults by third-parties on whom we are relying for products or services as part of our offering or who are the prime contractors, (iii) financial risks, including the estimates inherent in projecting costs associated with large, long-term contracts, the impact of currency fluctuations, inflation, and the related impact on operating results, (iv) cybersecurity risk, especially in managed services contracts with public safety and commercial customers that process data, and (v) political risk, especially related to the contracts with government customers. In addition, multi-year awards from governmental customers may often only receive partial funding initially and may typically be cancelable on short notice with limited penalties. Recovery of front-loaded capital expenditures in long-term managed services contracts is dependent on the continued viability of such customers. The termination of funding for a government program or insolvency of commercial customer could result in a loss of anticipated future revenue attributable to that program, which could have an adverse impact on our profitability.

If the quality of our products does not meet our customers' expectations or regulatory or industry standards, then our sales and operating earnings, and ultimately our reputation, could be negatively impacted.

Some of the products we sell may have quality issues resulting from the design or manufacture of the product, or from the software used in the product. Sometimes, these issues may be caused by components we purchase from other manufacturers or suppliers. Often these issues are identified prior to the shipment of the products and may cause delays in shipping products to customers, or even the cancellation of orders by customers. Sometimes, we discover quality issues in the products after they have been shipped to our customers, requiring us to resolve such issues in a timely manner that is the least disruptive to our customers, particularly in light of the mission critical nature of our communications products. Such pre-shipment and post-shipment quality issues can have legal, financial and reputational ramifications, including: (i) delays in the recognition of revenue, loss of revenue or future orders, (ii) customer-imposed penalties for failure to meet contractual requirements, (iii) increased costs associated with repairing or replacing products, and (iv) a negative impact on our goodwill and brand name reputation. In some cases, if the quality issue affects the product's performance, safety or regulatory compliance, then such a "defective" product may need to be "stop-shipped" or recalled. Depending on the nature of the quality issue and the number of products in the field, it could cause us to incur substantial recall or corrective field action costs, in addition to the costs associated with the potential loss of future orders and the damage to our goodwill or brand reputation. In addition, we may be required, under certain customer contracts, to pay damages for failed performance that might exceed the revenue that we receive from the contracts. Recalls and field actions involving regulatory non-compliance could also result in fines and additional costs. Recalls and field actions could result in third-party litigation by persons or companies alleging harm or economic damage as a result of the use of the products.

In addition, privacy advocacy groups and other technology and industry groups have established or may establish various new or different self-regulatory standards that may place additional obligations on us. Our customers may expect us to meet voluntary certifications or adhere to other standards established by third parties. If we are unable to maintain these certifications or meet these standards, it could reduce demand for our products and adversely affect our business.

Risks Related to Financial Performance or Economic Conditions

We are a global company and face a number of risks related to current global economic and political conditions in the markets in which we operate that have and could continue to unfavorably impact our business, financial condition, results of operations and cash flows.

Global economic and political conditions, including the COVID-19 pandemic, continue to be challenging for many of our government and commercial markets, as economic growth in many countries and emerging markets has remained low or declined, currency fluctuations have impacted profitability, credit markets have remained tight for certain counterparties of ours and some of our customers are dependent on government grants to fund purchases of our products and services.

In addition, conflicts in the Middle East and elsewhere have created many economic and political uncertainties that continue to impact worldwide markets. The length of time these adverse economic and political conditions may persist is unknown. These political uncertainties and conflicts include new or increased tariffs and potential trade wars, threats to national security vulnerabilities linked to country of origin (in response to which the U.S. implemented prohibitions on, via the National Defense Authorization Act for Fiscal Year 2019, the use of federal funds to purchase and/or use telecommunications equipment and services and video surveillance equipment and services from Chinese vendors), and the United Kingdom's decision to voluntarily exit the United Kingdom on January 31, 2020 (commonly referred to as "Brexit").

These global economic and political conditions have impacted and could continue to impact our business, financial condition, results of operations, and cash flows in a number of ways, including:

- Requests by certain of our government and commercial customers that we provide vendor financing, including in response to financial challenges surrounding state and local governments, which may cause us to retain exposure to the credit quality of our customers who we finance if we are unable to sell these receivables on terms acceptable to us.
- The inability of certain of our customers to obtain financing in order to make purchases from us and/or maintain their business, which may negatively impact our financial results.
- Challenges we face in budgeting and forecasting due to economic uncertainties in various parts of the U.S. and world economy, which could negatively impact our financial results if such budgets or forecasts are inaccurate.
- Deferment or cancellation of purchases and orders by customers may occur due to uncertainty about current and future global economic conditions, which could reduce future demand for our products and negatively impact our financial results.
- Intensifying political instability in a number of markets in which we operate could have a significant impact on our ability to grow and, in some cases, operate in such locations, which could negatively impact our financial results.

The accounting for convertible debt securities that may be settled in cash or in shares of common stock could have a material effect on our reported financial results.

Under U.S. GAAP, an entity must separately account for the debt component and the embedded conversion option of convertible debt instruments that may be settled entirely or partially in cash or in shares of common stock upon conversion, such as our 1.75% senior convertible notes (“New Senior Convertible Notes”). The fair value of the embedded conversion option is classified as an addition to stockholder’s equity. The difference between book carrying cost and face value of the debt represents a non-cash discount. This difference will be amortized into interest expense over the estimated life of the New Senior Convertible Notes. As a result, we will be required to record a greater amount of non-cash interest expense as a result of the amortization of the discount over the expected term of the New Senior Convertible Notes, and we will report lower net income because of the recognition of both the current period’s discount amortization and the New Senior Convertible Notes’ coupon interest, which could adversely affect the trading price of our shares of common stock.

Convertible debt instruments (such as the New Senior Convertible Notes) that may be settled entirely or partially in cash are evaluated for their impact on earnings per share utilizing the treasury stock method, the effect of which is that the shares issuable upon conversion of the New Senior Convertible Notes are not included in the calculation of diluted earnings per share except to the extent that the conversion value of the New Senior Convertible Notes exceeds their principal amount. Under the treasury stock method, the number of shares outstanding for purposes of calculating diluted earnings per share includes the number of shares that would be required to settle the excess of the conversion value of the New Senior Convertible Notes, if any, over the principal amounts of the New Senior Convertible Notes (which would be settled in cash). The conversion value of the New Senior Convertible Notes will exceed the principal amount of the notes to the extent the trading price of a share of our stock exceeds \$203.50. We intend to settle the principal amount of the convertible notes in cash. However, we may not have access to the capital markets for financing on acceptable terms and conditions, particularly if our credit ratings are downgraded. Accordingly, we may be forced to fully settle the New Senior Convertible Notes in shares of common stock upon conversion, the effect of which would cause the dilutive impact to earnings per share to be significantly in excess of the dilutive impact reflected by the treasury stock method.

Returns on pension and retirement plan assets and interest rate changes could affect our earnings and cash flows in future periods.

Although we made a voluntary contribution into the U.S. pension plan in early 2018, and completed a lump sum offer for certain participants in the U.S. pension plan in 2019, we continue to have large underfunded pension obligations, in part resulting from the fact that we retained almost all of the U.S. pension liabilities and a major portion of our non-U.S. pension liabilities following our past divestitures, including the distribution of Motorola Mobility, the sale of our Networks business and the sale of our Enterprise business. The funding position of our pension plans is affected by the performance of the financial markets, particularly the equity and debt markets, and the interest rates used to calculate our pension obligations for funding and expense purposes. Minimum annual pension contributions are determined by government regulations and calculated based upon our pension funding status, interest rates, and other factors. If the financial markets perform poorly, we have been and could be required to make additional large contributions. The equity and debt markets can be volatile, and therefore our estimate of future contribution requirements can change dramatically in relatively short periods of time. Similarly, changes in interest rates can affect our contribution requirements. In volatile capital market environments, the uncertainty of material changes in future minimum required contributions increases.

Risks Related to Human Capital Management

Our success depends in part upon our ability to attract and retain senior management and key employees, including engineers and other key technical employees, in order to remain competitive.

The performance of our CEO, senior management and other key employees such as engineers and other key technical employees is critical to our success. If we are unable to retain talented, highly-qualified senior management, engineers and other key employees or attract them when needed, it could negatively impact our business.

We rely on the experience of our senior management, most of whom have been with the Company for many years and as a result have specific knowledge relating to us and our industry that is difficult to replace and competition for management with experience in the communications industry is intense. A loss of the CEO, a member of senior management, or an engineer or other key employee particularly to a competitor, could also place us at a competitive disadvantage. In addition, we face increased demands for technical personnel in areas such as software development, which is an area of particularly high demand for skilled employees. We believe that our future success depends in large part on our continued ability to hire, assimilate, retain and leverage the skills of qualified engineers and other highly-skilled personnel needed to develop successful new products or services. In particular, competition for experienced software and cloud computing infrastructure engineers is intense. Further, if we fail to adequately plan for the succession of our CEO, senior management and other key employees, our business could be negatively impacted.

General Risk Factors

We are subject to a wide range of product regulatory and safety, consumer, worker safety and environmental laws that continue to expand and could impact our ability to grow our business, could subject us to unexpected costs and liabilities and could impact our financial performance.

Our operations and the products we manufacture are subject to a wide range of product regulatory and safety, consumer, worker safety and environmental laws. Compliance with such existing or future laws could subject us to future costs or liabilities, impact our production capabilities, constrict our ability to sell, expand or acquire facilities, restrict what products and services we can offer, and generally impact our financial performance. Some of these laws are environmental and relate to the use, disposal, cleanup of, and exposure to certain substances. For example, in the U.S., laws often require parties to fund remedial studies or actions regardless of fault and often times in response to action or omissions that were legal at the time they occurred. We continue to incur disposal costs and have ongoing remediation obligations. Changes to environmental laws or our discovery of additional obligations under these laws could have a negative impact on our financial performance.

Laws focused on: (i) the energy efficiency of electronic products and accessories, (ii) recycling of both electronic products and packaging, (iii) reducing or eliminating certain hazardous substances in electronic products, (iv) the use and transportation of batteries, and (v) debt collection and other consumer finance matters continue to expand significantly. Laws pertaining to accessibility features of electronic products, standardization of connectors and power supplies, the use and transportation of lithium-ion batteries and other aspects of our products are also proliferating. There are also demanding and rapidly changing laws around the globe related to issues such as product safety, radio interference, radio frequency radiation exposure, medical related functionality, use of products with video functionality, and consumer and social mandates pertaining to use of wireless or electronic equipment. These laws, and changes to these laws, could have a substantial impact on whether we can offer certain products, solutions and services, on product costs, and on what capabilities and characteristics our products or services can or must include.

These laws could impact our products and negatively affect our ability to manufacture and sell products competitively. We expect these trends to continue. In addition, due to increased public awareness and concern regarding environmental risks, including climate change, we anticipate that we will see increased demand to meet voluntary criteria related to reduction or elimination of certain constituents from products and increasing energy efficiency. Such regulations or standards could impose significant operational restrictions and compliance requirements upon us, which could negatively impact our business, results of operations, financial condition and competitive position.

We may not continue to have access to the capital markets for financing on acceptable terms and conditions, particularly if our credit ratings are downgraded, which could limit our ability to repay our indebtedness and could cause liquidity issues.

From time to time we access the capital markets to obtain financing. Our access to the capital markets and the bank loan markets at acceptable terms and conditions are impacted by many factors, including: (i) our credit ratings, (ii) the condition of the overall capital markets, (iii) strength and credit availability in the banking markets, and (iv) the state of the global economy. In addition, we frequently access the credit markets to obtain performance bonds, bid bonds, standby letters of credit and surety bonds, as well as to hedge foreign exchange risk and sell receivables. Furthermore, we may not be able to refinance our existing indebtedness (i) on commercially reasonable terms, (ii) on terms, including with respect to interest rates, as favorable as our current debt, or (iii) at all. We may not continue to have access to the capital markets or bank credit markets on terms acceptable to us and if we are unable to repay or refinance our debt, we cannot guarantee that we will be able to generate enough cash flows from operations or that we will be able to obtain enough capital to service our debt, fund our planned capital expenditures or pay future dividends.

We are rated investment grade by all three national rating agencies. Any downward changes by the rating agencies to our credit rating may negatively impact the value and liquidity of both our debt and equity securities. Under certain circumstances, an increase in the interest rate payable by us under our revolving credit facility, if any amounts are borrowed under such facility, could negatively affect our operating cash flows. In addition, a downgrade in our credit ratings could limit our ability to: (i) access the capital markets or bank credit markets, (ii) issue commercial paper (iii) provide performance bonds, bid bonds, standby letters of credit and surety bonds, (iv) hedge foreign exchange risk, (v) fund our foreign affiliates, (vi) sell receivables, and (vii) obtain favorable trade terms with suppliers. In addition, we may avoid taking actions that would otherwise benefit us or our stockholders, such as engaging in certain acquisitions or engaging in stock repurchases, that would negatively impact our credit rating.

Tax matters could have a negative impact on our financial condition and results of operations.

We are subject to income taxes in the U.S. and numerous foreign tax jurisdictions. Our provision for income taxes and cash tax liability may be negatively impacted by: (i) changes in the mix of earnings taxable in jurisdictions with different statutory tax rates, (ii) changes in tax laws and accounting principles, (iii) changes in the valuation of our deferred tax assets and liabilities, (iv) failure to meet commitments under tax incentive agreements, (v) discovery of new information during the course of tax return preparation, (vi) increases in non-deductible expenses, or (vii) repatriating cash held abroad.

Tax audits may also negatively impact our business, financial condition and results of operations. We are subject to continued examination of our income tax returns, and tax authorities may disagree with our tax positions and assess additional tax. We regularly evaluate the likelihood of adverse outcomes resulting from these examinations to determine the adequacy of our provision for income taxes. There can be no assurance that the outcomes from these continuing examinations will not have a negative impact on our future financial condition and operating results.

Certain tax policy efforts, including the Organization for Economic Co-operation and Development's ("OECD") Base Erosion and Profit Shifting ("BEPS") Project, the European Commission's state aid investigations, and other initiatives could have an adverse effect on the taxation of international businesses. Furthermore, many of the countries where we are subject to taxes, including the U.S, are independently evaluating their tax policy and we may see significant changes in legislation and regulations concerning taxation. Certain countries have already enacted legislation which could affect international businesses, and other countries have become more aggressive in their approach to audits and enforcement of their applicable tax laws. Such changes, to the extent they are brought into tax legislation, regulations, policies, or practices, could increase our effective tax rates in many of the countries where we have operations and have an adverse effect on our overall tax rate, along with increasing the complexity, burden and cost of tax compliance, all of which could impact our operating results, cash flows and financial condition.

Item 1B: Unresolved Staff Comments

None.

Item 2: Properties

As of February 1, 2021, the material properties that we used in connection with our business, serving all segments, are as follows:

Location	Approximate Size in Sq. Ft. (In thousands)	Owned vs. Leased	Purpose
Schaumburg, Illinois, U.S.	345	Leased	Research & development and customer support
Elgin, Illinois, U.S.	301	Leased	Manufacturing and distribution
Krakow, Poland	301	Leased	Research & development and corporate administrative
Penang, Malaysia	300	Leased	Manufacturing and distribution, research & development and corporate administrative
Plantation, Florida, U.S.	209	Leased	Corporate administrative
Chicago, Illinois, U.S.	206	Leased	Corporate administrative (global headquarters)
Tel Aviv, Israel	202	Leased	Research & development and corporate administrative
Basingstoke, UK	167	Owned	Corporate administrative
British Columbia, Canada	152	Leased	Manufacturing and distribution and corporate administrative
Allen, Texas, U.S.	138	Owned	Manufacturing and distribution and corporate administrative
Richardson, Texas, U.S.	136	Leased	Manufacturing and distribution

In addition to the properties described in the table, as of February 1, 2021, we leased 233 facilities, 103 of which were located in North America and 130 of which were located outside of North America.

Item 3: Legal Proceedings

We are a defendant in various lawsuits, claims, and actions, which arise in the normal course of business. In the opinion of management, the ultimate disposition of these matters will not have a material adverse effect on our consolidated financial position or liquidity. However, an unfavorable resolution could have a material adverse effect on our results of operations in the periods in which the matters are ultimately resolved, or in the periods in which more information is obtained that changes management's opinion of the ultimate disposition.

Item 4: Mine Safety Disclosures

Not applicable.

Information about our Executive Officers

The following are the persons who are the executive officers of the Company, their ages, and current titles as of February 12, 2021 and the positions they have held during the last five years with the Company or as otherwise noted:

Gregory Q. Brown; age 60; Chairman and Chief Executive Officer since May 3, 2011.

Mark S. Hacker; age 49; Executive Vice President, General Counsel and Chief Administrative Officer since January 21, 2015.

Kelly S. Mark; age 49; Executive Vice President, Software and Services since August 28, 2018; Senior Vice President, Managed and Support Services from July 2017 to August 2018; and Corporate Vice President, Managed and Support Services from August 2015 to July 2017.

John P. "Jack" Molloy; age 49; Executive Vice President, Products and Sales since August 28, 2018; Executive Vice President, Worldwide Sales and Services from July 2017 to August 2018; and Executive Vice President, Worldwide Sales from January 2016 to July 2017.

Rajan S. Naik; age 49; Senior Vice President, Strategy and Ventures, since December 2017; and Corporate Vice President, Chief Strategy Officer from March 2016 to December 2017.

Daniel G. Pekofske; age 44; Corporate Vice President and Chief Accounting Officer since September 10, 2018; and Vice President and Treasurer from January 2016 to September 2018.

Jason J. Winkler; age 46; Executive Vice President and Chief Financial Officer since July 1, 2020; Senior Vice President, Finance from September 2018 to June 2020; Corporate Vice President, Finance, Global Sales & Services from February 2016 to September 2018; and Vice President and Director, North America, Finance from January 2014 to February 2016.

Cynthia M. Yazdi; age 56; Senior Vice President, Chief of Staff, Marketing and Communications and Motorola Solutions Foundation since August 28, 2018; Corporate Vice President, Chief of Staff to the Chairman and CEO, Global Marketing and Communications from February 2018 to August 2018; Vice President, Chief of Staff, Global Marketing and Communications from September 2016 to February 2018; and Vice President, Chief of Staff from August 2015 to September 2016.

The above executive officers will serve as executive officers of the Company until the regular meeting of the Board of Directors in May 2021 or until their respective successors are elected. There is no family relationship between any of the executive officers listed above.

PART II

Item 5: Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Motorola Solutions' common stock is listed on the New York Stock Exchange and trades under the symbol "MSI." The number of stockholders of record of its common stock on February 1, 2021 was 21,690. This figure does not include a substantially greater number of “street name” holders whose shares are held of record by banks, brokers and other financial institutions.

During 2020, we declared regular quarterly dividends of \$0.64 per share of our common stock for each of the first three quarters of fiscal 2020, and \$0.71 per share of our common stock for the fourth quarter of fiscal 2020. While we expect to continue to pay comparable regular quarterly dividends in 2021, any future dividend payments will be at the discretion of our Board of Directors and will depend upon our profits, financial requirements and other factors, including legal restrictions on the payment of dividends, general business conditions and such other factors as our Board of Directors deems relevant.

The following table provides information with respect to acquisitions by the Company of shares of its common stock during the quarter ended December 31, 2020.

Issuer Purchases of Equity Securities

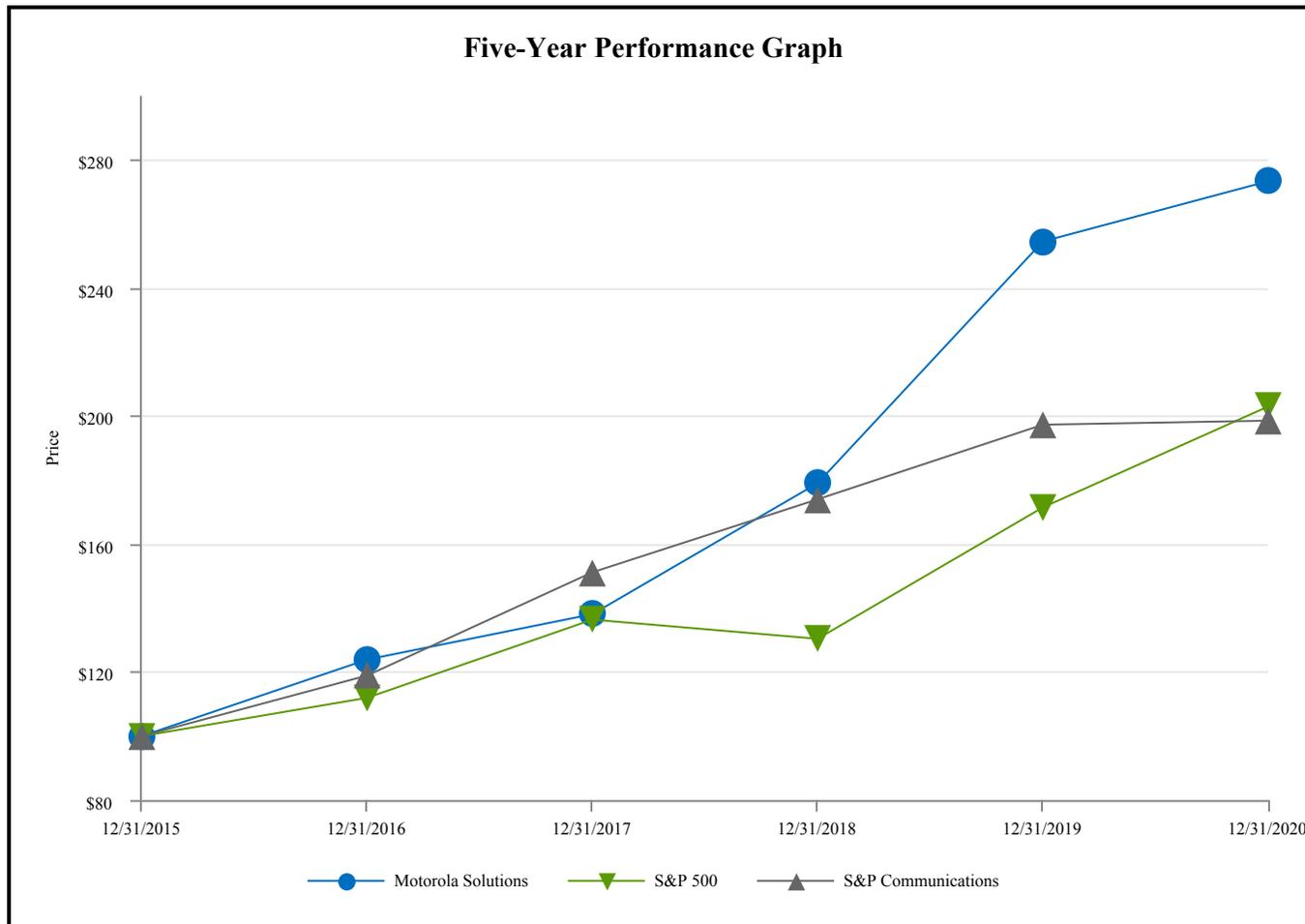
<i>Period</i>	<i>(a) Total Number of Shares Purchased</i>	<i>(b) Average Price Paid per Share (1)</i>	<i>(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Program (2)</i>	<i>(d) Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Program (2)</i>
09/24/20 to 10/21/20	248,983	\$ 156.39	248,983	\$ 780,660,139
10/22/20 to 11/18/20	243,631	\$ 165.48	243,631	\$ 740,343,034
11/19/20 to 12/29/20	545,846	\$ 168.10	545,846	\$ 648,585,495
Total	<u>1,038,460</u>	\$ 164.68	<u>1,038,460</u>	

- (1) Average price paid per share of common stock repurchased is the execution price, including commissions paid to brokers.
- (2) As originally announced on July 28, 2011, and subsequently amended, the board of directors has authorized the Company to repurchase an aggregate amount of up to \$14.0 billion of its outstanding shares of common stock (the “share repurchase program”). The share repurchase program does not have an expiration date. As of December 31, 2020, the Company had used approximately \$13.4 billion, including transaction costs, to repurchase shares.

Performance Graph

The following graph compares the five-year cumulative total returns of Motorola Solutions, Inc., the S&P 500 Index and the S&P Communications Equipment Index.

This graph assumes \$100 was invested in the stock or the indices on December 31, 2015 and reflects the payment of dividends.



Years Ended	December 31, 2015	December 31, 2016	December 31, 2017	December 31, 2018	December 31, 2019	December 31, 2020
Motorola Solutions	\$ 100.00	\$ 123.90	\$ 138.08	\$ 179.00	\$ 254.52	\$ 273.33
S&P 500	\$ 100.00	\$ 111.95	\$ 136.38	\$ 130.39	\$ 171.44	\$ 202.96
S&P Communications	\$ 100.00	\$ 118.92	\$ 151.16	\$ 173.96	\$ 197.28	\$ 198.53

Item 6: Selected Financial Data

The following selected financial data is derived from the consolidated financial statements. The data below should be read in conjunction with “Part II. Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations,” “Part I. Item 1A. Risk Factors,” and the consolidated financial statements and notes included in Part II. Item 8 of this Form 10-K.

<i>(In millions, except per share amounts)</i>	<i>Years Ended December 31</i>				
	2020	2019	2018	2017	2016
Operating Results					
Net sales	\$ 7,414	\$ 7,887	\$ 7,343	\$ 6,380	\$ 6,038
Operating earnings	1,383	1,581	1,255	1,284	1,048
Earnings (loss) attributable to Motorola Solutions, Inc.	949	868	966	(155)	560
Per Share Data (in dollars)					
Earnings (loss) per diluted common share*	\$ 5.45	\$ 4.95	\$ 5.62	\$ (0.95)	\$ 3.24
Diluted weighted average common shares outstanding (in millions)	174.1	175.6	172.0	162.9	173.1
Dividends declared per share	\$ 2.63	\$ 2.35	\$ 2.13	\$ 1.93	\$ 1.70
Balance Sheet					
Total assets	\$10,876	\$10,642	\$ 9,409	\$ 8,208	\$ 8,463
Total debt	5,175	5,129	5,320	4,471	4,396
Other Data					
Capital expenditures	\$ 217	\$ 248	\$ 197	\$ 227	\$ 271
% of sales	2.9 %	3.1 %	2.7 %	3.6 %	4.5 %
Research and development expenditures	\$ 686	\$ 687	\$ 637	\$ 568	\$ 553
% of sales	9.3 %	8.7 %	8.7 %	8.9 %	9.2 %

*Amounts attributable to Motorola Solutions, Inc. common shareholders.

Item 7: Management’s Discussion and Analysis of Financial Condition and Results of Operations

The following is a discussion and analysis of our financial position as of December 31, 2020 and 2019 and results of operations for each of the three years in the period ended December 31, 2020. This commentary should be read in conjunction with our consolidated financial statements and the notes thereto appearing under “Item 8: Financial Statements and Supplementary Data.”

Executive Overview

Our Business

Motorola Solutions is a global leader in mission critical communications and analytics. Our technologies in Land Mobile Radio Mission Critical Communications (“LMR” or “LMR Mission Critical Communications”), Command Center Software and Video Security and Analytics, bolstered by managed and support services, make communities safer and help businesses stay productive and secure. We serve more than 100,000 public safety and commercial customers in over 100 countries, providing “purpose-built” solutions designed for their unique needs, and we have a rich heritage of innovation focusing on advancing global safety for more than 90 years.

We manage our business organizationally through two segments: “Products and Systems Integration” and “Software and Services.” Within these segments, the Company has principal product lines that also follow our three major technologies: LMR Mission Critical Communications, Command Center Software, and Video Security and Analytics.

The Company has invested across these three technologies, evolving the Company’s LMR focus to purposefully integrate software, video security and analytics solutions for public safety and enterprise customers globally.

Our strategy is to generate value through the integration of each technology into our ecosystem, uniting voice, software, video and analytics to interoperate. While each technology individually strives to make users safer and more productive, we believe we can enable better outcomes between individuals, businesses and agencies united as one connected system. With our interplay of technologies, our goal is to help remove silos between systems, unify data, streamline workflows, simplify management and support evolving technologies. Examples of such interplay include sharing video feeds from a school to a police command center and officers’ devices in the field to improve situational awareness, uploading field reports or crime scene photos directly into an agency’s evidence system to save administration time, and connecting teams across networks to ensure messages are easily shared and teams can work as one. Our goal is to integrate technologies according to customers’ desired operational outcomes so they can work faster, smarter and more safely. Across all three technologies, we offer cloud-based solutions, cybersecurity services and managed and support services.

The principal products within each segment, by technology, are described below:

Products and Systems Integration Segment

In 2020, the segment’s net sales were \$4.6 billion, representing 63% of our consolidated net sales.

LMR Mission Critical Communications

Our LMR Mission Critical Communications technology includes infrastructure and devices for LMR, public safety Long Term Evolution (“LTE”) and enterprise-grade private LTE. We are a global leader in the two-way radio category, including Project 25 (“P25”), Terrestrial Trunked Radio (“TETRA”) and Digital Mobile Radio (“DMR”), as well as other professional and commercial radio (“PCR”) solutions. We also deliver LTE solutions for public safety, government and commercial users, including infrastructure and devices operating in 700 MHz, 900 MHz and Citizens’ Broadband Radio Service (“CBRS”) frequencies. Primary sources of revenue for this technology come from selling devices and building telecommunications networks, including infrastructure, installation and integration with our customers’ technology environments.

Our technology enables voice and multimedia collaborations across different two-way radio, WiFi or public LTE and private broadband networks. We believe that first responders continue to trust LMR communications because they are purpose-built and designed for reliability, availability, security and resiliency to withstand the most challenging conditions. By adding broadband data capabilities to our two-way radios, we strive to provide our customers greater functionality and access to the information and data they need in their workflows. Examples of such functionality include application services such as GPS location to better protect lone workers and over-the-air programming and updates to optimize device uptime.

The LMR technology within the Products and Systems Integration segment represented 86% of the net sales of the total segment in 2020.

Video Security and Analytics

Our Video Security and Analytics technology includes network video management infrastructure, fixed security and mobile video cameras (body-worn and in-vehicle) and access control solutions. We deploy video security solutions to thousands of government and commercial customers around the world including school campuses, transportation systems, healthcare centers, public venues, utilities, prisons, factories, casinos, airports, financial institutions, government facilities, state and local law enforcement agencies and retailers. Organizations such as these utilize video security to enable continuous monitoring that can improve situational awareness, particularly across large areas, and to visually verify critical events or incidents in real-time or investigate after they happen.

Our view is that government and public safety customers in particular are increasingly turning to video security technologies, including fixed street cameras, in-vehicle cameras and body-worn cameras, to increase visibility, accountability and safety for citizens, communities and first responders alike.

We have built our video security and analytics technology through strategic acquisitions. We acquired Avigilon Corporation (“Avigilon”) in 2018. Avigilon access control solutions, in addition to cameras, sensors and infrastructure embedded with advanced video analytics, are designed to be simple and easy to use. We expanded our fixed video security technology through our acquisitions of IndigoVision Group plc and Pelco, Inc. in 2020. We grew our mobile video security technology in 2019 through our acquisitions of WatchGuard Inc., which provides body-worn cameras and in-vehicle video systems for North America law enforcement agencies, and Edesix Ltd (acquired as part of the VaaS International Holdings acquisition), a provider of body-worn cameras in Europe for both law enforcement and commercial markets.

The Video Security and Analytics technology within the Products and Systems Integration segment represented 14% of the net sales of the total segment in 2020.

Software and Services Segment

In 2020, the segment's net sales were \$2.8 billion, representing 37% of our consolidated net sales.

LMR Mission Critical Communications

LMR Mission Critical Communications services include support and managed services, which offer a broad continuum of support for our customers. Support services include repair and replacement, technical support and preventative maintenance, and more advanced offerings such as system monitoring, software updates and cybersecurity services. Managed services range from partial to full operational support of customer-owned or Motorola Solutions-owned networks. Our customers' systems often have multi-year or multi-decade lifespans that help drive demand for software upgrades, device and infrastructure refresh opportunities, as well as additional services to monitor, manage, maintain and secure these complex networks and solutions. We strive to deliver services to our customers that help improve performance across their systems, devices and applications for greater safety and productivity.

Given the mission-critical nature of our customers' LMR networks, availability, security and resiliency are imperative, along with keeping pace with technological advancements. We have a comprehensive approach to system upgrades that addresses hardware, software and implementation services. As new system releases become available, we work with our customers to upgrade software, hardware, or both, with respect to site controllers, comparators, routers, LAN switches, servers, dispatch consoles, logging equipment, network management terminals, network security devices such as firewalls and intrusion detection sensors, and more, on-site or remotely.

The LMR technology within the Software and Services segment represented 72% of the net sales of the total segment in 2020.

Command Center Software

Our Command Center Software suite, CommandCentral, supports the complex process of the public safety workflow from "911 call to case closure," which involves an array of roles from the moment a citizen dials 911, such as dispatchers who route calls to police, fire and emergency medical services, first responders in the field, intelligence analysts who manage real-time operations, records specialists who preserve the integrity of information and evidence, crime analysts who identify patterns and accelerate investigations, and corrections officers who oversee jail and inmate management.

CommandCentral software supports these roles through the three phases of incident response: incident awareness, incident management and post-incident resolution. Incident awareness software includes community engagement applications for tip submissions, crime mapping and evidence submission, and 911 call-handling software (including multimedia) and next-generation core services for 911 call routing. Incident management software includes computer aided dispatch (“CAD”) for dispatch and coordinating first response, situational awareness software that shows a single, real-time view of video feeds and other alerts on a map, and field response and reporting to help frontline personnel collaborate, manage incident activity and file reports from the field. Post-incident resolution software includes centralized records and evidence management for record-keeping and judicial sharing, analytics including license plate recognition, and jail and inmate management to streamline the process and enable secure inter-agency information sharing.

As the public safety market continues to evolve toward software offerings that more efficiently run their operations, reduce response times and increase officer availability, we have focused on providing cloud-based software-as-a service (“SaaS”) with ancillary implementation and managed services in addition to on-premises solutions. Our PremierOne Cloud suite, hosted in Microsoft Azure Government, includes CAD, mobile and records in a single, integrated cloud-based offering. We believe that cloud deployment delivers agencies key benefits, including faster deployment, increased security, rapid scaling in the event of an emergency and a secure investment that keeps pace as technology advances.

Another area of public safety evolution is increasing adoption of Next Generation 911 Core Services (“NGCS”), a group of products and services needed to create infrastructure connectivity in order to process a 911 call using Next Generation (“NG”) technology. The NG infrastructure is an Emergency Service IP Network (“ESInet”), which can carry voice, data and multimedia. ESInet enables 911 call takers at public safety answering points to respond to text, video and data. Our NGCS can be offered as a managed service and includes call routing, ESInet, location services, Geographic Information Services, cybersecurity and our continuous network and security operations center dedicated to public safety. We believe that our solution is differentiated

through its integration with our CommandCentral software suite to simplify the agency's workflow and ensure better incident management and real-time intelligence.

Additional Command Center Software includes interoperability software that ensures communication is not limited by coverage area, network technology or device type. Our solutions, including Kodiak, WAVE PTX and CriticalConnect, enable interoperability among devices across multiple networks. For example, a two-way radio network can connect with an LTE network making it possible for individuals to communicate securely and more easily across technologies.

The Command Center Software technology within the Software and Services segment represented 18% of the net sales of the total segment in 2020.

Video Security and Analytics

Video Security and Analytics software includes video network management software, digital evidence management software and advanced vehicle location data analysis software, including license plate recognition, each designed to complement respective video hardware systems.

Our video network management software is embedded with artificial intelligence ("AI")-enabled analytics to deliver operational insights to our customers by bringing attention to important events within their video footage. Given the volume of video footage, we believe this is critical to monitor and manage to deliver meaningful, action-oriented insights. For example, AI-enabled analytics can detect unusual behavior such as a person at a facility out-of-hours, locate a missing child with our Appearance Search feature at a theme park, flag a blacklisted vehicle through license plate recognition at a school, or send an alert through access control if doors are propped open at a hospital.

Video Security and Analytics services include our video-as-service offering for law enforcement, simplifying procurement by bundling hardware and software into a single subscription. Body-worn cameras and in-car video systems can be paired with either on-premises or cloud-based digital evidence management software and complementary command center software products. Additionally, Avigilon fixed video systems connected to Avigilon Cloud Services ("ACS") provide our customers with the ability to securely access video across their sites from a remote/central monitoring location and more easily integrate with their other systems.

The Video Security and Analytics technology within the Software and Services segment represented 10% of the net sales of the total segment in 2020.

2020 Financial Results

- Net sales were \$7.4 billion in 2020 compared to \$7.9 billion in 2019.
- Operating earnings were \$1.4 billion in 2020 compared to \$1.6 billion in 2019.
- Net earnings attributable to Motorola Solutions, Inc. were \$949 million, or \$5.45 per diluted common share in 2020, compared to earnings of \$868 million, or \$4.95 per diluted common share in 2019.
- Our operating cash flow was \$1.6 billion in 2020 compared to \$1.8 billion in 2019.
- We returned over \$1.0 billion of capital to shareholders, in the form of \$612 million in share repurchases and \$436 million in dividends in 2020.
- We increased our quarterly dividend by 11% to \$0.71 per share in November 2020.
- We ended 2020 with a backlog position of \$11.4 billion, up \$175 million compared to 2019.

Segment Financial Highlights

- In the Products and Systems Integration segment, net sales were \$4.6 billion in 2020, a decrease of \$695 million, or 13%, compared to \$5.3 billion in 2019. On a geographic basis, net sales decreased in both North America and International primarily driven by lower public safety LMR and PCR, partially offset by growth in Video Security and Analytics. Operating earnings were \$656 million in 2020, compared to \$994 million in 2019. Operating margins decreased in 2020 to 14.2% from 18.7% in 2019 primarily due to lower sales and gross margin contribution, partially offset by lower operating expenses primarily driven by: lower employee incentive costs, indirect expenses, and travel expenses, and a \$50 million gain from the sale of a manufacturing facility in Europe. The overall reduction in operating expenses was partially offset by: (i) \$23 million higher reorganization of business expenses, (ii) \$11 million higher share-based compensation expenses, and (iii) higher operating expenses from acquisitions.
- In the Software and Services segment, net sales were \$2.8 billion in 2020, an increase of \$222 million, or 9%, compared to \$2.6 billion in 2019. On a geographic basis, net sales increased in both North America and International. Operating earnings were \$727 million in 2020, compared to \$587 million in 2019. Operating margin increased in 2020 to 26.2% from 22.9% in 2019 due to higher sales and gross margin contribution, along with reduced operating expenses primarily driven by operating leverage, inclusive of lower employee incentive costs and travel expenses. The overall reduction in operating expenses was partially offset by: (i) \$6 million higher reorganization of business expenses, (ii) \$5 million higher intangible amortization driven by acquisitions, and (iii) higher operating expenses from acquisitions.

COVID-19

In response to the COVID-19 pandemic, there have been a broad number of governmental and commercial actions taken to limit the spread of the virus, including social distancing measures, stay-at-home orders, travel restrictions, business shutdowns and slowdowns. These actions have resulted in a significant decline in global economic activity, and accordingly, we have assessed the impact on our employees, customers, communities, liquidity and financial position.

We continue to abide by a number of measures in an effort to protect the health and well-being of our employees and customers, including having office workers work remotely, suspending employee travel, withdrawing from certain industry events, increasing the frequency of cleaning services, encouraging face coverings, and using thermal scanning. We have continued to ensure customer continuity by fulfilling several emergency orders, completing remote software maintenance where possible, and continuing to service our mission-critical networks on-site as needed to ensure seamless operations. Our sales teams have also continued to improve virtual engagement with our customers. Additionally, our engineering teams have adapted our solutions offerings to equip our customers with the latest technology in an effort to protect their workplaces from the spread of COVID-19. Specifically, in Video Security and Analytics, we have adapted our software and hardware offerings to provide analytics addressing occupancy counting, face mask detection, and thermal detection capabilities.

We believe our existing balances of cash, cash equivalents and marketable securities, along with other short-term liquidity arrangements, will be sufficient to satisfy our liquidity requirements associated with our existing operations. During the first quarter of 2020, we proactively withdrew \$800 million from our unsecured revolving credit facility, which we repaid during the twelve months ended December 31, 2020. We were in compliance with all applicable covenants in our unsecured revolving credit facility as of December 31, 2020. Additionally, we have no bond maturities until 2023.

We continue to evaluate our financial position during this economic slowdown. Specifically, in our Software and Services segment, with the largely recurring nature of the business and our strong backlog position, we continue to expect that the impacts on net sales and operating margin will be limited in 2021. In our Products and Systems Integration segment, the impacts on net sales and operating margin were more significant during the first half of 2020 with reduced impact in the fourth quarter of 2020. Reduced demand, particularly in our PCR business, as well as delays in engagements with our state and local customers led to a decline in net sales for the Product and Systems Integration segment in 2020 as compared to 2019. Within the Products and Systems Integration segment, we are encouraged by strong LMR backlog, and the resiliency of the Video Security and Analytics technology, that has experienced growth in the year, as we enter 2021. In 2021, COVID-19 may continue to have an impact on net sales and operating margins within our Products and Systems Integration segment. However, given the prioritization of mission critical communication solutions, we do not anticipate funding at the state and local levels to have a material, negative effect on our expected net sales for 2021. We have also taken actions in a number of areas to reduce our operating expenses, including lower variable employee compensation, travel costs, contractor spend and reducing our real estate footprint to limit the negative effect on operating margins for 2020; however, a portion of these expenses, primarily variable compensation and certain travel expenses are likely to return in 2021. In addition, our supply chain partners have been supportive and continue to work to fulfill the necessary service levels to the Company and its customers.

We continue to closely monitor the impact of COVID-19 on our business and geographies, including how it is impacting our customers, suppliers, and business partners. However, the future impact that COVID-19 will have on our financial position and operating results may be affected by numerous uncertainties, including the severity of the virus, the duration of the outbreak, governmental, business or other actions, impacts on our supply chain, the effect on customer demand, or changes to our operations. The impacts of a potential worsening of global economic conditions and the continued disruptions to, and volatility in, the credit and financial markets, as well as other unanticipated consequences, remain unknown. Further, additional outbreaks of COVID-19 in fiscal 2021 or beyond would cause many of the impacts described herein to return or be exacerbated.

For further information, please see “Part 1. Item 1. Business” and “Part 1. Item 1A. Risk Factors” in this Form 10-K. The Company’s current expectations described above are forward-looking statements and our actual results may differ.

Recent Acquisitions

Technology	Segment	Acquisition	Description	Purchase Price	Date of Acquisition
Command Center Software	Software and Services	Callyo	Provider of cloud-based mobile applications for law enforcement in North America, including critical mobile technological capabilities that enable information to flow seamlessly from the field to the command center.	\$63 million, inclusive of share-based compensation of \$3 million	August 28, 2020
Video Security and Analytics	Products and Systems Integration Software and Services	Pelco, Inc.	Global provider of video security solutions, adding a broad range of products for a variety of commercial and industrial environments and use cases.	\$110 million	July 31, 2020
Video Security and Analytics	Products and Systems Integration Software and Services	IndigoVision Group plc	Provider of video security solutions to enhance geographical reach across a wider customer base.	\$37 million	June 16, 2020
LMR	Software and Services	Unnamed cybersecurity services business	Provider of vulnerability assessments, cybersecurity consulting, and managed services, including security monitoring of network operations.	\$32 million	April 30, 2020
LMR	Software and Services	Unnamed cybersecurity services business	Provider of vulnerability assessments, cybersecurity consulting, managed services, and remediation and response capabilities.	\$40 million, inclusive of share-based compensation of \$6 million	March 3, 2020
Video Security and Analytics	Software and Services	Unnamed data solutions business for vehicle location information	Provider of additional data to our existing license plate recognition database.	\$85 million	October 16, 2019
Video Security and Analytics	Products and Systems Integration Software and Services	WatchGuard, Inc.	Provider of in-car and body-worn video solutions.	\$271 million, inclusive of share-based compensation of \$16 million	July 11, 2019
LMR	Products and Systems Integration Software and Services	Avtec, Inc.	Provider of dispatch communications for U.S. public safety and commercial customers to communicate, coordinate resources, and secure their facilities.	\$136 million	March 11, 2019
Video Security and Analytics	Products and Systems Integration Software and Services	VaaS International Holdings	Global provider of data and image analytics for vehicle location.	\$445 million, inclusive of share-based compensation of \$38 million	January 7, 2019
Video Security and Analytics	Products and Systems Integration Software and Services	Avigilon Corporation	Provider of advanced security and video solutions including video analytics, network video management hardware and software, video cameras, and access control solutions.	\$974 million	March 28, 2018
Command Center Software	Software and Services	Plant Holdings, Inc.	Provider of next generation 911 solutions.	\$237 million	March 7, 2018

Change in Presentation

During the first quarter of 2020, the Company restructured to realize more operational efficiencies, combining our Europe, Middle East and Africa ("EMEA"), Asia Pacific ("AP"), and Latin America ("LA") regions into one region, which is now reflected as "International." Accordingly, the Company now reports net sales in the following two geographic regions: North America, which includes the United States and Canada, and International. In addition, during the fourth quarter of 2020, the Company updated its presentation of major products and services to provide a more comprehensive view of our technologies within our reporting segments. Accordingly, the Company now reports net sales in the following three major products and services: LMR Mission Critical Communications, Video Security, and Command Center Software. The Company has updated all periods presented to reflect this change in presentation. Refer to Note 2 of our Consolidated Financial Statements in "Part II. Item 8. Financial Statements and Supplementary Data" of this Form 10-K for further information.

Looking Forward

We continue to focus on growth opportunities across our portfolio of technologies.

We expect continued growth within our global LMR installed base as a number of events such as natural disasters and large-scale incidents continue to reinforce the importance of having secure, reliable LMR for public safety. We believe our augmentation of LMR with broadband solutions will also drive growth, as we expect our customers will look to integrate valuable data capabilities. We expect to provide additional services to existing LMR customers as communication networks become more complex, software-centric and data-driven.

As public safety needs continue to evolve, we anticipate growth opportunities within the command center as our Command Center Software suite covers the mission critical workflow, from 911 intake to case closure and management. We expect increased growth in our integrated software next generation core services and our cloud-based solutions, such as the PremierOne Cloud suite.

Within Video Security and Analytics, we expect growth across our portfolio of fixed and mobile security solutions embedded with advanced analytics, and access control solutions. We believe drivers include expansion of traditional video sales beyond commercial customers to government and public safety customers. Additionally, we expect customers to continue to embrace analytics that convert video into data and the scalability of the cloud to run their operations, and we also expect continued expansion of offerings such as video-as-a-service and Avigilon Cloud Services.

Finally, we anticipate new opportunities from the investments we are making to integrate our LMR, Command Center Software and Video Security and Analytics technologies into one unified ecosystem. We have made go-to-market and research and development investments in both Video Security and Analytics and our Command Center Software technologies with growth in mind. We have made a number of acquisitions and we see opportunities to continue to rationalize costs within both segments of our business, further driving operating leverage in our businesses. We believe our integrated ecosystem for public and enterprise safety can enable strong collaboration by removing system silos, simplifying management and automating workflows.

Refer to "COVID-19" set forth in "Part II. Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" of this Form 10-K for a discussion of our outlook with respect to the continuing impact of COVID-19 on the Company's financial condition and results of operations.

Results of Operations

<i>(Dollars in millions, except per share amounts)</i>	Years ended December 31					
	2020	% of Sales **	2019	% of Sales **	2018	% of Sales **
Net sales from products	\$ 4,087		\$ 4,746		\$ 4,463	
Net sales from services	3,327		3,141		2,880	
Net sales	7,414		7,887		7,343	
Costs of product sales	1,872	45.8 %	2,049	43.2 %	2,035	45.6 %
Costs of services sales	1,934	58.1 %	1,907	60.7 %	1,828	63.5 %
Costs of sales	3,806	51.3 %	3,956	50.2 %	3,863	52.6 %
Gross margin	3,608	48.7 %	3,931	49.8 %	3,480	47.4 %
Selling, general and administrative expenses	1,293	17.4 %	1,403	17.8 %	1,254	17.1 %
Research and development expenditures	686	9.3 %	687	8.7 %	637	8.7 %
Other charges	246	3.3 %	260	3.3 %	334	4.5 %
Operating earnings	1,383	18.7 %	1,581	20.0 %	1,255	17.1 %
Other income (expense):						
Interest expense, net	(220)	(3.0)%	(220)	(2.8)%	(222)	(3.0)%
Gains (losses) on sales of investments and businesses, net	(2)	— %	5	0.1 %	16	0.2 %
Other	13	0.2 %	(365)	(4.6)%	53	0.7 %
Total other expense	(209)	(2.8)%	(580)	(7.4)%	(153)	(2.1)%
Net earnings before income taxes	1,174	15.8 %	1,001	12.7 %	1,102	15.0 %
Income tax expense	221	3.0 %	130	1.6 %	133	1.8 %
Net earnings	953	12.9 %	871	11.0 %	969	13.2 %
Less: Earnings attributable to noncontrolling interests	4	0.1 %	3	— %	3	— %
Net earnings*	\$ 949	12.8 %	\$ 868	11.0 %	\$ 966	13.2 %
Earnings per diluted common share*	\$ 5.45		\$ 4.95		\$ 5.62	

* Amounts attributable to Motorola Solutions, Inc. common shareholders.

** Percentages may not add due to rounding.

Geographic Market Sales by Locale of End Customer

	2020	2019	2018
North America	68 %	67 %	64 %
International	32 %	33 %	36 %
	100 %	100 %	100 %

Results of Operations—2020 Compared to 2019

Net Sales

<i>(In millions)</i>	<i>Years ended December 31</i>		
	2020	2019	<i>% Change</i>
Net sales from Products and Systems Integration	\$ 4,634	\$ 5,329	(13)%
Net sales from Software and Services	2,780	2,558	9 %
Net sales	\$ 7,414	\$ 7,887	(6)%

The Products and Systems Integration segment's net sales represented 63% of our net sales in 2020, compared to 68% in 2019. The Software and Services segment's net sales represented 37% of our net sales in 2020, compared to 32% in 2019.

Net sales decreased by \$473 million, or 6%, compared to 2019. The 13% decline in net sales within the Products and Systems Integration segment was driven by an 11% decline in the North America region and an 18% decline in the International region. The 9% increase in the Software and Services segment was driven by a 12% increase in the North America region and a 4% increase in the International region. The decrease in net sales included:

- a decline in the Products and Systems Integration segment, inclusive of \$119 million of revenue from acquisitions, driven by a decline in public safety LMR and PCR, partially offset by growth in Video Security;
- growth in the Software and Services segment, inclusive of \$84 million of revenue from acquisitions, driven by an increase in Video Security and Analytics, Command Center Software, and LMR services due to strong demand in the North America region; and
- \$12 million from unfavorable currency rates.

Regional results included:

- a 5% decline in the North America region, inclusive of revenue from acquisitions, driven by declines in public safety LMR and PCR, partially offset by growth in Video Security and Analytics, LMR services, and Command Center Software; and
- a 9% decline in the International region, inclusive of revenue from acquisitions, driven by declines in public safety LMR and PCR, partially offset by growth in Video Security and Analytics, Command Center Software, and LMR public safety services.

Products and Systems Integration

The 13% decrease in the Products and Systems Integration segment was driven by the following:

- 17% decline in public safety LMR and PCR, inclusive of revenue from acquisitions, in both the International and North America regions, primarily driven by a delay in customer engagement due to the COVID-19 pandemic;
- partially offset by \$143 million, or 29%, growth in Video Security and Analytics, inclusive of revenue from acquisitions, in both the International and North America regions; and
- \$3 million from favorable currency rates.

Software and Services

The 9% increase in the Software and Services segment was driven by the following:

- 6% growth in LMR services, inclusive of revenue from acquisitions, driven by the North America region;
- 36% growth in Video Security and Analytics, inclusive of revenue from acquisitions, driven by both the North America and International regions;
- 7% growth in Command Center Software, inclusive of revenue from acquisitions, driven by both the North America and International regions; and
- partially offset by \$15 million from unfavorable currency rates.

Gross Margin

<i>(In millions)</i>	<i>Years ended December 31</i>		
	2020	2019	<i>% Change</i>
Gross margin	\$ 3,608	\$ 3,931	(8)%

Gross margin was 48.7% of net sales in 2020 and 49.8% of net sales in 2019. The decrease was driven by:

- lower gross margin contribution in Products and Systems Integration segment as a result of the decline in public safety LMR and PCR sales, as well as lower margins on projects driven by a delay in engagements from COVID-19, partially offset by lower incentive costs; and
- partially offset by higher gross margins within the Software and Services segment, inclusive of acquisitions, primarily driven by higher gross margin contribution from sales growth, driven by improved mix of service offerings and lower travel and incentive costs.

Selling, General and Administrative ("SG&A") Expenses

	<i>Years ended December 31</i>		
<i>(In millions)</i>	2020	2019	<i>% Change</i>
Selling, general and administrative expenses	\$ 1,293	\$ 1,403	(8)%

SG&A expenses decreased 8% in 2020 compared to 2019. SG&A expenses were 17.4% of net sales in 2020 compared to 17.8% of net sales in 2019. The decrease in SG&A expenses was primarily due to reduced employee incentive costs, travel expenses, and indirect expenses. The overall reduction in SG&A expenses was partially offset by expenses associated with acquired businesses.

Research and Development ("R&D") Expenditures

	<i>Years ended December 31</i>		
<i>(In millions)</i>	2020	2019	<i>% Change</i>
Research and development expenditures	\$ 686	\$ 687	— %

R&D expenditures remained consistent in 2020 compared to 2019. R&D expenditures were 9.3% of net sales in 2020 and 8.7% of net sales in 2019.

Other Charges

	<i>Years ended December 31</i>		
<i>(In millions)</i>	2020	2019	
Other charges	\$ 246	\$	260

Other charges decreased by \$16 million in 2020 compared to 2019 primarily due to the following:

- \$50 million gain on sale of a manufacturing facility in Europe in 2020;
- partially offset by \$57 million of net reorganization of business charges in 2020 as compared to \$40 million in 2019 (see Note 14 of our consolidated financial statements in "Part II. Item 8. Financial Statements and Supplementary Data" of this Form 10-K for further information);
- \$215 million of amortization of intangibles in 2020 compared to \$208 million in 2019;
- \$9 million of legal settlements in 2020 compared to \$3 million in 2019;
- \$9 million of charges for acquisition-related transaction fees in 2020 as compared to \$3 million in 2019; and
- \$5 million of fixed asset impairments.

Operating Earnings

	<i>Years ended December 31</i>		
<i>(In millions)</i>	2020	2019	
Operating earnings from Products and Systems Integration	\$ 656	\$	994
Operating earnings from Software and Services	727		587
Operating earnings	\$ 1,383	\$	1,581

Operating earnings decreased \$198 million, or 13%, compared to 2019. The decrease in Operating earnings was due to:

- Products and Systems Integration decreased by \$338 million from 2020 to 2019 driven by lower sales and gross margin contribution, partially offset by lower operating expenses driven by lower employee incentive costs, indirect expenses, and travel expenses. The overall reduction in operating expenses was offset by: (i) \$23 million higher reorganization of business expenses, (ii) \$11 million higher share-based compensation expenses, and (iii) higher operating expenses from acquisitions.

- Software and Services segment increased by \$140 million from 2020 to 2019 driven by higher sales and gross margin contribution, along with reduced operating expenses due to operating leverage, inclusive of lower employee incentive costs and travel expenses. The overall reduction in operating expenses was partially offset by: (i) \$6 million higher reorganization of business expenses, (ii) \$5 million higher intangible amortization driven by acquisitions, and (iii) higher operating expenses from acquisitions.

Interest Expense, net

<i>(In millions)</i>	<i>Years ended December 31</i>	
	2020	2019
Interest expense, net	\$ (220)	\$ (220)

Interest expense, net in 2020 compared to 2019 remained relatively consistent due to a one-time receipt of interest income related to a tax refund and lower interest rates on debt outstanding, offset by lower interest income earned on cash due to lower interest rates.

Gains (losses) on Sales of Investments and Businesses, net

<i>(In millions)</i>	<i>Years ended December 31</i>	
	2020	2019
Gains (losses) on sales of investments and businesses, net	\$ (2)	\$ 5

The net gains (losses) in 2020 and 2019 were primarily related to the sales of various equity investments.

Other, net

<i>(In millions)</i>	<i>Years ended December 31</i>	
	2020	2019
Other, net	\$ 13	\$ (365)

The change in net Other income in 2020 as compared to net Other expense in 2019 was primarily comprised of:

- \$359 million U.S pension settlement loss in 2019 (see Note 8 of our consolidated financial statements in “Part II. Item 8. Financial Statements and Supplementary Data” of this Form 10-K for further information);
- \$25 million gain on derivatives in 2020 compared to an \$8 million loss on derivatives in 2019;
- \$4 million of investment impairments in 2020 compared to \$18 million in 2019;
- partially offset by \$44 million of foreign currency losses in 2020 compared to \$22 million in 2019; and
- \$56 million of net losses from repurchases of long term debt in 2020 as compared to a loss of \$46 million in 2019 (see Note 5 of our consolidated financial statements in “Part II. Item 8. Financial Statements and Supplementary Data” of this Form 10-K for further information).

Effective Tax Rate

<i>(In millions)</i>	<i>Years ended December 31</i>	
	2020	2019
Income tax expense	\$ 221	\$ 130

Income tax expense increased by \$91 million in 2020 compared to 2019, for an effective tax rate of 18.8%, which is lower than the current U.S. federal statutory rate of 21% primarily due to:

- \$48 million of benefits due to the recognition of excess tax benefits on share-based compensation; and
- \$28 million of benefits due to the recognition of increased prior and current R&D tax credits.

Our effective tax rate in 2019 was 13.0%, which is lower than the current U.S. federal statutory rate of 21% primarily related to:

- a \$77 million benefit due to the partial release of a valuation allowance to our U.S. foreign tax credit carryforward (see Note 7 of our consolidated financial statements in “Part II. Item 8. Financial Statements and Supplementary Data” of this Form 10-K for further information); and
- \$27 million of benefits due to the recognition of excess tax benefits on share-based compensation.

Results of Operations—2019 Compared to 2018

Net Sales

(In millions)	Years ended December 31		
	2019	2018	% Change
Net sales from Products and Systems Integration	\$ 5,329	\$ 5,100	5 %
Net sales from Software and Services	2,558	2,243	14 %
Net sales	\$ 7,887	\$ 7,343	7 %

The Products and Systems Integration segment's net sales represented 68% of our consolidated net sales in 2019, compared to 69% in 2018. The Software and Services segment's net sales represented 32% of our consolidated net sales in 2019, compared to 31% in 2018.

Net sales increased by \$544 million, or 7%, in 2019 compared to 2018. Net sales in the Software and Services segment increased approximately 14%, which was comprised of a 22% increase in the North America region and a 6% sales increase in the International region. Net sales in the Products and Systems Integration segment increased approximately 5%, which is comprised of a 10% increase in the North America region partially offset by an 8% decrease in the International region. The increase in net sales included:

- an increase in the Products and Systems Integration segment, inclusive of \$157 million of revenue from acquisitions, driven by growth in LMR and Video Security and Analytics;
- growth in the Software and Services segment, inclusive of \$155 million of revenue from acquisitions, driven by an increase in Video Security and Analytics, Command Center Software, and LMR services due to strong demand in the North America region; and
- partially offset by \$113 million from unfavorable currency rates.

Regional results include:

- 13% increase in the North America region, inclusive of revenue from acquisitions, across Video Security and Analytics, LMR, and Command Center Software within both the Products and Systems Integration and the Software and Services segments; and
- 3% decline in the International region, inclusive of revenue from acquisitions, driven by declines in public safety LMR and PCR, partially offset by growth in Video Security and Analytics and Command Center Software.

Products and Systems Integration

The 5% growth in the Products and Systems Integration segment was driven by:

- 57% growth in Video Security and Analytics, inclusive of acquisitions, driven by growth in the North America and International regions;
- 1% growth in LMR, inclusive of acquisitions, driven by growth in the North America region and partially offset by a decline in the International region, which had two large system deployments completed in the Middle East and Africa in 2018; and
- partially offset by \$54 million foreign currency headwinds.

Software and Services

The 14% growth in the Software and Services segment was driven by the following:

- 223% growth in Video Security and Analytics, inclusive of acquisitions, driven by both the North America and International regions;
- 26% growth in Command Center Software, inclusive of acquisitions, driven by both the North America and International regions;
- 4% growth in LMR services, inclusive of acquisitions, primarily driven by the North America region; and
- partially offset by \$59 million of foreign currency headwinds.

Gross Margin

	<i>Years ended December 31</i>		
<i>(In millions)</i>	2019	2018	% Change
Gross margin	\$ 3,931	\$ 3,480	13 %

Gross margin was 49.8% of net sales in 2019 and 47.4% of net sales in 2018. The increase was driven by:

- higher margins in the Products and Systems Integration segment primarily driven by a favorable mix in LMR devices; and
- higher margins within the Software and Services segment primarily driven by higher software sales, inclusive of acquisitions.

Selling, General and Administrative Expenses

	<i>Years ended December 31</i>		
<i>(In millions)</i>	2019	2018	% Change
Selling, general and administrative expenses	\$ 1,403	\$ 1,254	12 %

SG&A expenses increased 12% in 2019 compared to 2018. SG&A expenses were 17.8% of net sales in 2019 compared to 17.1% of net sales in 2018. The increase in SG&A expenses was primarily due to increased expenses associated with acquired businesses, including the deployment of additional sales resources to support Video Security and Analytics growth initiatives.

Research and Development Expenditures

	<i>Years ended December 31</i>		
<i>(In millions)</i>	2019	2018	% Change
Research and development expenditures	\$ 687	\$ 637	8 %

R&D expenditures increased 8% in 2019 compared to 2018. R&D expenditures were 8.7% of net sales in each of 2019 and 2018. The increase in R&D expenses was primarily due to acquired businesses, specifically in Video Security and Analytics, as well as new product launches.

Other Charges

	<i>Years ended December 31</i>		
<i>(In millions)</i>	2019	2018	
Other charges	\$ 260	\$	334

The decrease in Other charges in 2019 as compared to 2018 can be summarized as follows:

- a \$57 million charge in 2018 related to ongoing remediation efforts for an environmental clean-up incurred by a legacy business (see Note 4 of our consolidated financial statements in "Part II. Item 8. Financial Statements and Supplementary Data" of this Form 10-K for further information);
- \$40 million of net reorganization of business charges in 2019 as compared to \$61 million in 2018 (see Note 14 of our consolidated financial statements in "Part II. Item 8. Financial Statements and Supplementary Data" of this Form 10-K for further information);
- \$3 million of charges for acquisition-related transaction fees in 2019 as compared to \$24 million in 2018; partially offset by
- \$208 million of amortization of intangibles in 2019 compared to \$188 million in 2018.

Operating Earnings

	<i>Years ended December 31</i>		
<i>(In millions)</i>	2019	2018	
Operating earnings from Products and Systems Integration	\$ 994	\$	854
Operating earnings from Software and Services	587		401
Operating earnings	\$ 1,581	\$	1,255

Operating earnings increased by \$326 million, or 26%, in 2019 compared to 2018. The increase in Operating earnings was due to:

- Software and Services segment increased by \$186 million from 2018 to 2019 due to higher sales and gross margin, as well as lower operating expenses driven by: (i) \$17 million lower environmental reserve expenses, (ii) \$11 million lower acquisition-related transaction fees, and (iii) \$5 million lower reorganization of business expenses, partially offset by \$4 million higher intangible amortization driven by acquisitions.
- Products and Systems Integration increased by \$140 million from 2018 to 2019 due to higher sales and gross margin, as well as lower operating expenses driven by: (i) \$40 million lower environmental reserve expenses, (ii) \$15 million lower reorganization of business expenses, and (iii) \$10 million lower acquisition-related transaction fees, partially offset by \$16 million higher intangible amortization driven by acquisitions.

Interest Expense, net

<i>(In millions)</i>	<i>Years ended December 31</i>	
	2019	2018
Interest expense, net	\$ (220)	\$ (222)

Interest expense, net in 2019 compared to 2018 remained relatively consistent given the similar average outstanding debt balance.

Gains (losses) on Sales of Investments and Businesses, net

<i>(In millions)</i>	<i>Years ended December 31</i>	
	2019	2018
Gains on sales of investments and businesses, net	\$ 5	\$ 16

The net gains in 2019 and 2018 were primarily related to the sales of various equity investments.

Other, net

<i>(In millions)</i>	<i>Years ended December 31</i>	
	2019	2018
Other, net	\$ (365)	\$ 53

The change in net Other expense in 2019 as compared to net Other income in 2018 was primarily comprised of:

- \$359 million U.S. pension settlement loss in 2019 (see Note 8 of our consolidated financial statements in "Part II. Item 8. Financial Statements and Supplementary Data" of this Form 10-K for further information); and
- \$46 million of net losses from repurchases of long term debt as compared to a gain of \$6 million in 2018 (see Note 5 of our consolidated financial statements in "Part II. Item 8. Financial Statements and Supplementary Data" of this Form 10-K for further information).

Effective Tax Rate

<i>(In millions)</i>	<i>Years ended December 31</i>	
	2019	2018
Income tax expense	\$ 130	\$ 133

Income tax expense decreased by \$3 million in 2019 as compared to 2018, for an effective tax rate of 13.0%, which is lower than the current U.S. federal statutory rate of 21% primarily due to:

- a \$77 million benefit due to the partial release of a valuation allowance to our U.S. foreign tax credit carryforward (see Note 7 of our consolidated financial statements in "Part II. Item 8. Financial Statements and Supplementary Data" of this Form 10-K for further information); and
- \$27 million of benefits due to the recognition of excess tax benefits on share-based compensation.

Our effective tax rate in 2018 was 12.1% which is lower than the current U.S. federal statutory rate of 21% primarily related to:

- \$79 million benefits related to updates of the provisional amounts on the impact of the Tax Cuts and Jobs Act of 2017; and
- \$30 million of benefits due to the recognition of excess tax benefits on share-based compensation.

Reorganization of Businesses

In 2020, we recorded net reorganization of business charges of \$86 million relating to the separation of 1,200 employees, of which 400 were indirect employees and 800 were direct employees. The \$86 million of charges included \$29 million recorded to Cost of sales and \$57 million recorded to Other charges. Included in the aggregate \$86 million are charges of \$100 million for employee separation costs and \$2 million for exit costs, partially offset by \$16 million of reversals for accruals no longer needed.

During 2019, we recorded net reorganization of business charges of \$57 million relating to the separation of 700 employees, of which 500 were indirect employees and 200 were direct employees. The \$57 million of charges included \$17 million recorded to Cost of sales and \$40 million recorded to Other charges. Included in the aggregate \$57 million were charges of \$64 million for employee separation costs and \$5 million for exit costs, partially offset by \$12 million of reversals for accruals no longer needed.

During 2018, we recorded net reorganization of business charges of \$120 million relating to the separation of 1,200 employees, of which 700 were indirect employees and 500 were direct employees. The \$120 million of charges included \$59 million recorded to Cost of sales and \$61 million recorded to Other charges. Included in the aggregate \$120 million are charges of \$122 million for employee separation costs and \$16 million for exit costs, partially offset by \$18 million of reversals for accruals no longer needed. Also, included in the \$120 million of charges for 2018 was a \$44 million charge related to the announcement of our plan to close our Europe manufacturing facility which impacted 165 employees primarily within the Products and Systems Integration segment. The remainder of the initiatives impacted both of our segments and affected employees located in all geographic regions.

The following table displays the net charges incurred by business segment due to such reorganizations:

<i>Years ended December 31</i>	2020	2019	2018
Products and Systems Integration	\$ 69	\$ 45	\$ 101
Software and Services	17	12	19
	86	\$ 57	\$ 120

Cash payments for employee severance in connection with the reorganization of business plans were \$85 million, \$63 million, and \$65 million in 2020, 2019, and 2018, respectively. The reorganization of business accruals for employee separation costs at December 31, 2020 were \$79 million which we expect to pay within one year.

Liquidity and Capital Resources

	<i>Years Ended December 31</i>		
	2020	2019	2018
Cash flows provided by (used for):			
Operating activities	\$ 1,613	\$ 1,823	\$ 1,075
Investing activities	(437)	(934)	(1,266)
Financing activities	(966)	(1,144)	220
Effect of exchange rates on cash and cash equivalents	43	(1)	(40)
Increase (decrease) in cash and cash equivalents	\$ 253	\$ (256)	\$ (11)

Cash and Cash Equivalents

At December 31, 2020, \$672 million of our \$1.3 billion cash and cash equivalents balance was held in the U.S. and \$582 million was held in other countries, with \$203 million held in the United Kingdom. Restricted cash was \$2 million at December 31, 2020 and December 31, 2019.

In 2020, we repatriated \$395 million in cash to the U.S. from international jurisdictions. We routinely repatriate a portion of non-U.S. earnings each year. We have recorded income tax expense for foreign withholding tax and distribution taxes on such earnings and, under current U.S. tax laws, do not expect to incur material incremental U.S. tax on repatriation.

Where appropriate, we may also pursue capital reduction activities; however, such activities can be involved and lengthy. While we regularly repatriate funds, and a portion of offshore funds can be repatriated with minimal adverse financial impact, repatriation of some of these funds may be subject to delay due to local country approvals.

Operating Activities

The decrease in operating cash flows from 2019 to 2020 was driven by:

- a reduction of operating earnings as a result of lower sales volume;
- \$43 million of higher income tax payments; and
- partially offset by improvements in working capital.

The increase in operating cash flows from 2018 to 2019 was driven by:

- \$500 million debt-funded voluntary contribution to our U.S. pension plan in 2018 compared to no material contributions to our U.S. pension plan in 2019;
- higher operating earnings in 2019 as compared to 2018;
- \$51 million settlement arising from a legacy business in 2018; and
- partially offset by \$19 million of higher tax payments and \$17 million of higher interest payments in 2019 compared to 2018.

Investing Activities

The decrease in net cash used by investing activities from 2019 to 2020 was primarily due to:

- \$422 million decrease in acquisitions and investments, driven by acquisitions of \$287 million in 2020 compared to \$709 million in 2019;
- \$56 million increase in proceeds from the sale of property, plant and equipment driven by the sale of a European manufacturing facility in 2020; and
- \$31 million decrease in capital expenditures in 2020 compared 2019 due to lower expenditures for the Airwave and ESN networks.

The decrease in net cash used by investing activities from 2018 to 2019 was primarily due to:

- \$455 million decrease in acquisitions and investments, primarily driven by acquisitions of \$709 million in 2019 compared to \$1.2 billion in 2018;
- \$79 million decrease in proceeds from sales of investments and businesses, driven by \$60 million of excess cash received from Company-sponsored life insurance investments in 2018; and
- partially offset by \$51 million higher capital expenditures in 2019 compared 2018, due to higher spend associated with revenue-generating networks within our Software and Services segment.

Financing Activities

The decrease in cash used by financing activities in 2020 compared to cash used by financing activities in 2019 was driven by (also see further discussion in "Debt," "Credit Facilities," "Share Repurchase Program" and "Dividends" in this section below):

- \$400 million used for the repayment of the term loan in 2019;
- \$1.0 billion received from the issuance of 1.75% senior convertible notes due 2024 in 2019 which was subsequently used for the settlement of \$1.1 billion of the 2.00% senior convertible notes, inclusive of the \$326 million conversion premium in 2019;
- \$804 million net proceeds from the issuance of \$800 million of 4.6% senior notes due 2029 in 2019, which was subsequently used to repurchase \$614 million principal amount of long-term debt under a tender offer and \$150 million principal amount for the 3.5% senior notes due 2021 for a total purchase price of \$809 million in 2019;
- \$892 million net proceeds from the issuance of \$900 million of 2.30% senior notes due 2030 in the third quarter of 2020, which was subsequently used to repurchase \$552 million principal amount of 2.75% senior notes due 2022 and \$293 million principal amount of long-term debt under a tender offer for a total purchase price of \$897 million in 2020;
- \$800 million net proceeds from the draw on our syndicated, unsecured revolving credit facility during 2020 which was subsequently repaid during the year; and
- partially offset by \$612 million used for purchases under our share repurchase program in 2020 as compared to \$315 million in 2019; and
- \$436 million cash used for the payment of dividends in 2020 as compared to \$379 million in 2019.

The increase in cash from financing activities in 2019, as compared to cash used in financing activities in 2018 was driven by:

- \$1.1 billion used for the settlement of the 2.00% senior convertible notes, inclusive of the \$326 million conversion premium compared to the settlement of \$369 million during 2018, inclusive of the \$169 million conversion premium;
- \$400 million used in 2019 for the repayment of the term loan, compared to the \$400 million of proceeds received from the issuance of the term loan in 2018;
- \$379 million of cash used for the payment of dividends in 2019 as compared to \$337 million in 2018;
- \$315 million used for purchases under our share repurchase program in 2019 as compared to \$132 million in 2018; and
- partially offset by \$1.0 billion received from the issuance of 1.75% senior convertible notes due 2024 in 2019;

- \$700 million of proceeds received from the issuance of 4.6% senior notes due 2028 in 2018;
- \$804 million net proceeds from the issuance of \$800 million of 4.6% senior notes due 2029 in 2019, which was subsequently used to repurchase \$614 million principal amount of long-term debt under a tender offer and \$150 million principal amount for the 3.5% senior notes due 2021 for a total purchase price of \$809 million in 2019; and
- \$114 million of net proceeds from the issuance of common stock in connection with our employee stock option and employee stock purchase plans in 2019, as compared to \$168 million in 2018.

Sales of Receivables

We may choose to sell accounts receivable and long-term receivables to third-parties under one-time arrangements. We may or may not retain the obligation to service the sold accounts receivable and long-term receivables.

The following table summarizes the proceeds received from sales of accounts receivable and long-term receivables for the years ended December 31, 2020, 2019, and 2018:

Years ended December 31	2020	2019	2018
Contract-specific discounting facility	\$ 228	\$ —	\$ —
Accounts receivable sales proceeds	74	34	77
Long-term receivables sales proceeds	181	265	270
Total proceeds from receivable sales	\$ 483	\$ 299	\$ 347

During the year ended December 31, 2020, we utilized a new cost-efficient receivable discounting facility to neutralize the impact of increased payment terms under a renegotiated and extended long-term contract in Europe resulting in accounts receivable sales of \$228 million during the year ended December 31, 2020. The net benefit to our operating cash flow from the utilization of the new receivable discounting facility during 2020, was an inflow of \$61 million when adjusted for amounts that would still be collected from the customer within the period in the absence of utilizing the discounting facility. The proceeds of our receivable sales are included in "Operating Activities" within our Consolidated Statements of Cash Flows.

At December 31, 2020, the Company had retained servicing obligations for \$983 million of long-term receivables, compared to \$984 million of long-term receivables at December 31, 2019. Servicing obligations are limited to collection activities related to the sales of accounts receivables and long-term receivables.

Debt

We had outstanding long-term debt of \$5.2 billion and \$5.1 billion, including the current portions of \$12 million and \$16 million, at December 31, 2020 and December 31, 2019, respectively.

In May of 2019, we issued \$650 million of 4.60% senior notes due 2029. We received proceeds of \$645 million after debt issuance costs and debt discounts. These proceeds were then used to repurchase \$614 million in principal amount of our outstanding long-term debt for a purchase price of \$654 million, excluding \$3 million of accrued interest. After accelerating the amortization of debt issuance costs and debt discounts, we recognized a loss of \$43 million related to this repurchase in Other, net within Other income (expense) in our Consolidated Statements of Operations.

In August of 2019, we issued a follow-on of \$150 million to the outstanding 4.60% senior notes due 2029 bringing the total outstanding principal to \$800 million. We recognized net proceeds of \$159 million after debt premiums and debt issuance costs. These proceeds were then used to repurchase the remaining \$150 million principal amount of the 3.5% senior notes due 2021 for a purchase price of \$155 million, excluding \$2 million of accrued interest. After accelerating the amortization of debt issuance costs, we recognized a loss of \$7 million related to this repurchase in Other, net within Other income (expense) in our Consolidated Statements of Operations.

On September 5, 2019, in connection with our repurchase and settlement of the outstanding principal amount of 2.00% senior convertible notes due 2020 issued to Silver Lake Partners, we entered into an agreement with Silver Lake Partners to issue \$1.0 billion of 1.75% senior convertible notes which mature in September 2024 (the "New Senior Convertible Notes"). Interest on these notes is payable semiannually. The notes are convertible anytime on or after two years from their issuance date, except in certain limited circumstances. The notes are convertible based on a conversion rate of 4.9140 per \$1,000 principal amount (which is equal to an initial conversion price of \$203.50 per share). In the event of conversion, we intend to settle the principal amount of the New Senior Convertible Notes in cash. We recorded a debt liability associated with the New Senior Convertible Notes by determining the fair value of an equivalent debt instrument without a conversion option. Using a discount rate of 2.45%, which was determined based on a review of relevant market data, we calculated the debt liability to be \$986 million, indicating a \$14 million discount to be amortized over the expected life of the debt instrument. The remaining proceeds of \$14 million were allocated to the conversion option and accordingly, increased our additional paid-in capital.

In August of 2020, we issued \$900 million of 2.30% senior notes due 2030. We recognized net proceeds of \$892 million after debt issuance costs and debt discounts. A portion of these proceeds were then used to redeem \$552 million in principal amount outstanding of the 3.75% senior notes due 2022 for a redemption price of \$582 million, excluding \$7 million of accrued interest. The remaining proceeds were used to repurchase \$293 million in principal amount outstanding of our long-term debt under a tender offer, for a purchase price of \$315 million, excluding \$5 million of accrued interest. After accelerating the amortization of debt issuance costs and debt discounts, we recognized a loss of \$56 million related to the redemption and the repurchase in Other, net within Other income (expense) in our Consolidated Statements of Operations.

We have an unsecured commercial paper program, backed by the revolving credit facility described below, under which we may issue unsecured commercial paper notes up to a maximum aggregate principal amount of \$2.2 billion outstanding at any one time. At maturity, the notes are paid back in full including the interest component. The notes are not redeemable prior to maturity. As of December 31, 2020, we had no outstanding debt under the commercial paper program.

Credit Facilities

As of December 31, 2020, we had a \$2.2 billion syndicated, unsecured revolving credit facility scheduled to mature in April 2022 (the "2017 Motorola Solutions Credit Agreement"). The 2017 Motorola Solutions Credit Agreement includes a \$500 million letter of credit sub-limit with \$450 million of fronting commitments. Borrowings under the facility bear interest at the prime rate plus the applicable margin, or at a spread above the London Interbank Offered Rate ("LIBOR"), at our option. Following the turmoil in the financial markets caused by the COVID-19 pandemic, we borrowed \$800 million under the facility to bolster our cash holdings out of precaution in the first quarter of 2020, of which the full \$800 million was repaid during the year ended December 31, 2020. The weighted average borrowing rate for amounts outstanding during the year ended December 31, 2020 was 1.70%. An annual facility fee is payable on the undrawn amount of the credit line. The interest rate and facility fee are subject to adjustment if our credit rating changes. We must comply with certain customary covenants including a maximum leverage ratio, as defined in the 2017 Motorola Solutions Credit Agreement. We were in compliance with the financial covenants as of December 31, 2020.

Share Repurchase Program

Through a series of actions, the board of directors has authorized an aggregate share repurchase amount of up to \$14.0 billion of our outstanding shares of common stock (the "share repurchase program"). The share repurchase program does not have an expiration date. As of December 31, 2020, we used approximately \$13.4 billion of the share repurchase authority, including transaction costs, to repurchase shares, leaving approximately \$649 million of authority available for future repurchases.

Our share repurchases, including transaction costs, for 2020, 2019, and 2018 are summarized as follows:

<i>Year</i>	<i>Shares Repurchased (in millions)</i>	<i>Average Price</i>	<i>Amount (in millions)</i>
2020	3.9	\$ 155.93	\$ 612
2019	2.3	137.35	315
2018	1.2	112.42	132

Dividends

We paid cash dividends to holders of our common stock of \$436 million in 2020, \$379 million in 2019, and \$337 million in 2018. On January 15, 2020, we paid an additional \$120 million in cash dividends to holders of our common stock.

Adequate Internal Funding Resources

We believe that we have adequate internal resources available to fund expected working capital and capital expenditure requirements for the next twelve months as supported by the level of cash and cash equivalents in the U.S., the ability to repatriate funds from foreign jurisdictions, cash provided by operations, as well as liquidity provided by our commercial paper program backed by the \$2.2 billion revolving credit facility. Refer also to "COVID-19" in this section of the Form 10-K for a discussion of the impact of COVID-19 on our liquidity.

Contractual Obligations and Other Purchase Commitments

Summarized in the table and text below are our obligations and commitments to make future payments under long-term debt obligations, lease obligations, purchase obligations and tax obligations as of December 31, 2020.

(in millions)	Payments Due by Period							Uncertain Timeframe	Thereafter
	Total	2021	2022	2023	2024	2025			
Long-term debt obligations, gross	\$ 5,228	\$ 12	\$ 4	\$ 326	\$ 1,588	\$ 322	\$ —	\$ 2,976	
Lease obligations	586	141	127	73	59	47	—	139	
Purchase obligations*	209	50	52	50	51	6	—	—	
Tax obligations	64	—	—	—	—	—	64	—	
Total contractual obligations	\$ 6,087	\$ 203	\$ 183	\$ 449	\$ 1,698	\$ 375	\$ 64	\$ 3,115	

*Amounts included represent firm, non-cancelable commitments.

Lease Obligations: We lease certain office, factory and warehouse space, land, and other equipment, principally under non-cancelable operating leases. Our future minimum lease obligations as of December 31, 2020 totaled \$586 million. Rental expense, net of sublease income, was \$128 million in 2020, \$133 million in 2019, and \$108 million in 2018.

Purchase Obligations: During the normal course of business, in order to manage manufacturing lead times and help ensure adequate component supply, we enter into agreements with contract manufacturers and suppliers that either allow them to procure inventory based upon criteria as defined by us or establish the parameters defining our requirements. In addition, we have entered into license agreements which are firm commitments and are not cancellable. We have entered into firm, non-cancelable, and unconditional commitments under such arrangements through 2025. The total payments expected to be made under these agreements as of December 31, 2020 were \$209 million. We do not anticipate the cancellation of any of our take-or-pay agreements in the future and estimate that purchases from these suppliers will exceed the minimum obligations during the agreement periods.

Tax Obligations: We had approximately \$64 million of unrecognized income tax benefits relating to multiple tax jurisdictions and tax years as of December 31, 2020. Based on the potential outcome of our global tax examinations, or the expiration of the statute of limitations for specific jurisdictions, it is reasonably possible that the unrecognized tax benefits will change within the next twelve months. The associated net tax impact (within the next twelve months) on the effective tax rate, exclusive of valuation allowance changes, is estimated to be up to a \$13 million tax benefit.

Commitments Under Other Long-Term Agreements: We have entered into certain long-term agreements to purchase software, components, supplies and materials from suppliers which are not "take-or-pay" in nature. Most of the agreements extend for periods of one to three years (three to five years for software). Generally, these agreements do not obligate us to make any purchases, and many permit us to terminate the agreement with advance notice (usually ranging from 60 to 180 days). If we were to terminate these agreements, we generally would be liable for certain termination charges, typically based on work performed and supplier on-hand inventory and raw materials attributable to canceled orders. Our liability would only arise in the event we terminate the agreements for reasons other than "cause."

We outsource certain corporate functions, such as benefit administration and information technology-related services, under third-party contracts, the longest of which is expected to expire in 2023. Our remaining payments under these contracts are approximately \$41 million over the remaining life of the contracts as of December 31, 2020; however, these contracts can be terminated. Termination would result in penalties substantially less than the remaining annual contract payments. We would also be required to find another source for these services, including the possibility of performing them in-house.

As is customary in bidding for and completing certain projects and pursuant to a practice we have followed for many years, we have a number of performance bonds, bid bonds, standby letters of credit and surety bonds outstanding (collectively, referred to as "Performance Bonds"), primarily relating to projects with our government customers. These Performance Bonds normally have maturities of multiple years and are standard in the industry as a way to give customers a convenient mechanism to seek resolution if a contractor does not satisfy certain requirements under a contract. Typically, a customer can draw on the Performance Bond only if we do not fulfill all terms of a project contract. If such an occasion occurred, we would be obligated to reimburse the institution that issued the Performance Bond for the amounts paid. In our long history, it has been rare for us to have a Performance Bond drawn upon. Outstanding Performance Bonds totaled approximately \$2.6 billion as of December 31, 2020 and \$2.5 billion as of December 31, 2019. Any future disruptions, uncertainty, or volatility in bank, insurance or capital markets, or a change in our credit ratings could adversely affect our ability to obtain Performance Bonds and may result in higher funding costs to obtain such Performance Bonds.

Off-Balance Sheet Arrangements: At December 31, 2020, we had no off-balance sheet arrangements that have or are reasonably likely to have a material effect on our consolidated financial condition, changes in financial condition, results of operations, liquidity, capital expenditures or capital resources, other than our obligation to settle the conversion option under the New Senior Convertible Notes described in Note 5 to the consolidated financial statements "Part II. Item 8. Financial Statements and Supplementary Data" of this Form 10-K.

Other Contingencies

Potential Contractual Damage Claims in Excess of Underlying Contract Value: In certain circumstances, we enter into contracts with customers pursuant to which the damages that could be claimed by the customer for failed performance might exceed the revenue we receive from the contract. Contracts with these types of uncapped damages provisions are fairly rare, but individual contracts could still represent meaningful risk. There is a possibility that a claim by a counterparty to one of these contracts could result in expenses that are far in excess of the revenue received from the counterparty in connection with the contract.

Indemnification Provisions: We may provide indemnifications for losses that result from the breach of general warranties contained in certain commercial and intellectual property agreements. Historically, we have not made significant payments under these agreements, nor have there been significant claims asserted against us. However, there is an increasing risk in relation to intellectual property indemnities given the current legal climate. In indemnification cases, payment by us is conditioned on the other party making a claim pursuant to the procedures specified in the particular contract, which procedures typically allow us to challenge the other party's claims. In some instances we may have recourse against third-parties for certain payments made by us.

Legal Matters: We are a defendant in various lawsuits, claims, and actions, which arise in the normal course of business. In the opinion of management, the ultimate disposition of these matters will not have a material adverse effect on our consolidated financial position or liquidity. However, an unfavorable resolution could have a material adverse effect on our results of operations in the periods in which the matters are ultimately resolved, or in the periods in which more information is obtained that changes management's opinion of the ultimate disposition.

Long-term Customer Financing Commitments

Outstanding Commitments: Certain purchasers of our products and services may request that we provide long-term financing (defined as financing with a term of greater than one year) in connection with the sale of equipment. These requests may include all or a portion of the purchase price of the products and services. Our obligation to provide long-term financing may be conditioned on the issuance of a letter of credit in favor of us by a reputable bank to support the purchaser's credit or a pre-existing commitment from a reputable bank to purchase the long-term receivables from us. We had outstanding commitments to provide long-term financing to third-parties totaling \$78 million at December 31, 2020 and at December 31, 2019.

Critical Accounting Policies

This Management's Discussion and Analysis of Financial Condition and Results of Operations discusses our consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of revenues and expenses during the reporting period.

Management bases its estimates and judgments on historical experience, current economic and industry conditions and on various other factors that are believed to be reasonable under the circumstances. This forms the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Management believes the following significant accounting policies require significant judgment and estimates.

Revenue Recognition

We enter into arrangements which consist of multiple promises to our customers. We evaluate whether the promised goods and services are distinct or a series of distinct goods or services. Where contracts contain multiple performance obligations, we generally allocate the total estimated consideration to each performance obligation based on applying an estimated selling price ("ESP") as our best estimate of standalone selling price. We determine ESP by: (i) collecting all reasonably available data points including sales, cost and margin analyses of the product or services, and other inputs based on our normal pricing and discounting practices, (ii) making any reasonably required adjustments to the data based on market and Company-specific factors, and (iii) stratifying the data points, when appropriate, based on major product or service, type of customer, geographic market, and sales volume.

We account for certain system contracts on an over-time basis, electing an input method of estimated costs as a measure of performance completed. The selection of the measurement of progress using estimated costs was based on a thorough consideration of alternatives of various output and input measures, including contract milestones and labor hours. However, we have determined that other input and output measures are not an appropriate measure of progress as they do not accurately align with the transfer of control on our customized systems. The selection of costs incurred as a measure of progress aligns the transfer of control to the overall production of the customized system.

For system contracts accounted for over time using estimated costs as a measure of performance completed, we rely on estimates around the total estimated costs to complete the contract ("Estimated Costs at Completion"). Total Estimated Costs at Completion include direct labor, material and subcontracting costs. Due to the nature of the efforts required to be performed to meet the underlying performance obligation, determining Estimated Costs at Completion may be complex and subject to many variables. We have a standard and disciplined quarterly process in which management reviews the progress and performance of open contracts in order to determine the best estimate of Estimated Costs at Completion. As part of this process, management

reviews information including, but not limited to, any outstanding key contract matters, progress towards completion, the project schedule, identified risks and opportunities, and the related changes in estimates of costs. The risks and opportunities include management's judgment about the ability and cost to achieve the project schedule, technical requirements, and other contract requirements. Management must make assumptions and estimates regarding labor productivity and availability, the complexity of work to be performed, the availability and cost of materials, and performance by subcontractors, among other variables. Based on this analysis, any quarterly adjustment to net sales, cost of sales, and the related impact to operating income are recorded as necessary in the period they become known. When estimates of total costs to be incurred on a contract exceed estimates of total revenue to be earned, a provision for the entire loss on the contract is recorded in the period in which the loss is determined.

Retirement Benefits

Our benefit obligations and net periodic pension costs (benefits) associated with our domestic noncontributory pension plans ("U.S. Pension Benefit Plans"), our foreign noncontributory pension plans ("Non-U.S. Plans"), as well as our domestic postretirement health care plan ("Postretirement Health Care Benefits"), are determined using actuarial assumptions. The assumptions are based on management's best estimates, after consulting with outside investment advisors and actuaries.

Accounting methodologies use an attribution approach that generally spreads the effects of individual events over the service lives of the participants in the plan, or estimated average lifetime when almost all of the plan participants are considered "inactive." Examples of "events" are plan amendments and changes in actuarial assumptions such as discount rate, expected long-term rate of return on plan assets, and rate of compensation increases.

There are various assumptions used in calculating the net periodic costs (benefits) and related benefit obligations. One of these assumptions is the expected long-term rate of return on plan assets. The required use of the expected long-term rate of return on plan assets may result in recognized pension income that is greater or less than the actual returns of those plan assets in any given year. Over time, however, the expected long-term returns are designed to approximate the actual long-term returns. We use a five-year, market-related asset value method of recognizing asset related gains and losses.

We use long-term historical actual return experience with consideration of the expected investment mix of the plans' assets, as well as future estimates of long-term investment returns, to develop our expected rate of return assumption used in calculating the net periodic pension cost (benefit) and the net postretirement health care benefit. Our investment return assumption for the U.S. Pension Benefit Plans was 6.85% in each of 2020 and 2019. Our investment return assumption for the Postretirement Health Care Benefits Plan was 6.90% in each of 2020 and 2019. Our weighted average investment return assumption for the Non-U.S. Plans was 4.66% in 2020 and 5.23% in 2019.

A second key assumption is the discount rate. The discount rate assumptions used for the U.S. Pension Benefit Plans, the Non-U.S. Plans and the Postretirement Health Care Benefits Plan reflect, at December 31 of each year, the prevailing market rates for high-quality, fixed-income debt instruments that, if the obligation was settled at the measurement date, would provide the necessary future cash flows to pay the benefit obligation when due. Our discount rates for measuring our U.S. Pension Benefit Plan obligations were 2.63% and 3.32% at December 31, 2020 and 2019, respectively. Our weighted average discount rates for measuring our Non-U.S. Plans were 1.24% and 1.82% at December 31, 2020 and 2019, respectively. Our discount rates for measuring the Postretirement Health Care Benefits Plan obligation were 2.39% and 3.15% at December 31, 2020 and 2019, respectively.

Under relevant accounting rules, when almost all of the plan participants are considered inactive, the amortization period for certain unrecognized losses changes from the average remaining service period to the average remaining lifetime of the participant. As such, depending on the specific plan, we amortize gains and losses over periods ranging from ten to thirty years. Prior service costs are being amortized over periods ranging from one to twenty-nine years. Benefits under all pension plans are valued based on the projected unit credit cost method.

Valuation and Recoverability of Goodwill

We assess the recorded amount of goodwill for recovery on an annual basis in the fourth quarter of each fiscal year. Goodwill is assessed more frequently if an event occurs or circumstances change that would indicate it is more-likely-than-not that the fair value of a reporting unit is below its carrying amount. We continually assess whether any such events and circumstances have occurred, which requires a significant amount of judgment. Such events and circumstances may include: (i) adverse changes in macroeconomic conditions, (ii) adverse changes in the industry or market in which we transact, (iii) changes in cost factors negatively impacting earnings and cash flows, (iv) negative or declining overall financial performance, (v) events affecting the carrying value or composition of a reporting unit, or (vi) a sustained decrease in share price, among others. Any such adverse event or change in circumstances could have a significant impact on the recoverability of goodwill and could have a material impact on our consolidated financial statements.

The goodwill impairment assessment is performed at the reporting unit level. A reporting unit is an operating segment or one level below an operating segment (referred to as a "component"). A component of an operating segment is a reporting unit if the component constitutes a business for which discrete financial information is available and segment management regularly reviews the operating results of that component. When two or more components of an operating segment have similar economic characteristics, the components are aggregated and deemed a single reporting unit. An operating segment is deemed to be a reporting unit if all of its components are similar, if none of its components is a reporting unit, or if the segment comprises only a single component. Based on this guidance, we have determined that our Products and Systems Integration and Software and Services segments are comprised of three and two reporting units, respectively. The Company performed a qualitative assessment to determine whether it was more-likely-than-not that the fair value of each reporting unit was less than its carrying amount for the fiscal years 2020, 2019, and 2018. In performing this qualitative assessment we assessed relevant events and

circumstances including macroeconomic conditions, industry and market conditions, cost factors, overall financial performance, changes in enterprise value, and entity-specific events. For fiscal years 2020, 2019, and 2018, we concluded it was more-likely-than-not that the fair value of each reporting unit exceeded its carrying value.

Valuation of Deferred Tax Assets and Liabilities

We use the asset and liability method of accounting for income taxes. Under this method, income tax expense is recognized for the amount of taxes payable or refundable for the current year. In addition, deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities, and for operating losses and tax credit carryforwards. Management makes assumptions, judgments and estimates to determine our current and deferred tax provision and also the deferred tax assets and liabilities. We evaluate our deferred tax assets quarterly to determine if adjustments to our valuation allowance are required based on the consideration of all available positive and negative evidence.

Our assumptions, judgments and estimates for computing the income tax provision takes into account current tax laws, our interpretation of current tax law and possible outcomes of current and future audits conducted by foreign and domestic tax authorities. We believe such estimates to be reasonable; however, the final determination of certain audits could significantly impact the amounts provided for income taxes in our financial statements.

Recent Accounting Pronouncements

See “Note 1: Summary of Significant Accounting Policies” in “Part II. Item 8: Financial Statements and Supplementary Data” of this Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

Our exposure to market risk for changes in interest rates relates primarily to our long-term debt as interest rate fluctuations impact the fair value of our long-term debt. As of December 31, 2020, we had \$5.2 billion of long-term debt, including the current portion, which is primarily priced at long-term, fixed interest rates. A hypothetical 10% decrease in interest rates as of the end of 2020 would have increased the fair value of our debt by approximately \$37 million at December 31, 2020. See Note 5 to the consolidated financial statements included in “Part II. Item 8: Financial Statements and Supplementary Data” of this Form 10-K for more information on our long-term debt.

Foreign Currency Risk

We are exposed to foreign currency risk as a result of buying and selling in various currencies, our net investments in foreign entities, and monetary assets and liabilities denominated in a currency other than the functional currency of the legal entity holding the instrument. We use financial instruments to reduce our overall exposure to the effects of currency fluctuations on cash flows. Our policy prohibits speculation in financial instruments for profit on exchange rate price fluctuations, trading in currencies for which there are no underlying exposures, or entering into transactions for any currency to intentionally increase the underlying exposure.

Our strategy related to foreign exchange exposure management is to offset the gains or losses on the financial instruments against losses or gains on the underlying operational cash flows, net investments or monetary assets and liabilities based on our assessment of risk. We enter into derivative contracts for some of our non-functional currency cash, receivables, and payables, which are primarily denominated in major currencies that can be traded on open markets. Our policy permits us to use forward contracts and options to hedge these currency exposures. In addition, we enter into derivative contracts for some forecasted transactions or net investments in some of our overseas entities, which are designated as part of a hedging relationship if it is determined that the transaction qualifies for hedge accounting under the provisions of the authoritative accounting guidance for derivative instruments and hedging activities. A portion of our exposure is from currencies that are not traded in liquid markets and these are addressed, to the extent reasonably possible, by managing net asset positions, product pricing and component sourcing.

At December 31, 2020, we had outstanding foreign exchange contracts totaling \$1.2 billion, compared to \$1.1 billion outstanding at December 31, 2019. Management does not believe these financial instruments should subject it to undue risk due to foreign exchange movements because gains and losses on these contracts should generally offset gains and losses on the underlying assets, liabilities and transactions.

The following table shows the five largest net notional amounts of the positions to buy or sell foreign currency as of December 31, 2020 and the corresponding positions as of December 31, 2019:

<i>Net Buy (Sell) by Currency</i>	<i>Notional Amount</i>	
	2020	2019
Euro	\$ 177	\$ 134
British pound	86	107
Canadian dollar	61	8
Chinese renminbi	(90)	(79)
Australian dollar	(88)	(123)

Foreign exchange financial instruments that are subject to the effects of currency fluctuations, which may affect reported earnings, include derivative financial instruments and other monetary assets and liabilities denominated in a currency other than the functional currency of the legal entity holding the instrument. Currently, our derivative financial instruments consist primarily of currency forward contracts. Other monetary assets and liabilities denominated in a currency other than the functional currency of the legal entity consist primarily of cash, cash equivalents, accounts payable and accounts receivable. Assuming the amounts of the outstanding foreign exchange contracts represent our underlying foreign exchange risk related to monetary assets and liabilities, a hypothetical unfavorable 10% movement in the foreign exchange rates at December 31, 2020 would reduce the value of those monetary assets and liabilities by approximately \$60 million. Our market risk calculation represents an estimate of reasonably possible net losses that would be recognized assuming hypothetical 10% movements in future currency market pricing and is not necessarily indicative of actual results, which may or may not occur. It does not represent the maximum possible loss or any expected loss that may occur, since actual future gains and losses will differ from those estimated, based upon, among other things, actual fluctuation in market rates, operating exposures, and the timing thereof. We believe, however, that any such loss incurred would be offset by the effects of market rate movements on the respective underlying derivative financial instruments transactions.

Item 8: Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Motorola Solutions, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Motorola Solutions, Inc. and its subsidiaries (the "Company") as of December 31, 2020 and 2019, and the related consolidated statements of operations, of comprehensive income (loss), of stockholders' equity (deficit) and of cash flows for the years then ended, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2020, 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, 2020 and 2019, and the results of its operations and its cash flows for the years then ended 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, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in 2019.

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 Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. 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 matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue Recognition - Estimated Costs to Complete System Contracts

As described in Note 1 to the consolidated financial statements, \$1.8 billion of the Company's total revenues for the year ended December 31, 2020 was generated from System contracts. The Company recognizes revenue on a significant portion of System contracts on an over-time basis, electing an input method of estimated costs as a measure of performance completed. For contracts accounted for over-time using estimated costs as a measure of performance completed, the Company relies on estimates of the total estimated costs to complete the contract ("Estimated Costs at Completion"). Total Estimated Costs at Completion include direct labor, material and subcontracting costs. Due to the nature of the efforts required to meet the underlying performance obligation, determining Estimated Costs at Completion may be complex and subject to many variables. As disclosed by management, management reviews the progress and performance of open contracts in order to determine the best estimate of Estimated Costs at Completion. As part of this process, management reviews information including, but not limited to, any outstanding key contract matters, progress towards completion, the project schedule, identified risks and opportunities, and the related changes in estimates of costs. The risks and opportunities include management's judgments about the ability and the cost to achieve the project schedule, technical requirements, and other contract requirements.

The principal considerations for our determination that performing procedures relating to the Estimated Costs at Completion for System contracts is a critical audit matter are the significant judgments by management when developing the Estimated Costs at Completion, which in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures to evaluate management's estimates related to management's judgments about the cost to achieve the project schedule, technical requirements, and other contract requirements.

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 determination of Estimated Costs at Completion. These procedures also included, among others, evaluating and testing management's process for determining the Estimated Costs at Completion for a sample of contracts. Management's process for determining the Estimated Costs at Completion was evaluated for reasonableness by (i) performing a comparison of the originally estimated and actual costs incurred on completed contracts; (ii) evaluating the timely identification of circumstances that may warrant a modification to Estimated Costs at Completion; and (iii) analyzing contracts and project schedules that support those estimates.

/s/ PricewaterhouseCoopers LLP
Chicago, Illinois
February 12, 2021

We have served as the Company's auditor since 2018.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors
Motorola Solutions, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows of Motorola Solutions, Inc. and subsidiaries for the year ended December 31, 2018, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects the results of operations of the Company and its cash flows for the year ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit. 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audit 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 audit 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. We believe that our audit provides a reasonable basis for our opinion.

/s/ KPMG LLP

We served as the Company's auditor from 1959 to 2019.

Chicago, Illinois
February 15, 2019

Consolidated Statements of Operations

<i>(In millions, except per share amounts)</i>	<i>Years ended December 31</i>		
	2020	2019	2018
Net sales from products	\$ 4,087	\$ 4,746	\$ 4,463
Net sales from services	3,327	3,141	2,880
Net sales	7,414	7,887	7,343
Costs of products sales	1,872	2,049	2,035
Costs of services sales	1,934	1,907	1,828
Costs of sales	3,806	3,956	3,863
Gross margin	3,608	3,931	3,480
Selling, general and administrative expenses	1,293	1,403	1,254
Research and development expenditures	686	687	637
Other charges	246	260	334
Operating earnings	1,383	1,581	1,255
Other income (expense):			
Interest expense, net	(220)	(220)	(222)
Gains (losses) on sales of investments and businesses, net	(2)	5	16
Other, net	13	(365)	53
Total other expense	(209)	(580)	(153)
Net earnings before income taxes	1,174	1,001	1,102
Income tax expense	221	130	133
Net earnings	953	871	969
Less: Earnings attributable to noncontrolling interests	4	3	3
Net earnings attributable to Motorola Solutions, Inc.	\$ 949	\$ 868	\$ 966
<i>Earnings per common share:</i>			
Basic:	\$ 5.58	\$ 5.21	\$ 5.95
Diluted:	5.45	4.95	5.62
<i>Weighted average common shares outstanding:</i>			
Basic	170.0	166.6	162.4
Diluted	174.1	175.6	172.0
Dividends declared per share	\$ 2.63	\$ 2.35	\$ 2.13

See accompanying notes to consolidated financial statements.

Consolidated Statements of Comprehensive Income (Loss)

<i>(In millions)</i>	Years ended December 31		
	2020	2019	2018
Net earnings	\$ 953	\$ 871	\$ 969
Other comprehensive income (loss), net of tax (Note 4):			
Foreign currency translation adjustments	50	34	(91)
Marketable securities	—	—	(6)
Defined benefit plans	(56)	291	(106)
Total other comprehensive income (loss), net of tax	(6)	325	(203)
Comprehensive income	947	1,196	766
Less: Earnings attributable to noncontrolling interests	4	3	3
Comprehensive income attributable to Motorola Solutions, Inc.	\$ 943	\$ 1,193	\$ 763

See accompanying notes to consolidated financial statements.

Consolidated Balance Sheets

(In millions, except par value)	December 31	
	2020	2019
ASSETS		
Cash and cash equivalents	\$ 1,254	\$ 1,001
Accounts receivable, net	1,390	1,412
Contract assets	933	1,046
Inventories, net	508	447
Other current assets	242	272
Total current assets	4,327	4,178
Property, plant and equipment, net	1,022	992
Operating lease assets	468	554
Investments	158	159
Deferred income taxes	966	943
Goodwill	2,219	2,067
Intangible assets, net	1,234	1,327
Other assets	482	422
Total assets	\$ 10,876	\$ 10,642
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current portion of long-term debt	\$ 12	\$ 16
Accounts payable	612	618
Contract liabilities	1,554	1,449
Accrued liabilities	1,311	1,356
Total current liabilities	3,489	3,439
Long-term debt	5,163	5,113
Operating lease liabilities	402	497
Other liabilities	2,363	2,276
Preferred stock, \$100 par value	—	—
Common stock, \$0.01 par value:	2	2
Authorized shares: 600.0		
Issued shares: 12/31/20—170.2; 12/31/19—171.0		
Outstanding shares: 12/31/20—169.4; 12/31/19—170.5		
Additional paid-in capital	759	499
Retained earnings	1,127	1,239
Accumulated other comprehensive loss	(2,446)	(2,440)
Total Motorola Solutions, Inc. stockholders' equity (deficit)	(558)	(700)
Noncontrolling interests	17	17
Total stockholders' equity (deficit)	(541)	(683)
Total liabilities and stockholders' equity (deficit)	\$ 10,876	\$ 10,642

See accompanying notes to consolidated financial statements.

Consolidated Statements of Stockholders' Equity (Deficit)

<i>(In millions, except per share amounts)</i>	Shares	Common Stock and Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Noncontrolling Interests
Balance as of January 1, 2018	161.6	\$ 353	\$ (2,562)	\$ 467	\$ 15
Net earnings				966	3
Other comprehensive loss			(203)		
Issuance of common stock and stock options exercised	3.6	168			
Share repurchase program	(1.2)			(132)	
ASU 2016-16 modified retrospective adoption				(31)	
Share-based compensation expense		73			
ASU 2014-09 modified retrospective adoption				127	
Dividends paid to noncontrolling interest in subsidiary common stock					(1)
Dividends declared				(346)	
Repurchase of senior convertible notes		(173)			
Balance as of December 31, 2018	164.0	\$ 421	\$ (2,765)	\$ 1,051	\$ 17
Net earnings				868	3
ASU 2016-16 beginning balance adjustment				30	
Other comprehensive income			325		
Issuance of common stock and stock options exercised	2.4	122			
Share repurchase program	(2.3)			(315)	
Issuances of common stock for acquisition	1.4	160			
Share-based compensation expense		118			
Issuance of common stock for 2.00% senior convertible notes	5.5	988			
Dividends paid to noncontrolling interest in subsidiary common stock					(3)
Equity component of 1.75% senior convertible notes		10			
Dividends declared				(395)	
Repurchase of 2.00% senior convertible notes		(1,318)			
Balance as of December 31, 2019	171.0	\$ 501	\$ (2,440)	\$ 1,239	\$ 17
Net earnings				949	4
Other comprehensive loss			(6)		
Issuance of common stock and stock options exercised	3.1	131			
Share repurchase program	(3.9)			(612)	
Share-based compensation expense		129			
Dividends paid to noncontrolling interest in subsidiary common stock					(4)
Dividends declared				(449)	
Balance as of December 31, 2020	170.2	\$ 761	\$ (2,446)	\$ 1,127	\$ 17

See accompanying notes to consolidated financial statements.

Consolidated Statements of Cash Flows

(In millions)	Years ended December 31		
	2020	2019	2018
Operating			
Net earnings	\$ 953	\$ 871	\$ 969
Adjustments to reconcile Net earnings (loss) to Net cash provided by operating activities:			
Depreciation and amortization	409	394	360
Non-cash other charges (income)	(13)	35	56
U.S. pension settlement loss	—	359	—
Gain from the extinguishment of 2.00% senior convertible notes	—	(4)	(6)
Share-based compensation expense	129	118	73
Losses (gains) on sales of investments and businesses, net	2	(5)	(16)
Losses from the extinguishment of long-term debt	56	50	—
Changes in assets and liabilities, net of effects of acquisitions, dispositions, and foreign currency translation adjustments:			
Accounts receivable	90	(79)	62
Inventories	(14)	(74)	71
Other current assets and contract assets	167	49	(251)
Accounts payable, accrued liabilities, and contract liabilities	(116)	198	271
Other assets and liabilities	(25)	(5)	(523)
Deferred income taxes	(25)	(84)	9
Net cash provided by operating activities	<u>1,613</u>	<u>1,823</u>	<u>1,075</u>
Investing			
Acquisitions and investments, net	(287)	(709)	(1,164)
Proceeds from sales of investments	11	16	95
Capital expenditures	(217)	(248)	(197)
Proceeds from sales of property, plant and equipment	56	7	—
Net cash used for investing activities	<u>(437)</u>	<u>(934)</u>	<u>(1,266)</u>
Financing			
Net proceeds from issuance of debt	892	1,804	1,090
Repayment of debt	(914)	(2,039)	(323)
Repayment of unsecured revolving credit facility draw	(800)	—	(400)
Proceeds from unsecured revolving credit facility draw	800	—	400
Issuances of common stock	108	114	168
Purchases of common stock	(612)	(315)	(132)
Settlement of conversion premium on 2.00% senior convertible notes	—	(326)	(169)
Payment of dividends	(436)	(379)	(337)
Payment of dividends to noncontrolling interest	(4)	(3)	(1)
Deferred acquisition costs	—	—	(76)
Net cash provided by (used for) financing activities	<u>(966)</u>	<u>(1,144)</u>	<u>220</u>
Effect of exchange rate changes on cash and cash equivalents	43	(1)	(40)
Net increase (decrease) in cash and cash equivalents	253	(256)	(11)
Cash and cash equivalents, beginning of period	1,001	1,257	1,268
Cash and cash equivalents, end of period	\$ 1,254	\$ 1,001	\$ 1,257
Supplemental Cash Flow Information			
Cash paid during the period for:			
Interest, net	\$ 217	\$ 221	\$ 204
Income and withholding taxes, net of refunds	181	138	119

See accompanying notes to consolidated financial statements.

Notes to Consolidated Financial Statements

(Dollars in millions, except as noted)

1. Summary of Significant Accounting Policies

Principles of Consolidation: The consolidated financial statements include the accounts of Motorola Solutions, Inc. (the "Company" or "Motorola Solutions") and all controlled subsidiaries. All intercompany transactions and balances have been eliminated.

The consolidated financial statements as of December 31, 2020 and 2019 and for the years ended December 31, 2020, 2019 and 2018, include, in the opinion of management, all adjustments (consisting of normal recurring adjustments and reclassifications) necessary to present fairly the Company's consolidated financial position, results of operations, statements of comprehensive income, and statements of stockholders' equity and cash flows for all periods presented.

Use of Estimates: The preparation of financial statements in conformity with United States ("U.S.") Generally Accepted Accounting Principles ("GAAP") requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

Revenue Recognition: Net sales consist of a wide range of goods and services including the delivery of devices, systems and system integration and a full set of software and service offerings. The Company recognizes revenue to reflect the transfer of control of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for goods or services.

The Products and Systems Integration segment is comprised of devices, systems, and systems integration for our LMR Mission Critical Communications and Video Security and Analytics technologies. Direct customers of the Products and Systems Integration segment are typically government, public safety agencies, procuring at state, local, and federal levels as well as large commercial customers with secure mission critical needs. Indirect customers are defined as customers purchasing professional commercial radios and video security, which are primarily sold through the Company's reseller partners to an end-customer base, composed of various industries where private communications networks and video security are used to secure operations and enable a mobile workforce. Contracts with the Company's customers are typically fixed fee, with consideration measured net of associated sales taxes, and, as it relates to our direct customers, funded through government appropriations. For Products and Systems Integration sales, the Company records consideration from shipping and handling on a gross basis within Net sales.

LMR and Video Security and Analytics devices include two-way portable and vehicle-mounted radios, fixed and mobile video cameras and accessories. Devices are considered capable of being distinct and distinct within the context of the Company's contracts. Revenue is recognized upon the transfer of control of the devices to the customer at a point in time, typically consistent with delivery under the applicable shipping terms. Devices are sold by both the direct sales force and through reseller partners. Revenue is generally recognized upon transfer of devices to reseller partners, rather than the end-customer, except for limited consignment arrangements. Provisions for returns and reseller discounts are made on a portfolio basis using historical data.

The Products and Systems Integration segment includes both customized radio networks and video security solutions, including the integration of these networks with devices, software, and applications within both LMR and Video Security and Analytics technologies. The networks include the aggregation of promises to the customer to provide i) a radio network core and central processing software, base stations, consoles, and repeaters or ii) a video security solution including video analytics, network video management hardware and software, and access control solutions. The individual promises of the radio network are not distinct in the context of the contract, as the Company provides a significant service of integrating and customizing the goods and services promised, while individual promises of the video security solution are capable of being distinct and distinct in the context of the contract. The radio network represents a distinct performance obligation for which revenue is recognized over time, as the Company creates an asset with no alternative use and has an enforceable right to payment for work performed. The Company's revenue recognition over time is based on an input measure of costs incurred, which depicts the transfer of control to its customers under its contracts. Products and Systems Integration revenue is recognized over an average duration of approximately one to two years. Video security solutions are traditionally sold through reseller partners, with contracts negotiated under fixed pricing. Revenue is recognized upon the transfer of control of the video solution to the reseller partners, typically upon shipment.

The Software and Services segment provides a full set of offerings for government, public safety and commercial communication networks. Direct customers of the Software and Services segment are typically government, public safety and first-responder agencies and municipalities. Indirect customers are commercial customers who distribute broadband push-to-talk services to a final end customer base. Contracts with our customers are typically fixed fee, with consideration measured net of associated sales taxes, and, as it relates to our direct customers, funded through government appropriations.

Software offerings primarily include Command Center Software and Video Security and Analytics software and services which can be delivered either "as a service" or on-premise. Solutions delivered as a service consist of a range of promises including hosted software, technical support and the right to unspecified future software enhancements. Software is not distinct from the hosting service since the customer does not have the right to take possession of the software at any time during the term of the arrangement. The hosted software, technical support, and right to unspecified future software enhancements each represent a series of distinct services that are delivered concurrently using the same over-time method. As such, the promises are accounted for as a single performance obligation with revenue recognized on a straight-line basis.

On-premise offerings consist of multiple promises primarily including software licenses and post-contract customer support. The promises are each distinct and distinct within the context of the contract as the customer benefits from each promise individually without any significant integration or interrelationship between the promises. On-premise software revenue is recognized at the point in time when the customer can benefit from the software which generally aligns with the beginning of the license period. Revenue for post-contract customer support is recognized over time as the customer simultaneously receives and consumes the services on a straight-line basis.

Services include a continuum of service offerings beginning with repair, technical support and maintenance. More advanced offerings include: monitoring, software updates and cybersecurity services. Managed service offerings range from partial to full operation of customer-owned or Motorola Solutions-owned networks. Services are provided across all technologies and are both distinct and capable of being distinct in the context of the contract, representing a series of recurring services that the Company stands ready to perform over the contract term. Since services contracts typically allow for customers to terminate for convenience or for non-appropriations of fiscal funding, the contract term is generally considered to be limited to a monthly or annual basis, subject to customer renewal. While contracts with customers are typically fixed fee, certain managed services contracts may be subject to variable consideration related to the achievement of service level agreement performance measurements. The Company has not historically paid significant penalties under service level agreements, and accordingly, it does not constrain its contract price. Certain contracts may also contain variable consideration driven by the number of users. Revenue is typically recognized on services over time as a series of services performed over the contract term on a straight-line basis.

The Company enters into arrangements which consist of multiple promises to our customers. The Company evaluates whether the promised goods and services are distinct or a series of distinct goods or services. Where contracts contain multiple performance obligations, the Company generally allocates the total estimated consideration to each performance obligation based on applying an estimated selling price ("ESP") as our best estimate of standalone selling price. The Company determines ESP by: (i) collecting all reasonably available data points including sales, cost and margin analyses of the product or services, and other inputs based on its normal pricing and discounting practices, (ii) making any reasonably required adjustments to the data based on market and Company-specific factors, and (iii) stratifying the data points, when appropriate, based on major product or service, type of customer, geographic market, and sales volume.

The Company accounts for certain system contracts on an over-time basis, electing an input method of estimated costs as a measure of performance completed. The selection of the measurement of progress using estimated costs was based on a thorough consideration of alternatives of various output and input measures, including contract milestones and labor hours. However, the Company has determined that other input and output measures are not an appropriate measure of progress as they do not accurately align with the transfer of control on its customized systems. The selection of costs incurred as a measure of progress aligns the transfer of control to the overall production of the customized system.

For system contracts accounted for over time using estimated costs as a measure of performance completed, the Company relies on estimates around the total estimated costs to complete the contract ("Estimated Costs at Completion"). Total Estimated Costs at Completion include direct labor, material and subcontracting costs. Due to the nature of the efforts required to be performed to meet the underlying performance obligation, determining Estimated Costs at Completion may be complex and subject to many variables. The Company has a standard and disciplined quarterly process in which management reviews the progress and performance of open contracts in order to determine the best estimate of Estimated Costs at Completion. As part of this process, management reviews information including, but not limited to, any outstanding key contract matters, progress towards completion, the project schedule, identified risks and opportunities, and the related changes in estimates of costs. The risks and opportunities include management's judgment about the ability and cost to achieve the project schedule, technical requirements, and other contract requirements. Management must make assumptions and estimates regarding labor productivity and availability, the complexity of work to be performed, the availability and cost of materials, and performance by subcontractors, among other variables. Based on this analysis, any quarterly adjustment to net sales, cost of sales, and the related impact to operating income are recorded as necessary in the period they become known. When estimates of total costs to be incurred on a contract exceed estimates of total revenue to be earned, a provision for the entire loss on the contract is recorded in the period in which the loss is determined. For system contracts accounted for over time using estimated costs as a measure of performance completed, revenue for the year ended December 31, 2020 was \$1.8 billion, compared to \$1.9 billion for the years ended December 31, 2019 and December 31, 2018.

Cash Equivalents: The Company considers all highly-liquid investments purchased with an original maturity of three months or less to be cash equivalents. Restricted cash was \$2 million at both December 31, 2020 and December 31, 2019.

Investments: Investments in debt securities classified as available-for-sale are carried at fair value with changes in fair value recorded in other comprehensive income. Certain investments will be accounted for using the equity method if the Company has significant influence over the issuing entity.

The Company assesses declines in the fair value of debt securities and equity method investments to determine whether such declines are other-than-temporary. This assessment is made considering all available evidence, including changes in general market conditions, specific industry and individual company data, the length of time and the extent to which the fair value has been less than cost, the financial condition and the near-term prospects of the entity issuing the security, and the Company's ability and intent to hold the investment until recovery. Other-than-temporary impairments of investments are recorded to Other within Other income (expense) in the Company's Consolidated Statements of Operations in the period in which they become impaired.

Equity securities with readily determinable fair values are carried at fair value with changes in fair value recorded in Other, net within Other income (expense). Equity securities without readily determinable fair values are carried at cost, less impairments, if any, and adjusted for observable price changes for the identical or a similar investment of the same issuer. The Company performs a qualitative impairment assessment to determine if such investments are impaired. The qualitative assessment considers all available information, including declines in the financial performance of the issuing entity, the issuing entity's operating environment, and general market conditions. Impairments of equity securities without readily determinable fair values are recorded in Other, net within Other income (expense).

Inventories: Inventories are valued at the lower of average cost (which approximates cost on a first-in, first-out basis) or net realizable value.

Property, Plant and Equipment: Property, plant and equipment are stated at cost less accumulated depreciation. Depreciation is recorded on a straight-line basis, based on the estimated useful lives of the assets (leasehold improvements, one to twenty years; machinery and equipment, one to fifteen years and commences once the assets are ready for their intended use. When certain events or changes in operating conditions occur, useful lives of the assets may be adjusted or an impairment assessment may be performed on the recoverability of the carrying value.

Goodwill and Intangible Assets: Goodwill is assessed for impairment at least annually at the reporting unit, or more frequently if events or circumstances occur that would more likely than not reduce the fair value of a reporting unit below its carrying value level. The Company performs its annual assessment of goodwill for impairment in the fourth quarter of each fiscal year, typically through a qualitative assessment. Indicators of impairment include: (i) macroeconomic conditions, (ii) industry and market conditions, (iii) cost factors, including product and selling, general and administrative costs, (iv) overall financial performance of the Company, (v) changes in share price, and (vi) other relevant company-specific events. If it is determined that it is more-likely-than-not that the fair value of the reporting unit is less than its carrying amount, the Company will perform a quantitative goodwill impairment test, which compares the fair value of the reporting unit to its carrying value. If the carrying amount of a reporting unit exceeds its fair value, the Company would recognize an impairment loss in an amount equal to that excess, limited to the total amount of goodwill allocated to that reporting unit. Fair value is determined using a combination of present value techniques and market prices of comparable businesses.

Intangible assets are amortized on a straight line basis over their respective estimated useful lives ranging from one to twenty years. The Company has no intangible assets with indefinite useful lives.

Leases: The Company leases certain office, factory and warehouse space, land and other equipment, principally under non-cancelable operating leases.

The Company determines if an arrangement is a lease at inception of the contract. The Company's key considerations in determining whether a contract is or contains a lease include establishing whether the supplier has the ability to use other assets to fulfill its service or whether the terms of the agreement enable the Company to control the use of a dedicated asset during the contract term. In the majority of the Company's contracts where it must identify whether a lease is present, it is readily determinable that the Company controls the use of the assets and obtains substantially all of the economic benefit during the term of the contract. In those contracts where identification is not readily determinable, the Company has determined that the supplier has either the ability to use another asset to provide the service or the terms of the contract give the supplier the right to operate the asset at its discretion during the term of the contract.

Right-of-use ("ROU") assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at the commencement date. The Company's lease payments are typically fixed or contain fixed escalators. The Company has elected to not separate lease and non-lease components for all of its current lease categories and therefore, all consideration is included in lease payments. For the Company's leases consisting of land and other equipment (i.e. "communication network sites"), future payments are subject to variability due to changes in indices or rates. The Company values its ROU assets and lease liabilities based on the index or rate in effect at lease commencement. Future changes in the indices or rates are accounted for as variable lease costs. Other variable lease costs include items that are not fixed at lease commencement including property taxes, insurance, and operating charges that vary based on usage. ROU assets also include lease payments made in advance and are net of lease incentives.

As the majority of the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rates based on the information available at the commencement date in determining the present value of future payments. The Company's incremental borrowing rates are based on the term of the lease, the economic environment of the lease, and the effect of collateralization.

The Company's lease terms range from one to twenty-one years and may include options to extend the lease by one to ten years or terminate the lease after the initial non-cancelable term. The Company does not include options in the determination of the lease term for the majority of leases as sufficient economic factors do not exist that would compel it to continue to use the underlying asset beyond the initial non-cancelable term. However, for the Company's communication network site leases that are necessary to provide services to customers under managed service arrangements, the Company includes options in the lease term to the extent of the customer contracts to which those leases relate.

Impairment of Long-Lived Assets: Long-lived assets, which include intangible assets, held and used by the Company are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of assets may not be recoverable. The Company evaluates recoverability of assets to be held and used by comparing the carrying amount of an asset (group) to future net undiscounted cash flows to be generated by the asset (group). If an asset (group) is considered

to be impaired, the impairment to be recognized is equal to the amount by which the carrying amount of the asset (group) exceeds the asset's (group's) fair value calculated using a discounted future cash flows analysis or market comparable analysis. Assets held for sale, if any, are reported at the lower of the carrying amount or fair value less cost to sell.

Income Taxes: The Company records deferred income tax assets and liabilities based on the estimated future tax effects of differences between the financial and tax bases of assets and liabilities based on currently enacted tax laws. The Company's deferred and other tax balances are based on management's interpretation of the tax regulations and rulings in numerous tax jurisdictions. Income tax expenses and liabilities recognized by the Company also reflect its best estimates and assumptions regarding, among other things, the level of future taxable income, the effect of the Company's various tax planning strategies, and uncertain tax positions. Future tax authority rulings and changes in tax laws, changes in projected levels of taxable income, and future tax planning strategies could affect the actual effective tax rate and tax balances recorded by the Company.

Long-Term Receivables: Long-term receivables include trade receivables where contractual terms of the note agreement are greater than one year. The Company estimates credit losses on accounts receivable based on historical losses and then takes into account estimates of current and future economic conditions. Long-term receivables are considered past due if payments have not been received according to the contractual terms of the note agreement, including principal and interest. Impaired long-term receivables are valued based on the present value of expected future cash flows discounted at the receivable's effective interest rate, or the fair value of the collateral if the receivable is collateral dependent. Interest income and late fees on impaired long-term receivables are recognized only when payments are received. Previously impaired long-term receivables are no longer considered impaired and are reclassified to performing when they have performed under restructuring for four consecutive quarters.

Environmental Liabilities: The Company maintains a liability related to ongoing remediation efforts of environmental media such as groundwater, soil, and soil vapor, as well as related legal fees for a designated Superfund site under the Comprehensive Environmental Response, Compensation and Liability Act (commonly known as the "Superfund Act") incurred by a legacy business. It is the Company's policy to re-evaluate the reserve when certain events become known that will impact the future cash payments. When the timing and amount of the future cash payments are fixed or reliably determinable, the Company discounts the future cash flows used in estimating the accrual using a risk-free treasury rate. The current portion of the estimated environmental liability is included in the "Accrued liabilities" statement line and the non-current portion is included in the "Other liabilities" statement line within the Company's Consolidated Balance Sheet.

Foreign Currency: Certain non-U.S. operations within the Company use their respective local currency as their functional currency. Those operations that do not have the U.S. dollar as their functional currency translate assets and liabilities at current rates of exchange in effect at the balance sheet date and revenues and expenses using rates that approximate those in effect during the period. The resulting translation adjustments are included as a component of Accumulated other comprehensive income (loss) in the Company's Consolidated Balance Sheet. For those operations that have the U.S. dollar as their functional currency, transactions denominated in the local currency are measured in U.S. dollars using the current rates of exchange for monetary assets and liabilities and historical rates of exchange for nonmonetary assets. Gains and losses from remeasurement of monetary assets and liabilities are included in Other within Other income (expense) within the Company's Consolidated Statements of Operations.

The Company uses financial instruments to reduce its overall exposure to the effects of currency fluctuations on cash flows. The Company's policy prohibits speculation in financial instruments for profit on exchange rate fluctuations, trading in currencies for which there are no underlying exposures, or entering into transactions for any currency to intentionally increase the underlying exposure.

The Company's strategy related to foreign exchange exposure management is to offset the gains or losses on the financial instruments against gains or losses on the underlying operational cash flows, net investments or monetary assets and liabilities based on the Company's assessment of risk. The Company enters into derivative contracts for some of its non-functional currency cash, receivables, and payables, which are primarily denominated in major currencies that can be traded on open markets. The Company typically uses forward contracts and options to hedge these currency exposures. In addition, the Company has entered into derivative contracts for some forecasted transactions or net investments in some of its overseas entities, which are designated as part of a hedging relationship if it is determined that the transaction qualifies for hedge accounting under the provisions of the authoritative accounting guidance for derivative instruments and hedging activities. A portion of the Company's exposure is from currencies that are not traded in liquid markets and these are addressed, to the extent reasonably possible, by managing net asset positions, product pricing and component sourcing.

Derivative Instruments: Gains and losses on hedging instruments that do not qualify for hedge accounting are recorded immediately in Other income (expense) within the Consolidated Statements of Operations. Gains and losses pertaining to instruments designated as net investment hedges that qualify for hedge accounting are recognized as a component of Accumulated other comprehensive income (loss). Components excluded from the assessment of hedge ineffectiveness in net investment hedges are included in Accumulated other comprehensive income (loss) at their initial value and amortized into Interest expense, net on a straight-line basis.

Fair Value Measurements: The Company holds certain fixed income securities, equity securities and derivatives, which are recognized and disclosed at fair value in the financial statements. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date and is measured using the fair value hierarchy. This hierarchy prescribes valuation techniques based on whether the inputs to each measurement are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while

unobservable inputs reflect the Company's assumptions about current market conditions. The prescribed fair value hierarchy and related valuation methodologies are as follows:

Level 1 — Quoted prices for identical instruments in active markets.

Level 2 — Quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-derived valuations, in which all significant inputs are observable, in active markets.

Level 3 — Valuations derived from valuation techniques, in which one or more significant inputs are unobservable.

Earnings Per Share: The Company calculates its basic earnings per share based on the weighted-average number of common shares issued and outstanding. Net earnings attributable to Motorola Solutions, Inc. is divided by the weighted average common shares outstanding during the period to arrive at the basic earnings per share. Diluted earnings per share is calculated by dividing net earnings attributable to Motorola Solutions, Inc. by the sum of the weighted-average number of common shares used in the basic earnings per share calculation and the weighted-average number of common shares that would be issued assuming exercise or conversion of all potentially dilutive securities, excluding those securities that would be anti-dilutive to the earnings per share calculation. Both basic and diluted earnings per share amounts are calculated for net earnings attributable to Motorola Solutions, Inc. for all periods presented.

Share-Based Compensation Costs: The Company grants share-based compensation awards and offers an employee stock purchase plan. The amount of compensation cost for these share-based awards is generally measured based on the fair value of the awards as of the date that the share-based awards are issued and adjusted to the estimated number of awards that are expected to vest. The fair values of stock options and stock appreciation rights are generally determined using a Black-Scholes option pricing model which incorporates assumptions about expected volatility, risk-free rate, dividend yield, and expected life. Performance-based stock options, performance-contingent stock options, and market stock units vest based on market conditions and are therefore measured under a Monte Carlo simulation in order to simulate a range of possible future unit prices for Motorola Solutions over the performance period. Compensation cost for share-based awards is recognized on a straight-line basis over the vesting period.

Defined Benefit Plans: The Company records annual expenses relating to its defined benefit plans based on calculations which include various actuarial assumptions, including discount rates, assumed asset rates of return, compensation increases, and turnover rates. The Company reviews its actuarial assumptions on an annual basis and makes modifications to the assumptions based on current rates and trends. Under relevant accounting rules, when almost all of the plan participants are considered inactive, the amortization period for certain unrecognized gains and losses changes from the average remaining service period to the average remaining lifetime of the participants. As such, depending on the specific plan, the Company amortizes gains and losses over periods ranging from ten to thirty years. Prior service costs will be amortized over periods ranging from one to twenty-nine years. Benefits under all pension plans are valued based on the projected unit credit cost method.

The funded status, or projected benefit obligation less plan assets, for each plan, is reflected in the Company's Consolidated Balance Sheets using a December 31 measurement date.

The benefit obligation and plan assets for the Company's U.S. Pension Benefit Plan and Postretirement Health Care Benefit Plan are measured as of December 31, 2020. The Company utilizes a five-year, market-related asset value method of recognizing asset related gains and losses.

Recent Acquisitions:

On August 28, 2020, we acquired the Callyo business ("Callyo"), a cloud-based mobile applications provider for law enforcement in North America for \$63 million, inclusive of share-based compensation withheld at a fair value of \$3 million that will be expensed over an average service period of two years. The acquisition was settled with \$61 million in cash, net of cash acquired. This acquisition adds to our existing Command Center Software suite critical mobile technological capabilities that enable information to flow seamlessly from the field to the command center. The business is a part of the Software and Services segment.

On July 31, 2020, we acquired Pelco, Inc. ("Pelco"), a global provider of video security solutions for a purchase price of \$110 million. The acquisition was settled with \$108 million of cash, net of cash acquired. The acquisition demonstrates our continued investment in Video Security and Analytics, adding a broad range of products that can be used in a variety of commercial and industrial environments and use cases. The business is part of both the Products and Systems Integration segment and the Software and Services segment.

On June 16, 2020 we acquired IndigoVision Group plc ("IndigoVision") for a purchase price of \$37 million. The acquisition was settled with \$35 million of cash, net of cash acquired and debt assumed. The acquisition complements our Video Security and Analytics technology, providing enhanced geographical reach across a wider customer base. The business is a part of both the Products and Systems Integration segment and the Software and Services segment.

On April 30, 2020, we acquired a cybersecurity services business for \$32 million of cash, net of cash acquired. The acquisition expands our ability to assist customers with cybersecurity needs through vulnerability assessments, cybersecurity consulting, and managed services including security monitoring of network operations. The business is a part of the Software and Services segment.

On March 3, 2020, we acquired a cybersecurity services business for \$40 million, inclusive of share-based compensation withheld at a fair value of \$6 million that will be expensed over a service period of two years. The acquisition was settled with \$33 million of cash, net of cash acquired. The acquisition expands our ability to assist customers with cybersecurity needs through vulnerability assessments, cybersecurity consulting, managed services and remediation and response capabilities. The business is a part of the Software and Services segment.

On October 16, 2019, we acquired a data solutions business for vehicle location information for a purchase price of \$85 million, net of cash acquired. The acquisition enhances our Video Security and Analytics technology by adding data to our existing license plate recognition ("LPR") database within our Software and Services segment.

On July 11, 2019, we acquired WatchGuard, Inc. ("WatchGuard"), a provider of in-car and body-worn video solutions for \$271 million, inclusive of share-based compensation withheld at a fair value of \$16 million that will be expensed over an average service period of two years. The acquisition was settled with \$250 million of cash, net of cash acquired. The acquisition expands our Video Security and Analytics technology within both the Products and Systems Integration segment and the Software and Services segment.

On March 11, 2019, we acquired Avtec, Inc. ("Avtec"), a provider of dispatch communications for U.S. public safety and commercial customers for a purchase price of \$136 million in cash, net of cash acquired. This acquisition expands our commercial portfolio with new capabilities, allowing us to offer an enhanced platform for customers to communicate, coordinate resources and secure their facilities. The business is part of both the Products and Systems Integration segment and the Software and Services segment.

On January 7, 2019, we announced that we acquired VaaS International Holdings ("VaaS"), a company that is a global provider of data and image analytics for vehicle location for \$445 million, inclusive of share-based compensation withheld at a fair value of \$38 million that will be expensed over an average service period of one year. The acquisition was settled with \$231 million of cash, net of cash acquired, and 1.4 million of shares issued at a fair value of \$160 million for a purchase price of \$391 million. This acquisition expands Video Security and Analytics within both the Products and Systems Integration segment and the Software and Services segment.

On March 28, 2018, we completed the acquisition of Avigilon Corporation ("Avigilon"), a provider of advanced security and video solutions including video analytics, network video management hardware and software, video cameras and access control solutions, for a purchase price of \$974 million. The acquisition expands Video Security and Analytics within both the Products and Systems Integration segment and the Software and Services segment.

On March 7, 2018, we completed the acquisition of Plant Holdings, Inc. ("Plant"), the parent company of Airbus DS Communications, for a purchase price of \$237 million. This acquisition expands our Command Center Software portfolio with additional solutions for next generation 911 within our Software and Services segment.

Recent Accounting Pronouncements:

In August 2020, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2020-06, "Debt - Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging-Contracts in Entity's Own Equity (Subtopic 815-40) - Accounting for Convertible Instruments and Contracts in an Entity's Own Equity," which simplifies the accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments. The new guidance removes the separation models for convertible debt with a cash conversion feature or a beneficial conversion feature. In addition, the new standard provides guidance on calculating the dilutive impact of convertible debt on earnings per share. The ASU clarifies that the average market price should be used to calculate the diluted earnings per share denominator when the exercise price or the number of shares that may be issued is variable. The ASU is effective for the Company on January 1, 2022, including interim periods, with early adoption permitted. The ASU permits the use of either a full or modified retrospective method of adoption. The Company is still evaluating the impact of the adoption of this ASU on its financial statements and disclosures.

In December 2019, the FASB issued ASU No. 2019-12, "Income Taxes (Topic 740)," which simplifies the accounting for income taxes by removing certain exceptions and streamlining other areas of accounting for income taxes. The ASU is effective for the Company on January 1, 2021 with early adoption permitted. Portions of the amendment within the ASU require retrospective, modified retrospective or prospective adoption methods. The Company has determined that the adoption of this ASU will not have a material impact on its financial statement disclosures.

Recently Adopted Accounting Pronouncements:

In August 2018, the FASB issued ASU No. 2018-14, "Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans," which amends ASC 715-20, Compensation – Retirement Benefits – Defined Benefit Plans – General. This ASU modifies the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans by removing and adding certain disclosures for these plans. The eliminated disclosures include the amounts in accumulated other comprehensive income expected to be recognized in net periodic benefit costs over the next fiscal year and the effects of a one-percentage-point change in assumed health care cost trend rates on the net periodic benefit costs and the benefit obligation for postretirement health care benefits. The new disclosures also require an explanation of significant gains and losses related to changes in benefit obligations. The Company adopted ASU No. 2018-14 for the year ended December 31, 2020 and applied the

required retrospective transition method. The adoption, which is limited to disclosures only, did not have a material effect on the Company's consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, "Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments," which requires the Company to measure and recognize expected credit losses for financial assets held and not accounted for at fair value through net income. In November 2018, April 2019, May 2019 and November 2019, the FASB issued ASU No. 2018-19, "Codification Improvements to Topic 326, Financial Instruments - Credit Losses," ASU No. 2019-04, "Codification Improvements to Topic 326, Financial Instruments - Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments," ASU No. 2019-05, "Financial Instruments - Credit Losses (Topic 326): Targeted Transition Relief," and ASU No. 2019-11, "Codification Improvements to Topic 326, Financial Instruments - Credit Losses," respectively, which collectively provided additional implementation guidance regarding ASU No. 2016-13. The Company adopted ASU No. 2016-13 as of January 1, 2020 using a modified retrospective transition approach for all credit losses. Consequently, financial information was not updated and disclosures required under ASU No. 2016-13 are not provided for dates and periods before January 1, 2020.

The Company considered the impact of adoption of ASU No. 2016-13 by reviewing historical losses in conjunction with current and future economic conditions on the following financial assets: i) cash equivalents, ii) accounts receivable, iii) contract assets, and iv) long-term receivables. Historical losses for these financial assets were previously insignificant with the exception of accounts receivable. The Company estimates credit losses on accounts receivable based on historical losses and then takes into account estimates of current and future economic conditions. The Company's historical loss model is based on past due customer receivable balances and considers past collection experience, historical write-offs as well as the customer's overall financial condition. Customer receivables are considered past due if payments have not been received within the agreed invoice terms. These historical losses are aggregated based on the type of customer (direct and indirect) and the geographic region (North America region and International region). The adoption of this standard did not have a material impact to the Company's financial statements.

The following table displays the rollforward of the allowance for credit losses on the Company's trade receivables:

	<i>Balance at January 1, 2020</i>	<i>Charged to Earnings</i>	<i>Used</i>	<i>Adjustments*</i>	<i>Balance at December 31, 2020</i>
Allowance for credit losses	\$ 63	\$ 47	\$ (34)	\$ (1)	\$ 75

*Adjustments include translation adjustments

We adopted ASU No. 2016-02, "Leases," and all the related amendments (collectively "ASC 842") on January 1, 2019. ASC 842 establishes a right-of-use model ("ROU") that requires a lessee to recognize a ROU asset and lease liability on the balance sheet for all leases with an initial term longer than twelve months. Leases are classified as finance or operating, with classification affecting the pattern and presentation of expense recognition in the income statement.

ASC 842 provides for a number of optional practical expedients in transition. We elected the practical expedients, which permit us to not reassess prior conclusions about lease identification, lease classification and initial direct costs under ASC 842. We did not elect the "use-of hindsight" practical expedient to determine the lease term or in assessing the likelihood that a lease purchase option will be exercised, allowing us to carry forward the lease term as determined prior to adoption of ASC 842. Finally, we also elected the practical expedient related to land easements, which enabled us to continue our accounting treatment for land easements on existing agreements as of January 1, 2019.

ASC 842 also provides practical expedients for an entity's ongoing accounting. We elected the short-term lease recognition exemption for all leases that qualify. A short-term lease is one with a term of 12 months or less, including any optional periods that are reasonably certain of exercise. For those leases that qualify, the exemption allows us to not recognize ROU assets or lease liabilities, including not recognizing ROU assets or lease liabilities for existing short-term leases at transition. Short-term lease costs are recognized as rent expense on a straight-line basis over the lease term consistent with our prior accounting. We also elected the practical expedient to not separate lease and non-lease components for all current lease categories.

As of January 1, 2019, we recognized operating lease liabilities of \$648 million based on the present value of the remaining minimum rental payments determined under prior lease accounting standards and corresponding ROU assets of \$588 million. The \$60 million difference between operating lease liabilities and ROU assets recognized is due to deferred rent and exit cost accruals recorded under prior accounting standards. ASC 842 requires such balances to be reclassified against ROU assets at transition.

For arrangements where we are the lessor, the adoption of ASC 842 did not have a material impact on our financial statements as the majority of our leases are operating leases embedded within managed services contracts. ASC 842 provides a practical expedient for lessors in which the lessor may elect, by class of underlying asset, to not separate non-lease components from the associated lease component and, instead, to account for these components as a single component if both of the following are met: (i) the timing and pattern of transfer of the non-lease component(s) and associated lease component are the same and (ii) the lease component, if accounted for separately, would be classified as an operating lease. The accounting under the practical expedient depends on which component(s) is predominant in the contract. If the non-lease component is predominant, the single component is accounted under ASC Topic 606 "Revenue from Contracts with Customers" and accounting and disclosure under ASC 842 is not applicable. We have elected the above practical expedient and determined that non-lease components are predominant and, accordingly, are accounting for the single components as managed service contracts under ASC Topic 606.

2. Revenue from Contracts with Customers

Disaggregation of Revenue

During the first quarter of 2020, the Company restructured to realize more operational efficiencies, combining our Europe, Middle East and Africa ("EMEA"), Asia Pacific ("AP"), and Latin America ("LA") regions into one region, which is now reflected as "International." Accordingly, the Company now reports net sales in the following two geographic regions: North America, which includes the United States and Canada, and International. In addition, during the fourth quarter of 2020, the Company updated its presentation of major products and services to provide a more comprehensive view of technologies within our reporting segments. Accordingly, the Company now reports net sales in the following three major products and services (which we refer to as "technologies" in this Form 10-K): LMR Mission Critical Communications, Video Security and Analytics, and Command Center Software. The Company has updated all periods presented to reflect this change in presentation.

The following table summarizes the disaggregation of our revenue by segment, geography, major product and service type and customer type for the year ended December 31, 2020, consistent with the information reviewed by our chief operating decision maker for evaluating the financial performance of reportable segments:

(in millions)	Years Ended									
	2020			2019			2018			
	Products and Systems Integration	Software and Services	Total	Products and Systems Integration	Software and Services	Total	Products and Systems Integration	Software and Services	Total	
Regions										
North America	\$ 3,418	\$ 1,606	\$ 5,024	\$ 3,846	\$ 1,430	\$ 5,276	\$ 3,488	\$ 1,176	\$ 4,664	
International	1,216	1,174	2,390	1,483	1,128	2,611	1,612	1,067	2,679	
	<u>\$ 4,634</u>	<u>\$ 2,780</u>	<u>\$ 7,414</u>	<u>\$ 5,329</u>	<u>\$ 2,558</u>	<u>\$ 7,887</u>	<u>\$ 5,100</u>	<u>\$ 2,243</u>	<u>\$ 7,343</u>	
Major Products and Services										
LMR	\$ 3,992	\$ 2,008	\$ 6,000	\$ 4,830	\$ 1,891	\$ 6,721	\$ 4,783	\$ 1,815	\$ 6,598	
Video Security and Analytics	642	285	927	499	210	709	317	65	382	
Command Center Software	—	487	487	—	457	457	—	363	363	
	<u>\$ 4,634</u>	<u>\$ 2,780</u>	<u>\$ 7,414</u>	<u>\$ 5,329</u>	<u>\$ 2,558</u>	<u>\$ 7,887</u>	<u>\$ 5,100</u>	<u>\$ 2,243</u>	<u>\$ 7,343</u>	
Customer Type										
Direct	\$ 2,991	\$ 2,558	\$ 5,549	\$ 3,441	\$ 2,395	\$ 5,836	\$ 3,317	\$ 2,134	\$ 5,451	
Indirect	1,643	222	1,865	1,888	163	2,051	1,783	109	1,892	
	<u>\$ 4,634</u>	<u>\$ 2,780</u>	<u>\$ 7,414</u>	<u>\$ 5,329</u>	<u>\$ 2,558</u>	<u>\$ 7,887</u>	<u>\$ 5,100</u>	<u>\$ 2,243</u>	<u>\$ 7,343</u>	

Remaining Performance Obligations

Remaining performance obligations represent the revenue that is expected to be recognized in future periods related to performance obligations that are unsatisfied, or partially unsatisfied, as of the end of a period. The transaction value associated with remaining performance obligations which are not yet satisfied as of December 31, 2020 was \$7.2 billion. A total of \$3.1 billion is from Products and Systems Integration performance obligations that are not yet satisfied, of which \$1.5 billion is expected to be recognized in the next twelve months. The remaining amounts will generally be satisfied over time as systems are implemented. A total of \$4.1 billion is from Software and Services performance obligations that were not yet satisfied as of December 31, 2020. The determination of Software and Services performance obligations that are not satisfied takes into account a contract term that may be limited by the customer's ability to terminate for convenience. Where termination for convenience exists in the Company's services contracts, its disclosure of the remaining performance obligations that are unsatisfied assumes the contract term is limited until renewal. The Company expects to recognize \$1.5 billion from unsatisfied Software and Services performance obligations over the next twelve months, with the remaining performance obligations to be recognized over time as services are performed and software is implemented.

Payment terms on system contracts are typically tied to implementation milestones associated with progress on contracts, while revenue recognition is over time based on a cost-to-cost method of measuring performance. The Company may recognize a contract asset or contract liability, depending on whether revenue has been recognized in excess of billings or billings in excess of revenue. Services contracts are typically billed in advance, generating Contract liabilities until the Company has performed the services. The Company does not record a financing component to contracts when it expects, at contract inception, that the period between the transfer of a promised good or service and related payment terms are less than a year.

Contract Balances

(in millions)	2020	2019	2018
Accounts receivable, net	\$ 1,390	\$ 1,412	\$ 1,293
Contract assets	933	1,046	1,012
Contract liabilities	1,554	1,449	1,263
Non-current contract liabilities	283	274	214

Revenue recognized during the year ended December 31, 2020 which was previously included in Contract liabilities as of January 1, 2020 was \$946 million, compared to \$854 million of revenue recognized during the year ended December 31, 2019 which was previously included in Contract liabilities as of January 1, 2019, and \$836 million of revenue recognized during the year ended December 31, 2018 which was previously included in Contract liabilities as of January 1, 2018. Revenue of \$53 million was reversed during the year ended December 31, 2020 related to performance obligations satisfied, or partially satisfied, in previous periods, primarily driven by changes in the estimates of progress on system contracts, compared to \$50 million during the year ended December 31, 2019 and \$15 million during the year ended December 31, 2018.

There have been no material expected credit losses recognized on contract assets during the year ended December 31, 2020.

Contract Cost Balances

(in millions)	2020	2019	2018
Current contract cost assets	\$ 23	\$ 24	\$ 30
Non-current contract cost assets	105	107	98

Contract cost assets represent incremental costs to obtain a contract, primarily related to the Company's sales incentive plans, and certain costs to fulfill contracts. Contract cost assets are amortized into expense over a period that follows the passage of control to the customer over time. Incremental costs to obtain a contract with the Company's sales incentive plans are accounted for under a portfolio approach, with amortization ranging from one to four years to approximate the recognition of revenues over time. Where incremental costs to obtain a contract will be recognized in one year or less, the Company applies a practical expedient around expensing amounts as incurred. Amortization of contract cost assets was \$49 million for the year ended December 31, 2020, compared to \$42 million as of the year ended December 31, 2019 and \$44 million as of the year ended December 31, 2018.

3. Leases

Components of Lease Expense

(in millions)	December 31, 2020	December 31, 2019
Lease expense:		
Operating lease cost	\$ 130	\$ 133
Finance lease cost		
Amortization of right-of-use assets	11	12
Interest on lease liabilities	1	2
Total finance lease cost	12	14
Short-term lease cost	3	4
Variable cost	37	35
Sublease income	(5)	(4)
Net lease expense	\$ 177	\$ 182

Rental expense, net of sublease income, for the year ended December 31, 2018 was \$108 million.

Lease Assets and Liabilities

<i>(in millions)</i>	<i>Statement Line Classification</i>	December 31, 2020	December 31, 2019
Assets:			
Operating lease assets	Operating lease assets	\$ 468	\$ 554
Finance lease assets	Property, plant, and equipment, net	30	41
		\$ 498	\$ 595
Current liabilities:			
Operating lease liabilities	Accrued liabilities	\$ 126	\$ 122
Finance lease liabilities	Current portion of long-term debt	11	13
		\$ 137	\$ 135
Non-current liabilities:			
Operating lease liabilities	Operating lease liabilities	\$ 402	\$ 497
Finance lease liabilities	Long-term debt	5	16
		\$ 407	\$ 513

For the year ended December 31, 2020, the Company exercised a break option reducing the term of an International office lease by five years. This resulted in a reduction to both the Operating lease asset and Operating lease liabilities by approximately \$47 million.

Other Information Related to Leases

<i>(in millions)</i>	December 31, 2020	December 31, 2019
Supplemental cash flow information:		
Net cash used for operating activities related to operating leases	\$ 144	\$ 140
Net cash used for operating activities related to finance leases	1	2
Net cash used for financing activities related to finance leases	12	14
Assets obtained in exchange for lease liabilities:		
Operating leases	\$ 84	\$ 86

<i>(in millions)</i>	December 31, 2020	December 31, 2019
Weighted average remaining lease terms (years):		
Operating leases	6	7
Finance leases	2	2
Weighted average discount rate:		
Operating leases	3.30 %	3.61 %
Finance leases	4.21 %	4.28 %

Future Lease Payments

<i>As of December 31, 2020 (in millions)</i>	Operating Leases	Finance Leases	Total
2021	\$ 141	\$ 12	\$ 153
2022	127	5	132
2023	73	—	73
2024	59	—	59
2025	47	—	47
Thereafter	139	—	139
Total lease payments	\$ 586	\$ 17	\$ 603
Less: Interest	58	1	59
Present value of lease liabilities	\$ 528	\$ 16	\$ 544

4. Other Financial Data

Statement of Operations Information

Other Charges (Income)

Other charges (income) included in Operating earnings consist of the following:

Years ended December 31 (in millions)	2020	2019	2018
Other charges (income):			
Intangibles amortization (Note 15)	\$ 215	\$ 208	\$ 188
Reorganization of businesses (Note 14)	57	40	61
Losses on legal settlements	9	3	3
Asset impairments	5	—	1
Gain on sale of property, plant, and equipment	(50)	—	—
Environmental reserve expense	—	—	57
Operating lease ROU asset impairment	—	5	—
Acquisition-related transaction fees	9	3	24
Other	1	1	—
	<u>\$ 246</u>	<u>\$ 260</u>	<u>\$ 334</u>

During 2020, the Company recorded a \$50 million gain on the sale of a manufacturing facility in Europe.

During 2018, the Company recorded an environmental reserve charge of \$57 million relating to a designated Superfund site due to: (i) changing the expected timeline of the remediation activities to 30 years and (ii) additional costs for further remediation efforts, increasing the reserve to \$107 million.

Other Income (Expense)

Interest expense, net, and Other both included in Other income (expense) consist of the following:

Years ended December 31 (in millions)	2020	2019	2018
Interest expense, net:			
Interest expense	\$ (233)	\$ (237)	\$ (240)
Interest income	13	17	18
	<u>\$ (220)</u>	<u>\$ (220)</u>	<u>\$ (222)</u>
Other:			
Net periodic pension and postretirement benefit (Note 8)	\$ 81	\$ 78	\$ 75
Losses from the extinguishment of long-term debt (Note 5)	(56)	(50)	—
Gains from the extinguishment of 2.00% senior convertible notes (Note 5)	—	4	6
Investment impairments	(4)	(18)	(5)
Foreign currency loss	(44)	(22)	(24)
Gain (loss) on derivative instruments	25	(8)	(14)
Gains on equity method investments	3	3	1
Fair value adjustments to equity investments	6	(3)	11
U.S. pension settlement (Note 8)	—	(359)	—
Other	2	10	3
	<u>\$ 13</u>	<u>\$ (365)</u>	<u>\$ 53</u>

Earnings Per Common Share

Basic and diluted earnings per common share from net earnings attributable to Motorola Solutions, Inc. are computed as follows:

Years ended December 31	Amounts attributable to Motorola Solutions, Inc. common stockholders		
	Net Earnings		
	2020	2019	2018
Basic earnings per common share:			
Earnings	\$ 949	\$ 868	\$ 966
Weighted average common shares outstanding	170.0	166.6	162.4
Per share amount	\$ 5.58	\$ 5.21	\$ 5.95
Diluted earnings per common share:			
Earnings	\$ 949	\$ 868	\$ 966
Weighted average common shares outstanding	170.0	166.6	162.4
Add effect of dilutive securities:			
Share-based awards	4.1	4.7	4.2
2.00% senior convertible notes	—	4.3	5.4
1.75% senior convertible notes	—	—	—
Diluted weighted average common shares outstanding	174.1	175.6	172.0
Per share amount	\$ 5.45	\$ 4.95	\$ 5.62

In the computation of diluted earnings per common share for the year ended December 31, 2020, the assumed exercise of 0.4 million options, including 0.1 million subject to market-based contingent option agreements, were excluded because their inclusion would have been antidilutive. In the computation of diluted earnings per common share for the year ended December 31, 2019, the assumed exercise of 0.3 million options, including 0.1 million subject to market-based contingent option agreements, were excluded because their inclusion would have been antidilutive. In the computation of diluted earnings per common share for the year ended December 31, 2018, the assumed exercise of 0.8 million options, including 0.6 million subject to market-based contingent option agreements, were excluded because their inclusion would have been antidilutive.

On September 5, 2019, the Company issued \$1.0 billion of 1.75% senior convertible notes which mature on September 15, 2024 ("New Senior Convertible Notes"). The notes are convertible based on a conversion rate of 4.9140 per \$1,000 principal amount (which is equal to an initial conversion price of \$203.50 per share). In the event of conversion, the Company intends to settle the principal amount of the New Senior Convertible Notes in cash. Because of the Company's intention to settle the par value of the New Senior Convertible Notes in cash, Motorola Solutions does not reflect any shares underlying the New Senior Convertible Notes in its diluted weighted average shares outstanding until the average stock price per share for the period exceeds the conversion price. Only the number of shares that would be issuable (under the treasury stock method of accounting for share dilution) will be included, which is based upon the amount by which the average stock price exceeds the conversion price of \$203.50. For the period ended December 31, 2020, there was no dilutive effect of the New Senior Convertible Notes on diluted earnings per share attributable to Motorola Solutions, Inc. as the average stock price for the period outstanding was below the conversion price. See further discussion in Note 5.

Balance Sheet Information

Accounts Receivable, Net

Accounts receivable, net, consists of the following:

December 31	2020	2019
Accounts receivable	\$ 1,465	\$ 1,475
Less allowance for credit losses	(75)	(63)
	\$ 1,390	\$ 1,412

Inventories, Net

Inventories, net, consist of the following:

<i>December 31</i>	2020	2019
Finished goods	\$ 271	\$ 209
Work-in-process and production materials	360	374
	<u>631</u>	<u>583</u>
Less inventory reserves	(123)	(136)
	<u>\$ 508</u>	<u>\$ 447</u>

Other Current Assets

Other current assets consist of the following:

<i>December 31</i>	2020	2019
Current contract cost assets (Note 2)	\$ 23	\$ 24
Tax-related deposits	52	77
Other	167	171
	<u>\$ 242</u>	<u>\$ 272</u>

Property, Plant and Equipment, Net

Property, plant and equipment, net, consist of the following:

<i>December 31</i>	2020	2019
Land	\$ 6	\$ 15
Leasehold improvements	439	410
Machinery and equipment	2,276	2,051
	<u>2,721</u>	<u>2,476</u>
Less accumulated depreciation	(1,699)	(1,484)
	<u>\$ 1,022</u>	<u>\$ 992</u>

Depreciation expense for the years ended December 31, 2020, 2019, and 2018 was \$194 million, \$186 million and \$172 million, respectively.

Investments

Investments consist of the following:

<i>December 31</i>	2020	2019
Common stock	\$ 19	\$ 25
Strategic investments, at cost	46	40
Company-owned life insurance policies	77	74
Equity method investments	16	20
	<u>\$ 158</u>	<u>\$ 159</u>

The Company's common stock portfolio reflects investments in publicly-traded companies within the communications services sector and is valued utilizing active market prices for similar instruments. The Company did not recognize any significant fair value adjustments to the investments during the year ended December 31, 2020.

Strategic investments include investments in non-public technology-driven startup companies. Strategic investments do not have a readily determinable fair value and are recorded at cost, less any impairment, and adjusted for changes resulting from observable, orderly transactions for identical or similar securities. The Company did not recognize any significant adjustments to the recorded cost basis during the year ended December 31, 2020.

The Company recorded a \$2 million loss on the sale of investments and businesses during the year ended December 31, 2020 and gains on the sale of investments and businesses of \$5 million and \$16 million for the years ended December 31, 2019 and December 31, 2018, respectively. During the year ended December 31, 2019, the Company received \$6 million in cash for the sale of \$3 million of net assets related to a two-way communications rental business, resulting in the gain on sale of a business of \$3 million.

During the year ended December 31, 2020, the Company recorded investment impairment charges of \$4 million, compared to \$18 million during the year ended December 31, 2019 and \$5 million during the year ended December 31, 2018, representing other-than-temporary declines in the value of the Company's strategic equity investment portfolio.

Other Assets

Other assets consist of the following:

December 31	2020	2019
Defined benefit plan assets (Note 8)	\$ 283	\$ 223
Non-current contract cost assets (Note 2)	105	107
Other	94	92
	<u>\$ 482</u>	<u>\$ 422</u>

Accrued Liabilities

Accrued liabilities consist of the following:

December 31	2020	2019
Compensation	\$ 291	\$ 347
Tax liabilities (Note 7)	147	95
Dividend payable	120	110
Trade liabilities	164	161
Operating lease liabilities (Note 3)	126	122
Other	463	521
	<u>\$ 1,311</u>	<u>\$ 1,356</u>

Other Liabilities

Other liabilities consist of the following:

December 31	2020	2019
Defined benefit plans (Note 8)	\$ 1,578	\$ 1,524
Non-current contract liabilities (Note 2)	283	274
Unrecognized tax benefits (Note 7)	49	53
Deferred income taxes (Note 7)	180	184
Other	273	241
	<u>\$ 2,363</u>	<u>\$ 2,276</u>

Stockholders' Equity Information

Share Repurchase Program: Through a series of actions, the board of directors has authorized the Company to repurchase in the aggregate up to \$14.0 billion of its outstanding shares of common stock (the "share repurchase program"). The share repurchase program does not have an expiration date. As of December 31, 2020, the Company had used approximately \$13.4 billion of the share repurchase authority, including transaction costs, to repurchase shares, leaving \$649 million of authority available for future repurchases.

The Company's share repurchases, including transaction costs, for 2020, 2019, and 2018 can be summarized as follows:

Year	Shares Repurchased (in millions)	Average Price	Amount (in millions)
2020	3.9	\$ 155.93	\$ 612
2019	2.3	137.35	315
2018	1.2	112.42	132

Payment of Dividends: On November 19, 2020, the Company announced that its board of directors approved an increase in the quarterly cash dividend from \$0.64 per share to \$0.71 per share of common stock. During the years ended December 31, 2020, 2019, and 2018 the Company paid \$436 million, \$379 million, and \$337 million, respectively, in cash dividends to holders of its common stock. On January 15, 2021, the Company paid an additional \$120 million in cash dividends to holders of our common stock.

Accumulated Other Comprehensive Loss

The following table displays the changes in Accumulated other comprehensive loss, including amounts reclassified into income, and the affected line items in the Consolidated Statements of Operations during the years ended December 31, 2020, 2019, and 2018:

	<i>Years ended December 31</i>		
	2020	2019	2018
Foreign Currency Translation Adjustments:			
Balance at beginning of period	\$ (410)	\$ (444)	\$ (353)
Other comprehensive income (loss) before reclassification adjustment	55	35	(94)
Tax benefit (expense)	(5)	(1)	3
Other comprehensive income (loss), net of tax	50	34	(91)
Balance at end of period	\$ (360)	\$ (410)	\$ (444)
Available-for-Sale Securities:			
Balance at beginning of period	\$ —	\$ —	\$ 6
Other comprehensive income (loss) before reclassification adjustment	—	—	(8)
Tax benefit	—	—	2
Other comprehensive income (loss), net of tax	—	—	(6)
Balance at end of period	\$ —	\$ —	\$ —
Defined Benefit Plans:			
Balance at beginning of period	\$ (2,030)	\$ (2,321)	\$ (2,215)
Other comprehensive income (loss) before reclassification adjustment	(130)	337	(200)
Tax benefit (expense)	30	(85)	46
Other comprehensive income (loss) before reclassification adjustment, net of tax	(100)	252	(154)
Reclassification adjustment - Actuarial net losses into Other income (expense)	76	65	76
Reclassification adjustment - Prior service benefits into Other income (expense)	(18)	(15)	(15)
Tax benefit	(14)	(11)	(13)
Reclassification adjustments into Net earnings, net of tax	44	39	48
Other comprehensive income (loss), net of tax	(56)	291	(106)
Balance at end of period	\$ (2,086)	\$ (2,030)	\$ (2,321)
Total Accumulated other comprehensive loss	\$ (2,446)	\$ (2,440)	\$ (2,765)

5. Debt and Credit Facilities

Long-Term Debt

December 31	2020	2019
3.75% senior notes due 2022	\$ —	\$ 550
3.5% senior notes due 2023	323	597
4.0% senior notes due 2024	583	593
1.75% senior convertible notes due 2024	995	988
6.5% debentures due 2025	70	72
7.5% debentures due 2025	252	254
4.6% senior notes due 2028	692	691
6.5% debentures due 2028	24	24
4.6% senior notes due 2029	803	804
2.3% senior notes due 2030	892	—
6.625% senior notes due 2037	37	37
5.5% senior notes due 2044	396	396
5.22% debentures due 2097	92	91
Other long-term debt	18	35
	5,177	5,132
Adjustments for unamortized gains on interest rate swap terminations	(2)	(3)
Less: current portion	(12)	(16)
Long-term debt	\$ 5,163	\$ 5,113

In May of 2019, the Company issued \$650 million of 4.60% senior notes due 2029. The Company received proceeds of \$645 million after debt issuance costs and debt discounts. These proceeds were then used to repurchase \$614 million in principal amount of its outstanding long-term debt for a purchase price of \$654 million, excluding \$3 million of accrued interest. After accelerating the amortization of debt issuance costs and debt discounts, the Company recognized a loss of \$43 million related to this repurchase in Other, net within Other income (expense) in the Consolidated Statements of Operations.

In August of 2019, the Company issued a follow-on offering of \$150 million to the outstanding 4.60% senior notes due 2029 bringing the total outstanding principal to \$800 million. The Company recognized net proceeds of \$159 million after debt premiums and debt issuance costs. These proceeds were then used to repurchase the remaining \$150 million principal amount of the 3.5% senior notes due 2021 for a purchase price of \$155 million, excluding \$2 million of accrued interest. After accelerating the amortization of debt issuance costs, the Company recognized a loss of \$7 million related to this repurchase in Other, net within Other income (expense) in the Consolidated Statements of Operations.

On September 5, 2019, in connection with the Company's repurchase and settlement of the outstanding principal amount of 2.00% senior convertible notes due 2020 issued to Silver Lake Partners, the Company entered into an agreement with Silver Lake Partners to issue \$1.0 billion of 1.75% senior convertible notes which mature in September 2024 (the "New Senior Convertible Notes"). Interest on these notes is payable semiannually. The notes are convertible anytime on or after two years from their issuance date, except in certain limited circumstances. The notes are convertible based on a conversion rate of 4.9140 per \$1,000 principal amount (which is equal to an initial conversion price of \$203.50 per share). In the event of conversion, the Company intends to settle the principal amount of the New Senior Convertible Notes in cash. The Company recorded a debt liability associated with the New Senior Convertible Notes by determining the fair value of an equivalent debt instrument without a conversion option. Using a discount rate of 2.45%, which was determined based on a review of relevant market data, the Company calculated the debt liability to be \$986 million, indicating a \$14 million discount to be amortized over the expected life of the debt instrument. The remaining proceeds of \$14 million were allocated to the conversion option and accordingly, increased Additional paid-in capital.

In August of 2020, the Company issued \$900 million of 2.30% senior notes due 2030. The Company recognized net proceeds of \$892 million after debt issuance costs and debt discounts. A portion of these proceeds were then used to redeem \$552 million in principal amount outstanding of the 3.75% senior notes due 2022 for a redemption price of \$582 million, excluding \$7 million of accrued interest. The remaining proceeds were used to repurchase \$293 million in principal amount outstanding of its long-term debt under a tender offer, for a purchase price of \$315 million, excluding \$5 million of accrued interest. After accelerating the amortization of debt issuance costs and debt discounts, the Company recognized a loss of \$56 million related to the redemption and the repurchase in Other, net within Other income (expense) in the Consolidated Statements of Operations.

The Company has an unsecured commercial paper program, backed by the 2017 Motorola Solutions Credit Agreement (defined below), under which the Company may issue unsecured commercial paper notes up to a maximum aggregate principal amount of \$2.2 billion outstanding at any one time. At maturity, the notes are paid back in full including the interest component. The notes are not redeemable prior to maturity. As of December 31, 2020, the Company had no outstanding debt under the commercial paper program.

Aggregate requirements for long-term debt maturities during the next five years are as follows: 2021—\$12 million; 2022—\$4 million; 2023—\$326 million; 2024—\$1.6 billion; and 2025—\$322 million.

Credit Facilities

As of December 31, 2020, the Company had a \$2.2 billion syndicated, unsecured revolving credit facility scheduled to mature in April 2022, which can be used for borrowing and letters of credit (the "2017 Motorola Solutions Credit Agreement"). The 2017 Motorola Solutions Credit Agreement includes a \$500 million letter of credit sub-limit with \$450 million of fronting commitments. Borrowings under the facility bear interest at the prime rate plus the applicable margin, or at a spread above the London Interbank Offered Rate ("LIBOR"), at the Company's option. Following the turmoil in the financial markets caused by the COVID-19 pandemic, the Company borrowed \$800 million under the facility to bolster its cash holdings out of precaution in the first quarter of 2020 which was repaid as of December 31, 2020. The weighted average borrowing rate for amounts outstanding during the year ended December 31, 2020 was 1.70%. An annual facility fee is payable on the undrawn amount of the credit line. The interest rate and facility fee are subject to adjustment if the Company's credit rating changes. The Company must comply with certain customary covenants including a maximum leverage ratio, as defined in the 2017 Motorola Solutions Credit Agreement. The Company was in compliance with its financial covenants as of December 31, 2020.

6. Risk Management

Foreign Currency Risk

At December 31, 2020, the Company had outstanding foreign exchange contracts with notional amounts totaling \$1.2 billion, compared to \$1.1 billion outstanding at December 31, 2019. The Company does not believe these financial instruments should subject it to undue risk due to foreign exchange movements because gains and losses on these contracts should generally offset gains and losses on the underlying assets, liabilities and transactions.

The following table shows the Company's five largest net notional amounts of the positions to buy or sell foreign currency as of December 31, 2020 and the corresponding positions as of December 31, 2019:

<i>Net Buy (Sell) by Currency</i>	<i>Notional Amount</i>	
	2020	2019
Euro	\$ 177	\$ 134
British pound	86	107
Canadian dollar	61	8
Chinese renminbi	(90)	(79)
Australian dollar	(88)	(123)

Net Investment Hedges

The Company uses foreign exchange forward contracts with contract terms of 12 to 15 months to hedge against the effect of the British pound and the Euro exchange rate fluctuations against the U.S. dollar on a portion of its net investment in certain European operations. The Company recognizes changes in the fair value of the net investment hedges as a component of foreign currency translation adjustments within other comprehensive income to offset a portion of the change in translated value of the net investment being hedged, until the investment is sold or liquidated. The Company has elected to exclude the difference between the spot rate and the forward rate of the forward contract from its assessment of hedge effectiveness. The effect of the excluded components will be amortized on a straight-line basis and recognized through interest expense. As of December 31, 2020, the Company had €100 million of net investment hedges in certain Euro functional subsidiaries and £100 million of net investment hedges in certain British pound functional subsidiaries. During the year ended December 31, 2020, the Company amortized \$3 million of income from the excluded components through interest expense.

Counterparty Risk

The use of derivative financial instruments exposes the Company to counterparty credit risk in the event of non-performance by counterparties. However, the Company's risk is limited to the fair value of the instruments when the derivative is in an asset position. The Company actively monitors its exposure to credit risk. As of December 31, 2020, all of the counterparties had investment grade credit ratings. As of December 31, 2020, the credit risk with all derivative counterparties was approximately \$14 million.

Derivative Financial Instruments

The following tables summarize the fair values and location in the Consolidated Balance Sheet of all derivative financial instruments held by the Company at December 31, 2020 and 2019:

	Fair Values of Derivative Instruments			
	Assets		Liabilities	
	Fair Value	Balance Sheet Location	Fair Value	Balance Sheet Location
December 31, 2020				
Derivatives designated as hedging instruments:				
Foreign exchange contracts	\$ —	Other assets	\$ 5	Accrued liabilities
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	\$ 14	Other assets	\$ 3	Accrued liabilities

	Fair Values of Derivative Instruments			
	Assets		Liabilities	
	Fair Value	Balance Sheet Location	Fair Value	Balance Sheet Location
December 31, 2019				
Derivatives designated as hedging instruments:				
Foreign exchange contracts	\$ 3	Other assets	\$ —	Accrued liabilities
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	\$ 1	Other assets	\$ 5	Accrued liabilities

The following table summarizes the effect of derivatives designated as hedging instruments, for the years ended December 31, 2020, 2019 and 2018:

Gain (Loss) on Derivative Instruments	December 31			Financial Statement Location
	2020	2019	2018	
Foreign exchange contracts	\$ (7)	\$ 8	\$ —	Other comprehensive income (loss)

The following table summarizes the effect of derivatives not designated as hedging instruments, for the years ended December 31, 2020, 2019 and 2018:

Gain (Loss) on Derivative Instruments	December 31			Financial Statement Location
	2020	2019	2018	
Foreign exchange contracts	\$ 25	\$ (8)	\$ (14)	Other income (expense)

7. Income Taxes

Components of Income Tax Expense

Components of earnings before income taxes are as follows:

Years ended December 31	2020	2019	2018
United States	\$ 1,029	\$ 714	\$ 980
Other nations	145	287	122
	\$ 1,174	\$ 1,001	\$ 1,102

Components of income tax expense (benefit) are as follows:

<i>Years ended December 31</i>	2020	2019	2018
United States	\$ 117	\$ 94	\$ 16
Other nations	98	93	88
States (U.S.)	<u>31</u>	<u>27</u>	<u>20</u>
Current income tax expense	<u>246</u>	214	124
United States	(21)	(61)	39
Other nations	8	(22)	(18)
States (U.S.)	<u>(12)</u>	<u>(1)</u>	<u>(12)</u>
Deferred income tax expense (benefit)	<u>(25)</u>	<u>(84)</u>	<u>9</u>
Total income tax expense	<u>\$ 221</u>	<u>\$ 130</u>	<u>\$ 133</u>

Differences between income tax expense computed at the U.S. federal statutory tax rate of 21% and income tax expense as reflected in the Consolidated Statements of Operations are as follows:

<i>Years ended December 31</i>	2020		2019		2018	
Income tax expense at statutory rate	\$ 246	21.0 %	\$ 210	21.0 %	\$ 231	21.0 %
State income taxes, net of federal benefit	39	3.3 %	32	3.2 %	11	1.0 %
U.S. tax expense (benefit) on undistributed non-U.S. earnings	(2)	(0.2)%	6	0.6 %	6	0.5 %
Non-U.S. tax expense on non-U.S. earnings	5	0.5 %	4	0.4 %	7	0.6 %
U.S. tax reform	—	— %	—	— %	(79)	(7.2)%
Reserve for uncertain tax positions	—	— %	(3)	(0.3)%	2	0.2 %
Other tax expense (benefit)	5	0.4 %	(3)	(0.3)%	8	0.7 %
Research credits	(28)	(2.4)%	(10)	(1.0)%	(9)	(0.8)%
Stock compensation	(48)	(4.1)%	(27)	(2.7)%	(30)	(2.7)%
Valuation allowances	4	0.3 %	(79)	(7.9)%	(14)	(1.3)%
	<u>\$ 221</u>	<u>18.8 %</u>	<u>\$ 130</u>	<u>13.0 %</u>	<u>\$ 133</u>	<u>12.0 %</u>

The effective tax rate for 2020 was below the current U.S. federal statutory rate of 21% primarily due to the recognition of excess tax benefits of share-based compensation and increased benefit of research and development tax credits.

Deferred tax balances that were recorded within Accumulated other comprehensive loss in the Company's Consolidated Balance Sheet, rather than Income tax expense, are the result of retirement benefit adjustments, currency translation adjustments, and fair value adjustments to available-for-sale securities. The adjustments were benefits of \$11 million for the year ended December 31, 2020, charges of \$97 million for the year ended December 31, 2019 and benefits of \$38 million for the year ended December 31, 2018.

The Company evaluates its permanent reinvestment assertions with respect to foreign earnings at each reporting period and generally, except for certain earnings that the Company intends to reinvest indefinitely due to the capital requirements of the foreign subsidiaries or due to local country restrictions, accrues for the U.S. federal and foreign income tax applicable to the earnings. As a result of the 2017 U.S. Tax Cuts and Jobs Act ("the Tax Act"), dividends from foreign subsidiaries are now exempt or the earnings have been previously subject to U.S. tax. As a result, the tax accrual for undistributed foreign earnings is limited primarily to foreign withholding taxes and tax on inherent capital gains that would result from distribution of foreign earnings which are not permanently reinvested, and such earnings may be distributed without an additional charge.

Undistributed foreign earnings that the Company intends to reinvest indefinitely amounted to, in the aggregate, \$1.9 billion at December 31, 2020. It is impracticable to determine the exact amount of unrecognized deferred tax liabilities on such earnings; however, due to the above-mentioned changes made under the Tax Act, the Company believes that the additional U.S. or foreign income tax charge with respect to such earnings, if distributed, would be immaterial.

Gross deferred tax assets were \$2.1 billion and \$2.0 billion for December 31, 2020 and December 31, 2019, respectively. Deferred tax assets, net of valuation allowances, were \$1.7 billion and \$1.6 billion at December 31, 2020 and December 31, 2019, respectively. Gross deferred tax liabilities were \$926 million and \$854 million at December 31, 2020 and 2019, respectively.

Significant components of deferred tax assets (liabilities) are as follows:

<i>December 31</i>	2020	2019
Inventory	\$ 22	\$ 45
Accrued liabilities and allowances	67	65
Employee benefits	372	392
Capitalized items	(61)	(129)
Tax basis differences on investments	(3)	2
Depreciation tax basis differences on fixed assets	52	68
Undistributed non-U.S. earnings	(33)	(27)
Tax attribute carryforwards	449	471
Business reorganization	16	10
Warranty and customer liabilities	24	33
Deferred revenue and costs	203	165
Valuation allowances	(341)	(349)
Operating lease assets	(103)	(125)
Operating lease liabilities	119	139
Other	3	(1)
	\$ 786	\$ 759

At December 31, 2020 and 2019, the Company had valuation allowances of \$341 million and \$349 million, respectively, against its deferred tax assets, including \$81 million and \$85 million, respectively, relating to deferred tax assets for non-U.S. subsidiaries. The Company's U.S. valuation allowance decreased \$5 million during 2020 primarily due to the expiration of tax attributes. The Company's U.S. valuation allowance decreased \$111 million during 2019 primarily due to a change in the Company's ability to utilize U.S. foreign tax credits and the expiration of tax attributes. The Company believes that the remaining deferred tax assets are more-likely-than-not to be realizable based on estimates of future taxable income and the implementation of tax planning strategies.

Tax attribute carryforwards are as follows:

<i>December 31, 2020</i>	<i>Gross Tax Loss</i>	<i>Tax Effected</i>	<i>Expiration Period</i>
United States:			
U.S. tax losses	\$ 48	\$ 10	2028-2038
Foreign tax credits	—	282	2021-2023
General business credits	—	3	2030-2039
State tax losses	—	27	2021-2031
State tax credits	—	20	2021-2039
Non-U.S. subsidiaries:			
Japan tax losses	74	22	2021-2027
United Kingdom tax losses	113	21	Unlimited
Singapore tax losses	12	2	Unlimited
Canada tax losses	20	5	2034-2038
Spain tax credits	—	24	2021-2028
Other subsidiaries tax losses	90	20	Various
Other subsidiaries tax credits	—	13	Various
		\$ 449	

The Company had unrecognized tax benefits of \$64 million and \$70 million at December 31, 2020 and December 31, 2019, respectively, of which approximately \$53 million and \$66 million, if recognized, would have affected the effective tax rate for 2020 and 2019, respectively.

A roll-forward of unrecognized tax benefits is as follows:

	2020	2019
Balance at January 1	\$ 70	\$ 76
Additions based on tax positions related to current year	8	4
Additions for tax positions of prior years	2	3
Reductions for tax positions of prior years	(6)	(8)
Settlements and agreements	(8)	(1)
Lapse of statute of limitations	(2)	(4)
Balance at December 31	\$ 64	\$ 70

The Company recorded \$49 million and \$53 million of unrecognized tax benefits in other liabilities at December 31, 2020 and December 31, 2019, respectively.

The Internal Revenue Service ("IRS") has concluded the examination of the Company's 2014 and 2015 tax years. The Company also has several state and non-U.S. audits pending. A summary of open tax years by major jurisdiction is presented below:

<i>Jurisdiction</i>	<i>Tax Years</i>
United States	2016-2020
Australia	2016-2020
Canada	2015-2020
Germany	2016-2020
India	1997-2020
Israel	2019-2020
Poland	2016-2020
Malaysia	2013-2020
United Kingdom	2019-2020

Although the final resolution of the Company's global tax disputes is uncertain, based on current information, in the opinion of the Company's management, the ultimate disposition of these matters will not have a material adverse effect on the Company's consolidated financial position or liquidity. However, an unfavorable resolution of the Company's global tax disputes could have a material adverse effect on the Company's results of operations in the periods, and as of the dates, on which the matters are ultimately resolved.

Based on the potential outcome of the Company's global tax examinations, the expiration of the statute of limitations for specific jurisdictions, or the continued ability to satisfy tax incentive obligations, it is reasonably possible that the unrecognized tax benefits will change within the next twelve months. The associated net tax impact on the effective tax rate, exclusive of valuation allowance changes, is estimated to be up to a \$13 million tax benefit.

At December 31, 2020, the Company had \$33 million accrued for interest and \$15 million accrued for penalties on unrecognized tax benefits. At December 31, 2019, the Company had \$29 million and \$16 million accrued for interest and penalties, respectively, on unrecognized tax benefits. The Company's policy is to classify the interest and penalty as a component of interest expense and other expense, respectively.

8. Retirement Benefits

Pension and Postretirement Health Care Benefits Plans

U.S. Pension Benefit Plans

The Company's non-contributory U.S. defined benefit plan (the "U.S. Pension Plan") provides benefits to U.S. employees hired prior to January 1, 2005, who became eligible after one year of service. The Company also has an additional non-contributory supplemental retirement benefit plan, the Motorola Supplemental Pension Plan ("MSPP"), which provided supplemental benefits to individuals by replacing benefits that are lost by such individuals under the retirement formula due to application of the limitations imposed by the Internal Revenue Code. In December 2008, the Company amended the U.S. Pension Plan and MSPP (together the "U.S. Pension Plans") such that, effective March 1, 2009: (i) no participant shall accrue any benefit or additional benefit on or after March 1, 2009, and (ii) no compensation increases earned by a participant on or after March 1, 2009 shall be used to compute any accrued benefit.

In December 2019, the Company completed a voluntary lump-sum election window offered to certain participants of the U.S. Pension Plan. The aggregate dollar amount of lump-sum elections by approximately 6,300 participants was \$836 million, and accordingly, this amount was paid out of plan assets prior to December 31, 2019. These actions resulted in a reduction of our projected benefit obligation, absent of actuarial losses experienced from decreases in interest rates, of \$1.0 billion and a settlement loss of \$359 million recorded within "Other charges" on the Consolidated Statement of Operations.

Postretirement Health Care Benefits Plan

Certain health care benefits are available to eligible domestic employees hired prior to January 1, 2002 and meeting certain age and service requirements upon termination of employment (the "Postretirement Health Care Benefits Plan"). As of January 1, 2005, the Postretirement Health Care Benefits Plan was closed to new participants. After a series of amendments, all eligible retirees under the age of 65 will be provided an annual subsidy per household, versus per individual, toward the purchase of their own health care coverage from private insurance companies and for the reimbursement of eligible health care expenses. All eligible retirees over the age of 65 are entitled to one fixed-rate subsidy capped at \$560 per participant.

These series of amendments to the Postretirement Health Care Benefits Plan resulted in a reduction in the postretirement benefit obligation. A substantial portion of the decrease related to prior service credits and will be amortized as a credit to the Consolidated Statements of Operations over approximately five years, or the period in which the remaining employees eligible for the plan qualify for benefits under the plan. These amendments will be fully amortized during fiscal year 2021.

Non U.S. Pension Benefit Plans

The Company also provides defined benefit plans which cover non-U.S. employees in certain jurisdictions, principally the U.K. and Germany (the "Non-U.S. Pension Benefit Plans"). Other pension plans outside of the U.S. are not material to the Company either individually or in the aggregate.

In June 2015, the Company amended its Non-U.S. defined benefit plan within the United Kingdom by closing future benefit accruals to all participants effective December 31, 2015.

In 2019, the Motorola Solutions United Kingdom defined benefit plan trustees decided to exercise their discretion on early retirement benefit reductions. This action resulted in a reduction of the projected benefit obligation of approximately \$83 million related to prior service credits that will be amortized as a credit to the Consolidated Statements of Operations over approximately twenty-nine years, or the period in which the remaining employees eligible for the plan qualify for benefits under the plan.

Net Periodic Cost (Benefit)

The net periodic cost (benefit) for pension and Postretirement Health Care Benefits plans was as follows:

Years ended December 31	U.S. Pension Benefit Plans			Non U.S. Pension Benefit Plans			Postretirement Health Care Benefits Plan		
	2020	2019	2018	2020	2019	2018	2020	2019	2018
Service cost	\$ —	\$ —	\$ —	\$ 2	\$ 2	\$ 3	\$ —	\$ —	\$ —
Interest cost	144	202	186	29	36	38	2	3	2
Expected return on plan assets	(225)	(275)	(270)	(85)	(85)	(92)	(10)	(10)	(10)
Amortization of:									
Unrecognized net loss	58	46	57	15	15	15	3	4	4
Unrecognized prior service benefit	—	—	—	(3)	—	—	(15)	(15)	(15)
Settlement loss	—	359	—	—	—	—	—	—	—
Net periodic cost (benefit)	\$ (23)	\$ 332	\$ (27)	\$ (42)	\$ (32)	\$ (36)	\$ (20)	\$ (18)	\$ (19)

The status of the Company's plans is as follows:

	U.S. Pension Benefit Plans		Non U.S. Pension Benefit Plans		Postretirement Health Care Benefits Plan	
	2020	2019	2020	2019	2020	2019
Change in benefit obligation:						
Benefit obligation at January 1	\$ 4,727	\$ 4,864	\$ 1,814	\$ 1,654	\$ 73	\$ 72
Service cost	—	—	2	2	—	—
Interest cost	144	202	29	36	2	3
Plan amendments	—	—	1	(83)	—	—
Actuarial loss	480	609	171	207	1	4
Foreign exchange valuation adjustment	—	—	88	44	—	—
Benefit payments	(125)	(948)	(47)	(46)	(5)	(6)
Benefit obligation at December 31	\$ 5,226	\$ 4,727	\$ 2,058	\$ 1,814	\$ 71	\$ 73
Change in plan assets:						
Fair value at January 1	\$ 3,601	\$ 3,673	\$ 1,641	\$ 1,438	\$ 160	\$ 133
Return on plan assets	604	873	214	188	26	33
Company contributions	3	3	9	8	—	—
Foreign exchange valuation adjustment	—	—	63	53	—	—
Benefit payments	(125)	(948)	(47)	(46)	(5)	(6)
Fair value at December 31	\$ 4,083	\$ 3,601	\$ 1,880	\$ 1,641	\$ 181	\$ 160
Funded status of the plan	\$ (1,143)	\$ (1,126)	\$ (178)	\$ (173)	\$ 110	\$ 87
Unrecognized net loss	1,977	1,935	675	648	23	42
Unrecognized prior service benefit	—	—	(80)	(84)	(5)	(20)
Prepaid pension cost	\$ 834	\$ 809	\$ 417	\$ 391	\$ 128	\$ 109
Components of prepaid (accrued) pension cost:						
Current benefit liability	\$ (3)	\$ (3)	\$ —	\$ —	\$ —	\$ —
Non-current benefit liability	(1,140)	(1,123)	(330)	(299)	—	—
Non-current benefit asset	—	—	152	126	110	87
Deferred income taxes	480	463	65	60	7	9
Accumulated other comprehensive loss	1,497	1,472	530	504	11	13
Prepaid pension cost	\$ 834	\$ 809	\$ 417	\$ 391	\$ 128	\$ 109

For the year ended December 31, 2020, the primary driver of the increase in the U.S. Pension Benefit Plans benefit obligation was higher actuarial losses due to a decrease in the discount rate from 3.32% as of December 31, 2019 to 2.63% as of December 31, 2020. For the year ended December 31, 2019, the decrease in the U.S. Pension Benefit Plans benefit obligation was driven by the \$948 million of benefit payments from the voluntary lump-sum election window offered to certain participants in 2019 which was partially offset by higher actuarial losses. The actuarial losses were primarily driven by the decrease in the discount rate from 4.47% as of December 31, 2018 to 3.32% as of December 31, 2019, partially offset by an actuarial gain from the voluntary lump-sum election offered to certain participants in 2019.

For the year ended December 31, 2020, the most significant drivers of the increase in Non U.S. Pension Benefit Plan benefit obligation were the higher actuarial losses coupled with unfavorable foreign exchange effects. The Non U.S. Pension Benefit Plan incurred actuarial losses primarily due to decreases in the discount rates from 1.82% as of December 31, 2019 to 1.24% as of December 31, 2020. For the year ended December 31, 2019, the most significant drivers of the increase in the Non U.S. Pension Benefit Plan benefit obligation were higher actuarial losses, coupled with unfavorable foreign exchange effects, offset by a reduction of the projected benefit obligation of approximately \$83 million related to prior service credits from a discretionary action on early retirement benefit reductions. The actuarial losses were driven by declines in the discount rate from 2.67% as of December 31, 2018 compared to 1.82% as of December 31, 2019.

Actuarial Assumptions

Certain actuarial assumptions such as the discount rate and the long-term rate of return on plan assets have a significant effect on the amounts reported for net periodic cost and the benefit obligation. The assumed discount rates reflect the prevailing market rates of a universe of high-quality, non-callable, corporate bonds currently available that, if the obligation were settled at the measurement date, would provide the necessary future cash flows to pay the benefit obligation when due. The long-term rates of return on plan assets represent an estimate of long-term returns on an investment portfolio consisting of a mixture of equities, fixed income, cash and other investments similar to the actual investment mix. In determining the long-term return on plan assets, the Company considers long-term rates of return on the asset classes (both historical and forecasted) in which the Company expects the plan funds to be invested.

The Company uses a full yield curve approach to estimate interest and service cost components of net periodic cost (benefit) for defined pension benefit pension and other post-retirement benefit plans. The full yield curve approach requires the application of the specific spot rate along the yield curve used in the determination of the projected benefit obligation to the relevant projected cash flows.

The Company used "Mortality Improvement Scale MP-2018" to calculate the 2020 U.S. projected benefit obligations and the "Mortality Improvement Scale MP-2017" to calculate the 2019 U.S. projected benefit obligations.

Weighted average actuarial assumptions used to determine costs for the plans at the beginning of the fiscal year were as follows:

	U.S. Pension Benefit Plans		Non U.S. Pension Benefit Plans		Postretirement Health Care Benefits Plan	
	2020	2019	2020	2019	2020	2019
Discount rate	3.10 %	4.25 %	1.61 %	2.37 %	2.66 %	3.85 %
Investment return assumption	6.85 %	6.85 %	4.66 %	5.23 %	6.90 %	6.90 %

Weighted average actuarial assumptions used to determine benefit obligations for the plans were as follows:

	U.S. Pension Benefit Plans		Non U.S. Pension Benefit Plans		Postretirement Health Care Benefits Plan	
	2020	2019	2020	2019	2020	2019
Discount rate	2.63 %	3.32 %	1.24 %	1.82 %	2.39 %	3.15 %
Future compensation increase rate	n/a	n/a	0.43 %	0.52 %	n/a	n/a

The following table presents the accumulated benefit obligation, projected benefit obligation and fair value of plan assets for our plans that have an accumulated benefit obligation and projected benefit obligation in excess of plan assets:

	U.S. Pension Benefit Plans		Non U.S. Pension Benefit Plans	
	2020	2019	2020	2019
<i>December 31</i>				
Accumulated benefit obligation	\$ 5,226	\$ 4,727	\$ 2,055	\$ 1,809
Projected benefit obligation	5,226	4,727	2,058	1,814
Fair value of plan assets	4,083	3,601	1,880	1,641

Investment Policy

The individual plans have adopted an investment policy designed to meet or exceed the expected rate of return on plan assets assumption. To achieve this, the plans retain professional advisors and investment managers that invest plan assets into various classes including, but not limited to: equity and fixed income securities, cash, cash equivalents, hedge funds, infrastructure/utilities, insurance contracts, leveraged loan funds and real estate. The Company uses long-term historical actual return experience with consideration of the expected investment mix of the plans' assets, as well as future estimates of long-term investment returns, to develop its expected rate of return assumption used in calculating the net periodic cost. The individual plans have target mixes for these asset classes, which are readjusted periodically when an asset class weighting deviates from the target mix, with the goal of achieving the required return at a reasonable risk level.

The weighted-average asset allocations by asset categories for all pension and the Postretirement Health Care Benefits plans were as follows:

<i>December 31</i>	<i>All Pension Benefit Plans</i>		<i>Postretirement Health Care Benefits Plan</i>	
	2020	2019	2020	2019
Target Mix:				
Equity securities	25 %	25 %	28 %	28 %
Fixed income securities	57 %	56 %	51 %	52 %
Cash and other investments	18 %	19 %	21 %	20 %
Actual Mix:				
Equity securities	26 %	24 %	30 %	29 %
Fixed income securities	58 %	57 %	53 %	54 %
Cash and other investments	16 %	19 %	17 %	17 %

Within the equity securities asset class, the investment policy provides for investments in a broad range of publicly-traded securities including both domestic and foreign equities. Within the fixed income securities asset class, the investment policy provides for investments in a broad range of publicly-traded debt securities including: U.S. treasury issues, corporate debt securities, mortgage and asset-backed securities, as well as foreign debt securities. In the cash and other investments asset class, investments may include, but are not limited to: cash, cash equivalents, commodities, hedge funds, infrastructure/utilities, insurance contracts, leveraged loan funds and real estate.

Cash Funding

The Company made \$3 million of contributions to its U.S. Pension Benefit Plans during each of 2020 and 2019. The Company contributed \$9 million and \$8 million to its Non U.S. Pension Benefit Plans during 2020 and 2019, respectively. The Company made no contributions to its Postretirement Health Care Benefits Plan in 2020 or 2019.

Expected Future Benefit Payments

The following benefit payments are expected to be paid:

<i>Year</i>	<i>U.S. Pension Benefit Plans</i>	<i>Non U.S. Pension Benefit Plans</i>	<i>Postretirement Health Care Benefits Plan</i>
2021	\$ 157	\$ 51	\$ 6
2022	176	52	6
2023	190	53	5
2024	205	55	5
2025	231	56	5
2026-2030	1,344	294	20

Other Benefit Plans

Split-Dollar Life Insurance Arrangements

The Company maintains a number of endorsement split-dollar life insurance policies on now-retired officers under a frozen plan. The Company had purchased the life insurance policies to insure the lives of employees and then entered into a separate agreement with the employees that split the policy benefits between the Company and the employee. Motorola Solutions owns the policies, controls all rights of ownership, and may terminate the insurance policies. To effect the split-dollar arrangement, Motorola Solutions endorsed a portion of the death benefits to the employee and upon the death of the employee, the employee's beneficiary typically receives the designated portion of the death benefits directly from the insurance company and the Company receives the remainder of the death benefits. It is currently expected that minimal cash payments will be required to fund these policies.

The net periodic pension cost for these split-dollar life insurance arrangements was \$5 million for the years ended December 31, 2020, 2019 and 2018. The Company has recorded a liability representing the actuarial present value of the future death benefits as of the employees' expected retirement date of \$73 million and \$67 million as of December 31, 2020 and December 31, 2019, respectively.

Deferred Compensation Plan

The Company maintains a deferred compensation plan ("the Plan") for certain eligible participants. Under the Plan, participants may elect to defer base salary and cash incentive compensation in excess of 401(k) plan limitations. Participants under the Plan may choose to invest their deferred amounts in the same investment alternatives available under the Company's 401(k) plan. The Plan also allows for Company matching contributions for the following: (i) the first 4% of compensation deferred under the Plan, subject to a maximum of \$50,000 for board officers, (ii) lost matching amounts that would have been made under the 401(k) plan if participants had not participated in the Plan, and (iii) discretionary amounts as approved by the Compensation and Leadership Committee of the board of directors.

Defined Contribution Plan

The Company has various defined contribution plans, in which all eligible employees may participate. In the U.S., the Motorola Solutions 401(k) plan (the "401(k) plan") is a contributory plan. Matching contributions are based upon the amount of the employees' contributions. The Company's expenses for material defined contribution plans for the years ended December 31, 2020, 2019 and 2018 were \$15 million, \$32 million and \$31 million, respectively.

Due to the economic uncertainties caused by the COVID-19 pandemic, the Company took action in a number of areas to reduce its operating expenses, including by suspending all Company match contributions to the 401(k) plan for the period from May 15, 2020 through December 31, 2020.

Under the 401(k) plan, the Company may make an additional discretionary matching contribution to eligible employees. For the years ended December 31, 2020, 2019, and 2018 the Company made no discretionary contributions.

9. Share-Based Compensation and Other Incentive Plans

The Company grants options and stock appreciation rights to acquire shares of common stock to certain employees and to existing option holders of acquired companies in connection with the merging of option plans following an acquisition. Each option and stock appreciation right granted has an exercise price of no less than 100% of the fair market value of the common stock on the date of the grant. The awards have a contractual life of five to ten years and vest over two to three years. In conjunction with a change in control, stock options and stock appreciation rights assumed or replaced with comparable stock options or stock appreciation rights only become exercisable if the holder is also involuntarily terminated (for a reason other than cause) or resigns for good reason within 24 months of a change in control.

Restricted stock ("RS") grants consist of shares or the rights to shares of the Company's common stock which are awarded to certain employees. The grants are restricted in such that they are subject to vesting conditions; however, restricted stock holders have voting rights, and the rights to earn dividends on unvested shares.

Restricted stock unit ("RSU") grants consist of shares or the rights to shares of the Company's common stock which are awarded to certain employees and non-employee directors. The grants are restricted such that they are subject to substantial risk of forfeiture and to restrictions on their sale or other transfer by the employee. In conjunction with a change in control, shares of RSUs assumed or replaced with comparable shares of RSUs will only have the restrictions lapse if the holder is also involuntarily terminated (for a reason other than cause) or resigns for good reason within 24 months of a change in control.

Performance-based stock options ("performance options"), market stock units ("MSUs"), and performance stock units ("PSUs") have been granted to certain Company executive officers. Performance options have a three-year performance period and are granted as a target number of units subject to adjustment based on company performance. Each performance option granted has an exercise price of no less than 100% of the fair market value of the common stock on the date of the grant. The awards have a contractual life of ten years. Shares ultimately issued for performance option awards granted are based on the actual total shareholder return ("TSR") compared to the S&P 500 over the three-year performance period based on a payout factor that corresponds to actual TSR results as established at the date of grant. Vesting occurs on the third anniversary of the grant date. Under the terms of the MSUs, vesting is conditioned upon continuous employment until the vesting date and the payout factor is at least 60% of the share price on the award date. The payout factor is the share price on vesting date divided by share price on award date, with a maximum of 200%. The share price used in the payout factor is calculated using an average of the closing prices on the grant or vesting date, and the 30 calendar days immediately preceding the grant or vesting date. Vesting occurs ratably over three years. PSUs have been granted as a portion of the Long Range Incentive Plan ("LRIP") awards issued to certain Company executive officers. The PSUs have a three-year performance period and were granted at a target number of units subject to adjustment based on company performance. The number of PSUs earned will be based on the actual TSR compared to the S&P 500 over the three-year performance period.

On August 25, 2015 and on March 9, 2017, the Company approved grants of performance-contingent stock options ("PCSOs") to certain executive officers which were fully vested as of December 31, 2020. The August 25, 2015 awards have a seven-year term and a per share exercise price of \$68.50. The March 9, 2017 awards have a five-and-a-half-year term and a per share exercise price of \$81.37.

The employee stock purchase plan allows eligible participants to purchase shares of the Company's common stock through payroll deductions of up to 20% of eligible compensation on an after-tax basis. Plan participants cannot purchase more than \$25,000 of stock in any calendar year. The price an employee pays per share is 85% of the lower of the fair market value of the Company's stock on the close of the first trading day or last trading day of the purchase period. The plan has two purchase periods, the first from October 1 through March 31 and the second from April 1 through September 30. For the years ended

December 31, 2020, 2019 and 2018, employees purchased 0.7 million, 0.6 million and 0.8 million shares, respectively, at purchase prices of \$112.98 and \$107.18, \$108.96 and \$120.12, and \$72.96 and \$88.84, respectively.

Significant Assumptions Used in the Estimate of Fair Value

The Company calculates the value of each employee stock option, estimated on the date of grant, using the Black-Scholes option pricing model. The weighted-average estimated fair value of employee stock options granted during 2020, 2019 and 2018 was \$39.98, \$29.14 and \$23.31, respectively, using the following weighted-average assumptions:

	2020	2019	2018
Expected volatility	33.7 %	23.8 %	24.7 %
Risk-free interest rate	0.6 %	2.3 %	2.7 %
Dividend yield	2.7 %	2.5 %	2.4 %
Expected life (years)	5.9	6.0	5.9

The Company calculates the value of each performance option, MSU, and PSU using a Monte Carlo simulation option pricing model, estimated on the date of grant. The fair values of performance options, MSUs, and PSUs granted during 2020 were \$77.82, \$112.17 and \$233.96, respectively. The fair values of performance options, MSUs, and PSUs granted during 2019 were \$46.15, \$138.00 and \$203.61, respectively. The fair value of performance options and MSUs granted during 2018 was \$42.19 and \$125.33, respectively. The following assumptions were used for the calculations.

	2020 Performance Options	2019 Performance Options	2018 Performance Options
Expected volatility of common stock	34.7 %	22.4 %	25.0 %
Expected volatility of the S&P 500	29.0 %	25.1 %	25.3 %
Risk-free interest rate	0.8 %	2.3 %	2.7 %
Dividend yield	2.6 %	2.7 %	3.1 %
Expected life (years)	6.5	6.5	6.5

	2020 Market Stock Unit	2019 Market Stock Unit	2018 Market Stock Units
Expected volatility of common stock	34.7 %	22.4 %	25.0 %
Risk-free interest rate	0.6 %	2.2 %	2.4 %
Dividend yield	1.7 %	2.0 %	2.2 %

	2020 Performance Stock Units	2019 Performance Stock Units
Expected volatility of common stock	34.7 %	20.6 %
Expected volatility of the S&P 500	29.0 %	25.0 %
Risk-free interest rate	0.6 %	2.2 %
Dividend yield	1.7 %	1.6 %

The Company uses the implied volatility for traded options on the Company's stock as the expected volatility assumption in the valuation of stock options, performance options, MSUs, and PSUs. The selection of the implied volatility approach was based upon the availability of actively-traded options on the Company's stock and the Company's assessment that implied volatility is more representative of future stock price trends than historical volatility. At the conclusion of each three-year PSU and performance option cycle, the Company uses the historical volatility as the expected volatility to calculate the actual TSR compared to the S&P 500.

The risk-free interest rate assumption is based upon the average daily closing rates during the year for U.S. Treasury notes that have a life which approximates the expected life of the grant. The dividend yield assumption is based on the Company's future expectation of dividend payouts. The expected life represents the average of the contractual term of the options and the weighted average vesting period for all option tranches.

The Company has applied forfeiture rates, estimated based on historical data, of 10% to the stock option fair values calculated by the Black-Scholes option pricing model and 15% to RSUs. These estimated forfeiture rates are applied to grants based on their remaining vesting term and may be revised in subsequent periods if actual forfeitures differ from these estimates.

The following table summarizes information about the total stock options outstanding and exercisable under all stock option plans, at December 31, 2020 (in thousands, except exercise price and years):

Exercise price range	Options Outstanding			Options Exercisable		
	No. of options	Wtd. avg. Exercise Price	Wtd. avg. contractual life (in yrs.)	No. of options	Wtd. avg. Exercise Price	Wtd. avg. contractual life (in yrs.)
Under \$50	520	\$ 38	0	520	\$ 38	0
\$51-\$60	646	54	1	646	54	2
\$61-\$70	1,372	68	1	1,372	68	2
\$71-\$80	372	71	3	372	71	5
\$81-\$90	505	82	6	502	82	6
\$91-\$100	6	93	6	6	93	6
\$101 and over	979	134	8	164	126	8
	4,400			3,582		

As of December 31, 2020, the weighted average contractual life for options outstanding and exercisable was four and three years, respectively.

Current Year Activity

Total share-based compensation activity was as follows (in thousands, except exercise price):

	Stock Options		Restricted Stock Units		Restricted Stock	
	No. of Options Outstanding	Wtd. Avg. Exercise Price of Shares	No. of Non-Vested Awards	Wtd. Avg. Grant Date Fair Value	No. of Non-Vested Awards	Wtd. Avg. Grant Date Fair Value
Balance as of January 1, 2020	2,983	\$ 63	1,047	\$ 111	440	\$ 119
Granted	167	153	510	144	51	171
Releases/Exercised	(890)	51	(489)	103	(366)	122
Forfeited/Canceled	(20)	129	(81)	134	—	—
Balance as of December 31, 2020	2,240	\$ 74	987	\$ 138	125	\$ 132
Awards exercisable	1,845	60	—	—	—	—

	Performance Options*		Market Stock Units		Performance Stock Units	
	No. of Options Outstanding	Wtd. Avg. Exercise Price of Shares	No. of Non-Vested Awards	Wtd. Avg. Grant Date Fair Value	No. of Non-Vested Awards	Wtd. Avg. Grant Date Fair Value
Balance as of January 1, 2020	2,168	\$ 78	112	\$ 123	27	\$ 204
Granted	111	155	79	112	87	234
Releases/Exercised	(491)	75	(94)	114	(59)	184
Adjustment for payout factor	376	81	35	90	—	—
Forfeited/Canceled	(4)	139	(1)	94	—	204
Balance as of December 31, 2020	2,160	\$ 84	131	\$ 121	55	\$ 219
Awards exercisable	1,737	72	—	—	—	—

* Inclusive of PCSO awards

At December 31, 2020 and 2019, 5.9 million and 7.2 million shares, respectively, were available for future share-based award grants under the current share-based compensation plan, covering all equity awards to employees and non-employee directors.

Total Share-Based Compensation Expense

Compensation expense for the Company's share-based compensation plans was as follows:

Years ended December 31	2020	2019	2018
Share-based compensation expense included in:			
Costs of sales	\$ 16	\$ 14	\$ 11
Selling, general and administrative expenses	73	62	45
Research and development expenditures	40	42	17
Share-based compensation expense included in Operating earnings	129	118	73
Tax benefit	30	22	18
Share-based compensation expense, net of tax	\$ 99	\$ 96	\$ 55
Decrease in basic earnings per share	\$ (0.58)	\$ (0.57)	\$ (0.34)
Decrease in diluted earnings per share	\$ (0.57)	\$ (0.55)	\$ (0.32)

At December 31, 2020, the Company had unrecognized compensation expense related to all share based awards of \$109 million, net of estimated forfeitures, expected to be recognized over the weighted average period of approximately three years and \$5 million of unrecognized compensation expense related to the employee stock purchase plan that will be recognized over the remaining purchase period. The aggregate fair value of outstanding share based awards as of December 31, 2020 was \$251 million.

Cash received from stock option exercises and the employee stock purchase plan was \$108 million, \$114 million, and \$168 million for the years ended December 31, 2020, 2019, and 2018, respectively. The total intrinsic value of options exercised during the years ended December 31, 2020, 2019, and 2018 was \$149 million, \$113 million, and \$125 million, respectively. The aggregate intrinsic value for options outstanding and exercisable as of December 31, 2020 was \$388 million and \$362 million, respectively, based on a December 31, 2020 stock price of \$166.98 per share.

Motorola Solutions Incentive Plans

The Company's incentive plans provide eligible employees with an annual payment, calculated as a percentage of an employee's eligible earnings, in the year after the close of the current calendar year if specified business goals and individual performance targets are met. The expense for awards under these incentive plans for the years ended December 31, 2020, 2019 and 2018 was \$78 million, \$146 million and \$143 million, respectively.

Long-Range Incentive Plan

The LRIP rewards elected officers for the Company's achievement of specified business goals during the period, based on a single performance objective measured over a three-year period. The expense for LRIP for the years ended December 31, 2020, 2019 and 2018 was \$9 million, \$21 million and \$31 million, respectively.

10. Fair Value Measurements

Investments and Derivatives

The fair values of the Company's financial assets and liabilities by level in the fair value hierarchy as of December 31, 2020 and December 31, 2019 were as follows:

December 31, 2020	Level 1	Level 2	Total
Assets:			
Foreign exchange derivative contracts	\$ —	\$ 14	\$ 14
Common stock and equivalents	19	—	19
Liabilities:			
Foreign exchange derivative contracts	\$ —	\$ 8	\$ 8
December 31, 2019			
Assets:			
Foreign exchange derivative contracts	\$ —	\$ 4	\$ 4
Available-for-sale securities:			
Common stock and equivalents	25	—	25
Liabilities:			
Foreign exchange derivative contracts	\$ —	\$ 5	\$ 5

Pension and Postretirement Health Care Benefits Plan Assets

The fair values of the various pension and postretirement health care benefits plans' assets by level in the fair value hierarchy as of December 31, 2020 and 2019 were as follows:

U.S. Pension Benefit Plans

<i>December 31, 2020</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Equities	\$ 45	\$ —	\$ 45
Commingled funds	1,603	463	2,066
Government fixed income securities	—	516	516
Corporate fixed income securities	—	1,070	1,070
Short-term investment funds	327	—	327
Total investment securities	\$ 1,975	\$ 2,049	\$ 4,024
Accrued income receivable			44
Cash			15
Fair value plan assets			\$ 4,083

<i>December 31, 2019</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Equities	\$ 12	\$ —	\$ 12
Commingled funds	1,320	555	1,875
Government fixed income securities	—	529	529
Corporate fixed income securities	—	959	959
Short-term investment funds	179	—	179
Total investment securities	\$ 1,511	\$ 2,043	\$ 3,554
Accrued income receivable			20
Cash			27
Fair value plan assets			\$ 3,601

Non-U.S. Pension Benefit Plans

<i>December 31, 2020</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Equities	\$ 78	\$ —	\$ 78
Commingled funds	458	71	529
Government fixed income securities	—	1,076	1,076
Short-term investment funds	106	—	106
Total investment securities	\$ 642	\$ 1,147	\$ 1,789
Cash			7
Accrued income receivable			30
Insurance contracts			54
Fair value plan assets			\$ 1,880

<i>December 31, 2019</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Equities	\$ 69	\$ —	\$ 69
Commingled funds	217	181	398
Government fixed income securities	4	899	903
Short-term investment funds	170	—	170
Total investment securities	\$ 460	\$ 1,080	\$ 1,540
Cash			4
Accrued income receivable			48
Insurance contracts			49
Fair value plan assets			\$ 1,641

Postretirement Health Care Benefits Plan

<i>December 31, 2020</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Equities	\$ 2	\$ —	\$ 2
Commingled funds	71	20	91
Government fixed income securities	—	23	23
Corporate fixed income securities	—	48	48
Short-term investment funds	15	—	15
Total investment securities	\$ 88	\$ 91	\$ 179
Accrued income receivable			\$ 2
Fair value plan assets			\$ 181

<i>December 31, 2019</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Total</i>
Commingled funds	59	25	84
Government fixed income securities	—	24	24
Corporate fixed income securities	—	43	43
Short-term investment funds	8	—	8
Total investment securities	\$ 67	\$ 92	\$ 159
Cash			1
Fair value plan assets			\$ 160

The following is a description of the categories of investments:

Equities — A diversified portfolio of corporate common and preferred stocks.

Commingled funds — A diversified portfolio of assets that includes corporate common and preferred stocks, emerging market and high-yield fixed income securities among others.

Government fixed income securities — Securities issued by municipal, domestic and foreign government agencies, index-linked government bonds as well as interest rate derivatives.

Corporate fixed income securities — A diversified portfolio of primarily investment grade bonds issued by corporations.

Short-term investment funds — Investments in money market accounts and derivatives with a liquidity of less than 90 days.

Level 1 investments include securities which are valued at the closing price reported on the active market in which the individual securities are traded. Level 2 investments consist principally of securities which are valued using independent third party pricing sources. A variety of inputs are utilized by the independent pricing sources including market based inputs, binding quotes, indicative quotes, and ongoing redemption and subscription activity. Inputs may be weighted differently for any security, and not all inputs are used for each security evaluation.

At December 31, 2020, the Company had \$448 million of investments in money market government and U.S. treasury funds (Level 1) classified as Cash and cash equivalents in its Consolidated Balance Sheet, compared to \$322 million at December 31, 2019. The money market funds had quoted market prices that are approximately at par.

Using quoted market prices and market interest rates, the Company determined that the fair value of long-term debt at December 31, 2020 was \$5.8 billion (Level 2), compared to a face value of \$5.2 billion. Since considerable judgment is required in interpreting market information, the fair value of the long-term debt is not necessarily indicative of the amount which could be realized in a current market exchange.

All other financial instruments are carried at cost, which is not materially different from the instruments' fair values.

11. Long-term Financing and Sales of Receivables

Long-term Financing

Long-term receivables consist of receivables with payment terms greater than twelve months, long-term loans and lease receivables under sales-type leases. Long-term receivables consist of the following:

<i>December 31</i>	2020	2019
Long-term receivables, gross	\$ 76	\$ 62
Less allowance for losses	(3)	(2)
Long-term receivables	\$ 73	\$ 60
Less current portion	(19)	(19)
Non-current long-term receivables	\$ 54	\$ 41

The current portion of long-term receivables is included in Accounts receivable, net and the non-current portion of long-term receivables is included in Other assets in the Company's Consolidated Balance Sheet. The Company recognized interest income on long-term receivables of \$1 million for each of the years ended December 31, 2020, 2019 and 2018.

Certain purchasers of the Company's products and services may request that the Company provide long-term financing (defined as financing with a term greater than one year) in connection with the sale of products and services. These requests may include all or a portion of the purchase price of the products and services. The Company's obligation to provide long-term financing may be conditioned on the issuance of a letter of credit in favor of the Company by a reputable bank to support the purchaser's credit or a pre-existing commitment from a reputable bank to purchase the long-term receivables from the Company. The Company had outstanding commitments to provide long-term financing to third-parties totaling \$78 million at December 31, 2020 and December 31, 2019.

Sales of Receivables

From time to time, the Company sells accounts receivable and long-term receivables to third-parties under one-time arrangements.

The following table summarizes the proceeds received from sales of accounts receivable and long-term receivables for the years ended December 31, 2020, 2019 and 2018.

<i>Years ended December 31</i>	2020	2019	2018
Contract-specific discounting facility	\$ 228	\$ —	\$ —
Accounts receivable sales proceeds	74	34	77
Long-term receivables sales proceeds	181	265	270
Total proceeds from receivable sales	\$ 483	\$ 299	\$ 347

The Company may or may not retain the obligation to service the sold accounts receivable and long-term receivables.

At December 31, 2020, the Company had retained servicing obligations for \$983 million of long-term receivables, compared to \$984 million of long-term receivables at December 31, 2019. Servicing obligations are limited to collection activities of sold accounts receivables and long-term receivables.

During the year ended December 31, 2020, we utilized a new cost-efficient receivable discounting facility to neutralize the impact of increased payment terms under a renegotiated and extended long-term contract in Europe resulting in accounts receivable sales of \$228 million during the year ended December 31, 2020. The net benefit to our operating cash flow from the utilization of the new receivable discounting facility during 2020 was an inflow of \$61 million when adjusted for amounts that would still be collected from the customer within the period in the absence of utilizing the discounting facility. The proceeds of our receivable sales are included in "Operating Activities" within our Consolidated Statements of Cash Flows.

Credit Quality of Long-Term Receivables and Allowance for Credit Losses

An aging analysis of financing receivables at December 31, 2020 and December 31, 2019 is as follows:

December 31, 2020	Total Long-term Receivable	Current Billed Due	Past Due Under 90 Days	Past Due Over 90 Days
Municipal leases secured tax exempt	\$ 50	\$ —	\$ —	\$ —
Commercial loans and leases secured	26	2	1	4
Long-term receivables, including current portion	\$ 76	\$ 2	\$ 1	\$ 4

December 31, 2019	Total Long-term Receivable	Current Billed Due	Past Due Under 90 Days	Past Due Over 90 Days
Municipal leases secured tax exempt	\$ 31	\$ 1	\$ 1	\$ —
Commercial loans and leases secured	31	3	—	5
Long-term receivables, including current portion	\$ 62	\$ 4	\$ 1	\$ 5

The Company uses an internally developed credit risk rating system for establishing customer credit limits. This system is aligned with and comparable to the rating systems utilized by independent rating agencies.

12. Commitments and Contingencies

Purchase Obligations

During the normal course of business, in order to manage manufacturing lead times and help ensure adequate component supply, the Company enters into agreements with contract manufacturers and suppliers that either allow it to procure inventory based upon criteria as defined by the Company or establish the parameters defining the Company's requirements. In addition, we have entered into software license agreements which are firm commitments and are not cancellable.

As of December 31, 2020, the Company had entered into firm, non-cancelable, and unconditional commitments under such arrangements through 2025. The Company expects to make total payments of \$209 million under these arrangements as follows: \$50 million in 2021, \$52 million in 2022, \$50 million in 2023, \$51 million in 2022, and \$6 million in 2025.

The Company outsources certain corporate functions, such as benefit administration and information technology-related services, under various contracts, the longest of which is expected to expire in 2023. The remaining payments under these contracts are approximately \$41 million over the remaining life of the contracts. However, these contracts can be terminated. Termination would result in a penalty substantially less than the remaining annual contract payments. The Company would also be required to find another source for these services, including the possibility of performing them in-house.

Legal Matters

On February 14, 2020, the Company announced that a jury in the U.S. District Court for the Northern District of Illinois (the "Court") decided in the Company's favor in its trade secret theft and copyright infringement case against Hytera Communications Corporation Limited of Shenzhen, China; Hytera America, Inc.; and Hytera Communications America (West), Inc. (collectively, "Hytera"). In connection with this verdict, the jury awarded the Company \$345.8 million in compensatory damages and \$418.8 million in punitive damages, for a total of \$764.6 million. The Court denied Hytera's motion for a new trial on October 20, 2020. On December 17, 2020, the Court denied the Company's motion for a permanent injunction, finding instead that Hytera must pay the Company a forward-looking reasonable royalty on products that use the Company's stolen trade secrets. The royalty rate is yet to be determined, and will be set by the Court absent agreement of the parties.

On January 11, 2021, the Court granted Hytera's motion for certain equitable relief and reduced the \$764.6 million judgment award to \$543.7 million. That same day, the Court also granted the Company's motion for pre-judgment interest, although the precise amount of interest owed to the Company by Hytera is still to be determined by the Court. Other post-trial motions are fully briefed and awaiting ruling, including the Company's motion for attorneys' fees and its motion to require Hytera to turn over certain assets in satisfaction of the Company's judgment award. Hytera America, Inc. and Hytera Communications America (West), Inc. each filed for Chapter 11 bankruptcy protection in May 2020; the Company previously filed motions to dismiss the bankruptcy proceedings in July 2020.

On January 22, 2021, the U.S. Bankruptcy Court entered an agreed order, allowing a partial sale of Hytera's U.S. assets in the bankruptcy proceedings. The proposed sale does not include Hytera inventory accused of including the Company's intellectual property.

Indemnifications

The Company is a party to a variety of agreements pursuant to which it is obligated to indemnify the other party with respect to certain matters. In indemnification cases, payment by the Company is conditioned on the other party making a claim pursuant to the procedures specified in the particular contract, which procedures typically allow the Company to challenge the other party's claims. In some instances, the Company may have recourse against third parties for certain payments made by the Company.

The Company may provide indemnifications for losses that result from the breach of general warranties contained in certain commercial and intellectual property agreements. Historically, the Company has not made significant payments under these agreements.

13. Information by Segment and Geographic Region

The Company conducts its business globally and manages it through the following two segments:

Products and Systems Integration: The Products and Systems Integration segment offers an extensive portfolio of infrastructure, devices, accessories, video security devices and infrastructure, and the implementation and integration of such systems, devices, and applications. Within LMR Mission Critical Communications, the Company is a global leader in the two-way radio category, including the Company's Project 25 ("P25"), Terrestrial Trunked Radio ("TETRA"), Digital Mobile Radio ("DMR"), as well as other professional and commercial radio ("PCR") solutions. The Company provides LTE solutions for public safety, government and commercial users, including infrastructure and devices operating in 700 MHz, 900 MHz and Citizens' Broadband Radio Service ("CBRS") frequencies. The Company's Video Security and Analytics technology includes network video management infrastructure, fixed security and mobile video cameras (body-worn and in-vehicle) and access control solutions. The primary customers of the Products and Systems Integration segment are government, public safety and commercial customers who operate private communications networks and video security solutions and typically manage a mobile workforce. In 2020, the segment's net sales were \$4.6 billion, representing 63% of the Company's consolidated net sales.

Software and Services: The Software and Services segment provides a broad range of solution offerings for government, public safety and commercial customers. Software includes public safety and enterprise Command Center Software, unified communications applications, and video software solutions, delivered both on-premise and "as a service." Services includes a continuum of service offerings beginning with repair, technical support and maintenance. More advanced technologies include monitoring, software updates and cybersecurity services. Managed services range from partial to full operation of customer-owned or Motorola Solutions-owned networks. In 2020, the segment's net sales were \$2.8 billion, representing 37% of the Company's consolidated net sales.

For the years ended December 31, 2020, 2019 and 2018, no single customer accounted for more than 10% of the Company's net sales.

Segment Information

The following table summarizes Net sales and Operating earnings by segment:

Years ended December 31	Net Sales			Operating Earnings		
	2020	2019	2018	2020	2019	2018
Products and Systems Integration	\$ 4,634	\$ 5,329	\$ 5,100	\$ 656	\$ 994	\$ 854
Software and Services	2,780	2,558	2,243	727	587	401
	\$ 7,414	\$ 7,887	\$ 7,343	\$ 1,383	\$ 1,581	\$ 1,255
Total other expense				(209)	(580)	(153)
Net earnings before income taxes				\$ 1,174	\$ 1,001	\$ 1,102

The following table summarizes the Company's capital expenditures and depreciation expense by segment:

Years ended December 31	Capital Expenditures			Depreciation Expense		
	2020	2019	2018	2020	2019	2018
Products and Systems Integration	\$ 91	\$ 98	\$ 72	\$ 90	\$ 82	\$ 71
Software and Services	126	150	125	104	104	101
	\$ 217	\$ 248	\$ 197	\$ 194	\$ 186	\$ 172

The Company's "chief operating decision maker" does not review or allocate resources based on segment assets.

Geographic Area Information

Years ended December 31	Net Sales			Assets		
	2020	2019	2018	2020	2019	2018
United States	\$ 4,770	\$ 5,006	\$ 4,361	\$ 7,009	\$ 6,749	\$ 5,441
United Kingdom	740	692	638	2,460	2,460	2,284
Canada	254	270	303	1,016	1,040	1,014
Other, net of eliminations	1,650	1,919	2,041	391	393	670
	\$ 7,414	\$ 7,887	\$ 7,343	\$ 10,876	\$ 10,642	\$ 9,409

Net sales attributed to geographic area are predominately based on the ultimate destination of the Company's products and services.

14. Reorganization of Businesses

The Company maintains a formal Involuntary Severance Plan (the “Severance Plan”), which permits the Company to offer eligible employees severance benefits based on years of service and employment grade level in the event that employment is involuntarily terminated as a result of a reduction-in-force or restructuring. The Company recognizes termination benefits based on formulas per the Severance Plan at the point in time that future settlement is probable and can be reasonably estimated based on estimates prepared at the time a restructuring plan is approved by management. Exit costs consist of future minimum lease payments on vacated facilities and other contractual terminations. At each reporting date, the Company evaluates its accruals for employee separation and exit costs to ensure the accruals are still appropriate. In certain circumstances, accruals are no longer needed because of efficiencies in carrying out the plans or because employees previously identified for separation resigned from the Company and did not receive severance, or were redeployed due to circumstances not foreseen when the original plans were approved. In these cases, the Company reverses accruals through the Consolidated Statements of Operations where the original charges were recorded when it is determined they are no longer needed.

During 2020, 2019, and 2018 the Company continued to implement various productivity improvement plans aimed at achieving long-term, sustainable profitability by driving efficiencies and reducing operating costs. During 2020, the Company accepted voluntary applications to its Severance Plan from a defined subset of employees within the United States. Voluntary applicants received termination benefits based on the formulas defined in the Severance Plan. However, termination benefits, which are normally different based on employment level grade and capped at nine months of salary, were equalized for all employment level grades and capped at a full year’s salary for the voluntary applicants. During 2018, the Company communicated its plan to close one of its manufacturing facilities in Europe resulting in a charge of \$44 million and impacting 165 employees, primarily within the Products and Systems Integration segment. The remainder of the initiatives impacted both of the Company’s segments and affected employees located in all geographic regions.

2020 Charges

During 2020, the Company recorded net reorganization of business charges of \$86 million, including \$29 million of charges in Costs of sales and \$57 million of charges in Other charges in the Company’s Consolidated Statements of Operations. Included in the \$86 million were charges of \$100 million for employee separation costs, \$2 million for exit costs, partially offset by \$16 million of reversals of accruals no longer needed.

The following table displays the net charges incurred by segment:

<i>Year ended December 31</i>	<i>2020</i>
Products and Systems Integration	\$ 69
Software and Services	17
	<u>\$ 86</u>

Reorganization of Businesses Accruals

<i>Accruals at January 1, 2020</i>	<i>Additional Charges</i>	<i>Adjustments</i>	<i>Amount Used</i>	<i>Accruals at December 31, 2020</i>
\$ 78	\$ 102	\$ (16)	\$ (85)	\$ 79

Employee Separation Costs

At January 1, 2020, the Company had an accrual of \$78 million for employee separation costs. The 2020 additional charges of \$102 million include severance costs for approximately 1,200 employees, of which 800 were direct employees and 400 were indirect employees. The adjustments of \$16 million reflect reversals of accruals no longer needed. The \$85 million used in 2020 reflects cash payments to severed employees. The remaining accrual of \$79 million, which is included in Accrued liabilities in the Company’s Consolidated Balance Sheet at December 31, 2020, is expected to be paid, primarily within one year to: (i) severed employees who have already begun to receive payments and (ii) approximately 100 employees to be separated in 2021.

2019 Charges

During 2019, the Company recorded net reorganization of business charges of \$57 million, including \$17 million of charges in Costs of sales and \$40 million of charges under Other charges in the Company’s Consolidated Statements of Operations. Included in the aggregate \$57 million were charges of \$64 million for employee separation costs and \$5 million for exit costs, partially offset by \$12 million of reversals of accruals no longer needed.

The following table displays the net charges incurred by segment:

<i>Year ended December 31</i>	<i>2019</i>
Products and Systems Integration	\$ 45
Software and Services	12
	<u>\$ 57</u>

Reorganization of Businesses Accruals

Accruals at January 1, 2019	Additional Charges	Adjustments	Amount Used	Accruals at December 31, 2019
\$ 84	\$ 69	\$ (12)	\$ (63)	\$ 78

Employee Separation Costs

At January 1, 2019, the Company had an accrual of \$84 million for employee separation costs. The additional 2019 charges of \$69 million represent severance costs for approximately an additional 700 employees, of which 200 were direct employees and 500 were indirect employees. The adjustments of \$12 million reflect reversals of accruals no longer needed. The \$63 million used in 2019 reflects cash payments to severed employees. The remaining accrual of \$78 million was included in Accrued liabilities in the Company's Consolidated Balance Sheet at December 31, 2019.

2018 Charges

During 2018, the Company recorded net reorganization of business charges of \$120 million, including \$59 million of charges in Costs of sales and \$61 million of charges in Other charges in the Company's Consolidated Statements of Operations. Included in the aggregate \$120 million are charges of \$122 million for employee separation costs and \$16 million of charges for exit costs, partially offset by \$18 million of reversals for accruals no longer needed.

The following table displays the net charges incurred by segment:

Year ended December 31	2018
Products and Systems integration	\$ 101
Software and Services	19
	\$ 120

15. Intangible Assets and Goodwill

The Company accounts for acquisitions using purchase accounting with the results of operations for each acquiree included in the Company's consolidated financial statements for the period subsequent to the date of acquisition.

Recent Acquisitions

On August 28, 2020, the Company acquired Callyo, a cloud-based mobile applications provider for law enforcement in North America for \$63 million, inclusive of share-based compensation withheld at a fair value of \$3 million that will be expensed over an average service period of two years. The acquisition was settled with \$61 million in cash, net of cash acquired. This acquisition adds to Motorola Solutions' existing Command Center Software suite critical mobile technology capabilities that enable information to flow seamlessly from the field to the command center. The Company recognized \$38 million of goodwill, \$31 million of identifiable intangible assets, and \$8 million of net liabilities. The goodwill is not deductible for tax purposes. The identifiable intangible assets were classified as \$27 million of customer relationships and \$4 million of developed technology that will be amortized over a period of fourteen and seven years, respectively. The business is part of the Software and Services segment. The purchase accounting is not yet complete and as such the final allocation between income tax accounts and goodwill may be subject to change.

On July 31, 2020, the Company acquired Pelco, a global provider of video security solutions for a purchase price of \$110 million. The acquisition was settled with \$108 million of cash, net of cash acquired. The acquisition demonstrates Motorola Solutions' continued investment in Video Security and Analytics, adding a broad range of products that can be used in a variety of commercial and industrial environments and use cases. The Company recognized \$42 million of goodwill, \$30 million of identifiable intangible assets, and \$36 million of net assets. The goodwill is not deductible for tax purposes. The identifiable intangible assets were classified as \$23 million of customer relationships, \$4 million of developed technology, and \$3 million of trade names that will be amortized over a period of fifteen, two, and five years, respectively. The business is a part of both the Products and Systems Integration segment and the Software and Services segment. The purchase accounting is not yet complete and as such the final allocation between income tax accounts and goodwill may be subject to change.

On June 16, 2020, the Company acquired IndigoVision for a purchase price of \$37 million. The acquisition was settled with \$35 million of cash, net of cash acquired and debt assumed. The acquisition complements the Company's Video Security and Analytics technology, providing enhanced geographical reach across a wider customer base. The Company recognized \$14 million of goodwill, \$22 million of identifiable intangible assets, and \$1 million of net liabilities. The goodwill is not deductible for tax purposes. The identifiable intangible asset was classified as \$22 million of customer relationships that will be amortized over a period of eleven years. The business is a part of both the Products and Systems Integration and Software and Services segments. The purchase accounting is not yet complete and as such the final allocation between income tax accounts and goodwill may be subject to change.

On April 30, 2020, the Company acquired a cybersecurity services business for a purchase price of \$32 million of cash, net of cash acquired. The Company recognized \$23 million of goodwill, \$10 million of identifiable intangible assets and \$1 million of net liabilities. The goodwill is deductible for tax purposes. The identifiable intangible assets were classified as \$8 million of customer relationships and \$2 million of developed technology that will be amortized over a period of twelve years and three years, respectively. The acquisition expands the Company's ability to assist customers with cybersecurity needs through vulnerability assessments, cybersecurity consulting, and managed services including security monitoring of network operations. The business is a part of the Software and Services segment. The purchase accounting is not yet complete and as such the final allocation between income tax accounts and goodwill may be subject to change.

On March 3, 2020, the Company acquired a cybersecurity services business for \$40 million, inclusive of share-based compensation withheld at a fair value of \$6 million that will be expensed over a service period of two years. The acquisition was settled with \$33 million of cash, net of cash acquired. The Company recognized \$28 million of goodwill, \$7 million of intangible assets and \$2 million of net liabilities. The goodwill is not deductible for tax purposes. The identifiable intangible asset of \$7 million was classified as a customer relationship that will be amortized over a period of thirteen years. The acquisition expands the Company's ability to assist customers with cybersecurity needs through vulnerability assessments, cybersecurity consulting, managed services and remediation and response capabilities. The business is a part of the Software and Services segment. The purchase accounting is not yet complete and as such the final allocation between income tax accounts and goodwill may be subject to change.

On October 16, 2019, the Company acquired a data solutions business for vehicle location information for a purchase price of \$85 million in cash, net of cash acquired. The acquisition enhances the Company's Video Security and Analytics technology by adding data to the Company's existing LPR database within the Software and Services segment. The Company recognized \$54 million of goodwill, \$28 million of identifiable intangible assets, and \$3 million of net assets. The goodwill is deductible for tax purposes. The identifiable intangible assets were classified as \$22 million of customer relationships and \$6 million of developed technology and will be amortized over a period of sixteen years and five years, respectively. The purchase accounting was completed as of the fourth quarter of 2020.

On July 11, 2019, the Company acquired WatchGuard, a provider of in-car and body-worn video solutions for \$271 million, inclusive of share-based compensation withheld at a fair value of \$16 million that will be expensed over an average service period of two years. The acquisition was settled with \$250 million, net of cash acquired. The acquisition expands the Company's Video Security and Analytics technology. The business is part of both the Products and Systems Integration and Software and Services segments. The Company recognized \$156 million of goodwill, \$63 million of identifiable intangible assets, and \$31 million of net assets. The goodwill is not deductible for tax purposes. The identifiable intangible assets were classified as \$33 million of customer relationships and \$30 million of completed technology that will be amortized over a period of thirteen years and seven years, respectively. The purchase accounting was completed as of the third quarter of 2020.

On March 11, 2019, the Company acquired Avtec, a provider of dispatch communication equipment for U.S. public safety and commercial customers for a purchase price of \$136 million in cash, net of cash acquired. This acquisition expands the Company's commercial portfolio with new capabilities, allowing it to offer an enhanced platform for customers to communicate, coordinate resources, and secure their facilities. The business is part of both the Products and Systems Integration and Software and Services segments. The Company recognized \$68 million of goodwill, \$64 million of identifiable intangible assets, and \$4 million of net assets. The goodwill is deductible for tax purposes. The identifiable intangible assets were classified as \$43 million of completed technology and \$21 million of customer relationship intangibles and will be amortized over a period of fifteen years. The purchase accounting was completed as of the third quarter of 2019.

On January 7, 2019, the Company announced that it acquired VaaS, a company that is a global provider of data and image analytics for vehicle location for \$445 million, inclusive of share-based compensation withheld at a fair value of \$38 million that will be expensed over an average service period of one year. The acquisition was settled with \$231 million of cash, net of cash acquired, and 1.4 million of shares issued at a fair value of \$160 million for a purchase price of \$391 million to be utilized in the purchase price allocation. The business is part of both the Products and Systems Integration and Software and Services segments. The Company recognized \$261 million of goodwill, \$141 million of identifiable intangible assets, and \$11 million of net liabilities. The goodwill is not deductible for tax purposes. The identifiable intangible assets were classified as \$99 million of completed technology that will be amortized over a period of ten years and \$42 million of customer relationship intangibles that will be amortized over a period of fifteen years. The purchase accounting was completed as of the first quarter of 2020.

On March 28, 2018, the Company completed the acquisition of Avigilon, a provider of advanced security and video solutions including video analytics, network video management hardware and software, video cameras and access control solutions. The business is part of both the Products and Systems Integration segment and the Software and Services segment. The purchase price of \$974 million, consisted of cash payments of \$980 million for outstanding common stock, restricted stock units and employee held stock options, net of cash acquired of \$107 million, debt assumed of \$75 million and transaction costs of \$26 million. The Company recognized \$498 million of identifiable intangible assets, \$434 million of goodwill, and \$42 million of net assets. Acquired intangible assets consist of \$110 million of customer relationships, \$380 million of developed technology and \$8 million of trade names and will have useful lives of two to twenty years. The fair values of all intangible assets were estimated using the income approach. Customer relationships and developed technology were valued under the excess earnings method which assumes that the value of an intangible asset is equal to the present value of the incremental after-tax cash flows attributable specifically to the intangible asset. Trade names were valued under the relief from royalty method, which assumes value to the extent that the acquired company is relieved of the obligation to pay royalties for the benefits received from them. The goodwill is not deductible for tax purposes.

On March 7, 2018, the Company completed the acquisition of Plant Holdings, Inc., the parent company of Airbus DS Communications for a purchase price of \$237 million, net of cash acquired. This acquisition expands the Company's Command Center Software technology with additional solutions for next generation 9-1-1. The business is part of the Software and Services segment. As of December 31, 2018, the Company recognized \$151 million of goodwill, \$80 million of identifiable intangible assets and \$6 million of net assets. During 2019, the Company recorded an adjustment related to the allocation between goodwill and deferred income taxes of approximately \$9 million, bringing the total goodwill acquired to \$160 million. The goodwill is not deductible for tax purposes. The identifiable intangible assets were classified as \$41 million of customer-related intangibles, \$27 million of completed technology and \$12 million of trade names. The identifiable intangible assets will be amortized over a period of ten to twenty years.

The results of operations for these acquisitions have been included in the Company's Consolidated Statements of Operations subsequent to the acquisition date. The pro forma effects of these acquisitions are not significant individually or in the aggregate.

Intangible Assets

Amortized intangible assets are comprised of the following:

December 31	2020		2019	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Intangible assets:				
Completed technology	\$ 766	\$ 210	\$ 738	\$ 148
Patents	2	2	2	2
Customer-related	1,335	685	1,222	518
Other intangibles	78	50	75	42
	<u>\$ 2,181</u>	<u>\$ 947</u>	<u>\$ 2,037</u>	<u>\$ 710</u>

Amortization expense on intangible assets, which is included within Other charges in the Consolidated Statements of Operations, was \$215 million, \$208 million, and \$188 million for the years ended December 31, 2020, 2019, and 2018, respectively. As of December 31, 2020, future amortization expense is estimated to be \$209 million in 2021, \$206 million in 2022, \$108 million in 2023, \$83 million in 2024, and \$73 million in 2025.

Amortized intangible assets, excluding goodwill, were comprised of the following by segment:

	2020		2019	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Products and Systems Integration	\$ 692	\$ 129	\$ 652	\$ 82
Software and Services	1,489	818	1,385	628
	<u>\$ 2,181</u>	<u>\$ 947</u>	<u>\$ 2,037</u>	<u>\$ 710</u>

Goodwill

The following table displays a rollforward of the carrying amount of goodwill, net of impairment losses, by segment from January 1, 2019 to December 31, 2020:

	Products and Systems Integration	Software and Services	Total
Balance as of January 1, 2019	\$ 722	\$ 792	\$ 1,514
Goodwill acquired	251	288	539
Purchase accounting adjustments	—	9	9
Foreign currency translation	—	5	5
Balance as of December 31, 2019	\$ 973	\$ 1,094	\$ 2,067
Goodwill acquired	46	100	146
Foreign currency translation	—	6	6
Balance as of December 31, 2020	\$ 1,019	\$ 1,200	\$ 2,219

The Company conducts its annual assessment of goodwill for impairment in the fourth quarter of each year. The goodwill impairment assessment is performed at the reporting unit level which is an operating segment or one level below an operating segment.

The Company performed a qualitative assessment to determine whether it was more-likely-than-not that the fair value of each reporting unit was less than its carrying amount for the fiscal years 2020, 2019, and 2018. In performing this qualitative assessment the Company assessed relevant events and circumstances including macroeconomic conditions, industry and market conditions, cost factors, overall financial performance, changes in share price, and entity-specific events. For fiscal years 2020, 2019, and 2018, the Company concluded it was more-likely-than-not that the fair value of each reporting unit exceeded its carrying value. Therefore, a quantitative goodwill impairment test was not required and there was no impairment of goodwill.

16. Valuation and Qualifying Accounts

The following table presents the valuation and qualifying account activity for the years ended December 31, 2020, 2019, and 2018:

	<i>Balance at Beginning of Period</i>	<i>Charged to Earnings</i>	<i>Used</i>	<i>Adjustments*</i>	<i>Balance at End of Period</i>
2020					
Allowance for credit losses	\$ 63	\$ 47	\$ (34)	\$ (1)	\$ 75
2019					
Allowance for credit losses	51	39	(26)	(1)	63
2018					
Allowance for credit losses	45	37	(30)	(1)	51

* Adjustments include translation adjustments

17. Quarterly and Other Financial Data (unaudited)

	Quarter Ended							
	2020				2019			
	Mar. 28, 2020	June 27, 2020	Sept. 26, 2020	Dec. 31, 2020	Mar. 30, 2019	June 29, 2019	Sept. 28, 2019	Dec. 31, 2019
Operating Results								
Net sales	\$ 1,655	\$ 1,618	\$ 1,868	\$ 2,273	\$ 1,657	\$ 1,860	\$ 1,994	\$ 2,377
Costs of sales	868	852	959	1,127	884	929	987	1,157
Gross margin	\$ 787	\$ 766	\$ 909	\$ 1,146	\$ 773	\$ 931	\$ 1,007	\$ 1,220
Selling, general and administrative expenses	341	297	313	343	327	351	359	368
Research and development expenditures	168	161	175	182	162	170	172	182
Other charges	19	90	69	66	55	61	63	80
Operating earnings	\$ 259	\$ 218	\$ 352	\$ 555	\$ 229	\$ 349	\$ 413	\$ 590
Net earnings*	197	135	205	412	151	207	267	244
Per Share Data (in dollars)								
Net earnings*:								
Basic earnings per common share	\$ 1.15	\$ 0.79	\$ 1.21	\$ 2.43	\$ 0.92	\$ 1.25	\$ 1.60	\$ 1.43
Diluted earnings per common share	1.12	0.78	1.18	2.37	0.86	1.18	1.51	1.39
Dividends declared	\$ 0.64	\$ 0.64	\$ 0.64	\$ 0.71	\$ 0.57	\$ 0.57	\$ 0.57	\$ 0.64
Dividends paid	0.64	0.64	0.64	0.64	0.57	0.57	0.57	0.57
Stock prices								
High	\$ 187.49	\$ 159.76	\$ 158.99	\$ 176.92	\$ 144.94	\$ 169.30	\$ 182.28	\$ 176.95
Low	\$ 120.77	\$ 123.56	\$ 127.58	\$ 153.70	\$ 110.61	\$ 139.21	\$ 160.81	\$ 154.02

* Amounts attributable to Motorola Solutions, Inc. common shareholders.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures.

Under the supervision and with the participation of our senior management, including our chief executive officer and chief financial officer, we conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, as of December 31, 2020, the end of the period covered by this Form 10-K. Based on this evaluation, our chief executive officer and chief financial officer concluded as of the Evaluation Date that our disclosure controls and procedures were effective such that the information relating to Motorola Solutions, including our consolidated subsidiaries, required to be disclosed in our SEC reports: (i) is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and (ii) is accumulated and communicated to Motorola Solutions' management, including our chief executive officer and chief financial officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting.

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Rule 13a-15(f) of the Exchange Act. Under the supervision and with the participation of our senior management, including our chief executive officer and chief financial officer, we assessed the effectiveness of our internal control over financial reporting as of December 31, 2020, using the criteria set forth in the *Internal Control-Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on this assessment, management has concluded that our internal control over financial reporting was effective as of December 31, 2020.

The Company's independent registered public accounting firm, PricewaterhouseCoopers LLP, has issued a report on the Company's internal control over financial reporting. The report on the audit of internal control over financial reporting appears in this Form 10-K.

Changes in Internal Control Over Financial Reporting.

There have been no changes in our internal control over financial reporting that occurred during our most recent fiscal quarter that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The response to this Item with respect to directors is incorporated herein by reference to the information under the caption “Our Board - Who We Are” of our Proxy Statement; with respect to executive officers, is contained in Part I hereof under the caption “Information About our Executive Officers”; and, with respect to the audit committee, is incorporated herein by reference to the information under the captions “Committees of the Board” and “Audit Committee Matters - Report of Audit Committee” of the Proxy Statement.

Motorola Solutions has adopted a code of ethics, the Motorola Solutions Code of Business Conduct (the “Code”), that applies to all employees, including the Company’s principal executive officer, principal financial officer and controller (principal accounting officer). The Code is posted in the Corporate Governance section on Motorola Solutions’ Internet website, www.motorolasolutions.com/investors, and is available free of charge, upon request to Investor Relations, Motorola Solutions, Inc., Corporate Offices, 500 W. Monroe Street, Chicago, Illinois 60661, E-mail: investors@motorolasolutions.com. Any amendment to, or waiver from, the Code applicable to executive officers will be posted on our Internet website within four business days following the date of the amendment or waiver. Motorola Solutions’ Code of Business Conduct applies to all of the Company’s employees worldwide, without exception, and describes employee responsibilities to the various stakeholders involved in our business. The Code goes beyond the legal minimums by implementing the values we share as employees of Motorola Solutions—our key beliefs—uncompromising integrity and constant respect for people. The Code places special responsibility on managers and prohibits retaliation for reporting issues.

Item 11. Executive Compensation

The response to this Item is incorporated herein by reference to the information under the captions “How We Determine Director Compensation,” “How Our Directors Are Compensated,” “Compensation Discussion and Analysis,” “Compensation and Leadership Committee Report,” “Compensation and Leadership Committee Interlocks and Insider Participation,” “Named Executive Officer Compensation,” and “CEO Pay Ratio” of the Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The response to this Item is incorporated herein by reference to the information under the captions “Equity Compensation Plan Information” and “Security Ownership Information” of the Proxy Statement.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The response to this Item is incorporated herein by reference to the information under the captions “Related Person Transaction Policy and Procedures” and “Independence” of the Proxy Statement.

Item 14. Principal Accounting Fees and Services

The response to this Item is incorporated by reference to the information under the captions “Audit Committee Matters - Independent Registered Public Accounting Firm Fees” and “Audit Committee Matters - Audit Committee Pre-Approval Policies” of the Proxy Statement.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) 1. Financial Statements

See Part II, Item 8 hereof.

2. Financial Statement Schedules

All schedules omitted are inapplicable or the information required is shown in the consolidated financial statements or notes thereto.

3. Exhibits

Exhibit numbers 10.5 through 10.56, listed in this Exhibit Index are management contracts or compensatory plans or arrangements required to be filed as exhibits to this form by Item 15(b) hereof.

- 2.1 Arrangement Agreement, dated February 1, 2018, among Motorola Solutions, Inc., Motorola Solutions Canada Holdings Inc. and Avigilon Corporation (incorporated by reference to Exhibit 2.1 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on March 28, 2018).
- 3.1 (a) Restated Certificate of Incorporation of Motorola, Inc., as amended through May 5, 2009 (incorporated by reference to Exhibit 3(i)(b) to Motorola, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended July 4, 2009).
- 3.1 (b) Certificate of Amendment to the Restated Certificate of Incorporation of Motorola, Inc., effective January 4, 2011, as filed with the Secretary of State of the State of Delaware (incorporated by reference to Exhibit 3.1 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on January 10, 2011).
- 3.1 (c) Certificate of Ownership and Merger merging Motorola Name Change Corporation into Motorola, Inc., effective January 4, 2011, as filed with the Secretary of State of the State of Delaware (incorporated by reference to Exhibit 3.2 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on January 10, 2011).
- 3.2 Amended and Restated Bylaws of Motorola Solutions, Inc. as of August 27, 2020 (incorporated by reference to Exhibit 3.1 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on August 27, 2020).
- 4.1 (a) Senior Indenture, dated as of May 1, 1995, between The Bank of New York Mellon Trust Company, N.A. (as successor Trustee to JPMorgan Chase Bank (as successor in interest to Bank One Trust Company) and BNY Midwest Trust Company (as successor in interest to Harris Trust and Savings Bank) and Motorola, Inc. (incorporated by reference to Exhibit 4(d) of the Registrant's Registration Statement on Form S-3 filed on September 25, 1995).
- 4.1 (b) Instrument of Resignation, Appointment and Acceptance, dated as of January 22, 2001, among Motorola, Inc., Bank One Trust Company, N.A. and BNY Midwest Trust Company (as successor in interest to Harris Trust and Savings Bank) (incorporated by reference to Exhibit 4.2(b) to Motorola, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2000).
- 4.1 (c) Indenture, dated as of August 19, 2014, between Motorola Solutions, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.1 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on August 19, 2014).
- 4.1 (d) Indenture, dated as of September 5, 2019, between Motorola Solutions, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee, related to the 1.75% Convertible Senior Notes Due 2024 (incorporated by reference to Exhibit 10.2 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on September 5, 2019).
Certain instruments defining the rights of holders of long-term debt of Motorola Solutions, Inc. and of all its subsidiaries for which consolidated or unconsolidated financial statements are required to be filed are being omitted pursuant to paragraph (b)(4)(iii)(A) of Item 601 of Regulation S-K. Motorola Solutions, Inc. agrees to furnish a copy of any such instrument to the Commission upon request.
- *4.1 (e) Description of the Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.
 - 10.1 Amended and Restated Master Separation and Distribution Agreement, effective as of July 31, 2010, among Motorola Mobility Holdings, Inc. (f/k/a Motorola SpinCo Holdings Corporation), Motorola Mobility, Inc. and Motorola, Inc. (incorporated by reference to Exhibit 2.1 to Amendment No. 1 to the Form 10 Registration Statement filed on August 31, 2010 by Motorola Mobility Holdings, Inc. (formerly Motorola SpinCo Holdings Corporation)).
 - 10.2 Amended and Restated Intellectual Property License Agreement, effective as of July 31, 2010, between Motorola Mobility, Inc. and Motorola, Inc. (incorporated by reference to Exhibit 10.2 to Amendment No. 1 to the Form 10 Registration Statement filed on August 31, 2010 by Motorola Mobility Holdings, Inc. (formerly Motorola SpinCo Holdings Corporation)).
 - 10.3 Amended and Restated Exclusive License Agreement, effective as of July 30, 2010, between Motorola Trademark Holdings, LLC and Motorola, Inc. (incorporated by reference to Exhibit 10.3 to Amendment No. 3 to the Form 10 Registration Statement filed on November 12, 2010 by Motorola Mobility Holdings, Inc. (File No. 1-34805)).
 - 10.4 Tax Sharing Agreement, effective as of July 31, 2020, among Motorola Mobility Holdings, Inc. (f/k/a Motorola SpinCo Holdings Corporation), Motorola Mobility, Inc. and Motorola, Inc. (incorporated by reference to Exhibit 10.4 to Amendment No. 1 to the Form 10 Registration Statement filed on August 31, 2010 by Motorola Mobility Holdings, Inc. (formerly Motorola SpinCo Holdings Corporation)).
 - 10.5 Motorola Solutions Omnibus Incentive Plan of 2015 (f/k/a the Motorola Omnibus Incentive Plan of 2006), as amended and restated effective May 18, 2015 (incorporated by reference to Exhibit 10.1 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on May 21, 2015).

- 10.6 First Amendment to the Motorola Solutions Omnibus Incentive Plan of 2015 (f/k/a the Motorola Omnibus Incentive Plan of 2006), as amended and restated effective May 18, 2015 (incorporated by reference to Exhibit 10.1 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended September 26, 2020).
- 10.7 March 9, 2017 Form of Motorola Solutions, Inc. Terms and Conditions Related to Employee Performance Contingent Stock Options (non-CEO) (incorporated by reference to Exhibit 10.8 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017).
- 10.8 Form of Motorola Solutions, Inc. Performance Option Award Agreement for grants to Section 16 Officers on or after February 14, 2019 (incorporated by reference to Exhibit 10.2 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended March 30, 2019).
- 10.9 Form of Motorola Solutions, Inc. Performance Option Award Agreement for grants to Section 16 Officers from March 9, 2015 to February 13, 2019 (incorporated by reference to Exhibit 10.1 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on March 11, 2015).
- 10.10 Form of Motorola Solutions, Inc. Terms and Conditions Related to Employee Performance-Contingent Stock Options (non-CEO) (incorporated by reference to Exhibit 10.3 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on August 26, 2015).
- 10.11 Form of Motorola Solutions, Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options for grants to Section 16 Officers on or after May 6, 2013 (incorporated by reference to Exhibit 10.2 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended June 29, 2013).
- 10.12 Form of Motorola Solutions, Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options relating to the Motorola Solutions Omnibus Incentive Plan of 2015 for grants on or after February 15, 2018 (incorporated by reference to Exhibit 10.4 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018).
- 10.13 Form of Motorola Solutions, Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options relating to the Motorola Solutions Omnibus Incentive Plan of 2015 for grants from March 9, 2017 to February 14, 2018 (incorporated by reference to Exhibit 10.6 to Motorola Solutions' Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017).
- 10.14 Form of Motorola Solutions, Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants from February 3, 2014 to March 8, 2017 (incorporated by reference to Exhibit 10.9 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2013).
- 10.15 Form of Motorola Solutions, Inc. Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants from January 4, 2011 to February 2, 2014 (incorporated by reference to Exhibit 10.11 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2010).
- 10.16 Form of Motorola Solutions, Inc. Stock Option Consideration Agreement for grants on or after March 9, 2017 (incorporated by reference to Exhibit 10.7 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017).
- 10.17 Form of Motorola Solutions Stock Option Consideration Agreement for grants from February 3, 2014 to March 8, 2017 (incorporated by reference to Exhibit 10.14 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2013).
- 10.18 Form of Motorola Solutions Stock Option Consideration Agreement for grants from January 4, 2011 to February 2, 2014 (incorporated by reference to Exhibit 10.15 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2010).
- 10.19 Form of Motorola Solutions, Inc. Market Stock Unit Agreement for grants to Section 16 Officers on or after March 9, 2017 (incorporated by reference to Exhibit 10.2 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017).
- 10.20 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2015 for grants to Section 16 Officers on or after March 9, 2017 (incorporated by reference to Exhibit 10.5 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017).
- 10.21 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants to Section 16 Officers from May 6, 2013 to March 8, 2017 (incorporated by reference to Exhibit 10.1 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended June 29, 2013).
- 10.22 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2015 for grants to Appointed Vice Presidents and Elected Officers on or after February 15, 2018 (incorporated by reference to Exhibit 10.2 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018).
- 10.23 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2015 for grants to Appointed Vice Presidents and Elected Officers from March 9, 2017 to February 14, 2018 (incorporated by reference to Exhibit 10.3 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017).
- 10.24 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants to Appointed Vice Presidents and Elected Officers from February 3, 2014 to March 8, 2017 (incorporated by reference to Exhibit 10.19 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2013).

- 10.25 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2015 for grants to Employees on or after February 15, 2018 (incorporated by reference to Exhibit 10.3 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018).
- 10.26 Form of Motorola Solutions, Inc. Restricted Stock Unit Agreement relating to the Motorola Solutions Omnibus Incentive Plan of 2015 for grants to Employees from March 9, 2017 to February 14, 2018 (incorporated by reference to Exhibit 10.4 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended April 1, 2017).
- 10.27 Form of Motorola Solutions, Inc. Performance Stock Unit Award Agreement for grants to Section 16 Officers on or after May 13, 2019 (incorporated by reference to Exhibit 10.1 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended June 29, 2019).
- 10.28 Form of Motorola Solutions, Inc. Performance Stock Unit Award Agreement for grants to Gregory Q. Brown on or after May 13, 2019 (incorporated by reference to Exhibit 10.2 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended June 29, 2019).
- 10.29 Motorola Solutions, Inc. Amended Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options and Addendum A to Motorola Solutions, Inc. Award Document-Terms and Conditions Related to Employee Stock Appreciation Rights, relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for a grant on February 22, 2011 to Gregory Q. Brown. (incorporated by reference to exhibit 10.5 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended April 2, 2011).
- 10.30 Form of Motorola Solutions Award Document-Terms and Conditions Related to Employee Nonqualified Stock Options for Gregory Q. Brown, relating to the Motorola Solutions Omnibus Incentive Plan of 2006 for grants on or after January 4, 2011 (incorporated by reference to Exhibit 10.25 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2010).
- 10.31 Form of Motorola Solutions, Inc. Performance Option Award Agreement for grants to Gregory Q. Brown on or after March 9, 2015 (incorporated by reference to Exhibit 10.3 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on March 11, 2015).
- 10.32 Form of Motorola Solutions, Inc. Terms and Conditions Related to Employee Performance-Contingent Stock Options (CEO) (incorporated by reference to Exhibit 10.4 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on August 26, 2015).
- 10.33 Form of Motorola Solutions Stock Option Consideration Agreement for Gregory Q. Brown for grants on or after January 4, 2011 under the Motorola Solutions Omnibus Incentive Plan of 2006 (incorporated by reference to Exhibit 10.27 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2010)).
- 10.34 Form of Motorola Solutions, Inc. Restricted Stock Unit Award Agreement for Gregory Q. Brown under the Motorola Solutions Omnibus Incentive Plan of 2006 for grants on or after January 4, 2011 (incorporated by reference to Exhibit 10.32 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2010).
- 10.35 Form of Motorola Solutions, Inc. Market Stock Unit Agreement for grants to Gregory Q. Brown on or after March 9, 2015 (incorporated by reference to Exhibit 10.4 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on March 11, 2015).
- 10.36 Form of Motorola Solutions Deferred Stock Units Agreement between Motorola Solutions, Inc. and its non-employee directors, relating to the deferred stock units issued in lieu of cash compensation to directors under the Motorola Solutions Omnibus Incentive Plan of 2006, for acquisitions on or after January 1, 2012 (incorporated by reference to Exhibit 10.37 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2011).
- 10.37 Form of Motorola Solutions Deferred Stock Units Agreement between Motorola Solutions, Inc. and its non-employee directors, relating to the deferred stock units issued in lieu of cash compensation to directors under the Motorola Solutions Omnibus Incentive Plan of 2006, for acquisitions on or after January 4, 2011 (incorporated by reference to Exhibit 10.37 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2010).
- 10.38 Form of Motorola Solutions Deferred Stock Units Award between Motorola Solutions, Inc. and its non-employee directors under the Motorola Solutions Omnibus Incentive Plan of 2006 or any successor plan for grants on or after January 1, 2012 (incorporated by reference to Exhibit 10.40 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2011).
- 10.39 Form of Motorola Solutions Deferred Stock Units Award between Motorola Solutions, Inc. and its non-employee directors under the Motorola Solutions Omnibus Incentive Plan of 2006 or any successor plan for grants from January 4, 2011 to December 31, 2011 (incorporated by reference to Exhibit 10.39 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2010).
- 10.40 Motorola Solutions Executive Officer Short Term Incentive Plan dated January 17, 2013 (effective January 1, 2013) (incorporated by reference to Exhibit 10.50 to Motorola Solutions' Annual Report on Form 10-K for the fiscal year ended December 31, 2012 (File No. 1-7221)).
- 10.41 Motorola Solutions Executive Officer Short Term Incentive Plan Term Sheet (incorporated by reference to Exhibit 10.51 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2012).
- 10.42 Motorola Solutions Long Range Incentive Plan (LRIP), as Amended and Restated February 11, 2015, applicable to 2018-2020 cycles (incorporated by reference to Exhibit 10.5 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended April 4, 2015).
- 10.43 2018-2020 Performance Measures under the Motorola Solutions Long Range Incentive Plan (LRIP), as approved on February 15, 2018 (incorporated by reference to Exhibit 10.1 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018).

- 10.44 Motorola Solutions Long Range Incentive Plan (LRIP), as Amended and Restated May 13, 2019 (incorporated by reference to Exhibit 10.3 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended June 29, 2019).
- 10.45 2019-2021 Performance Measures under the Motorola Solutions Long Range Incentive Plan (LRIP), as approved on February 14, 2019 (incorporated by reference to Exhibit 10.1 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended March 30, 2019).
- 10.46 2020-2022 Performance Measures under the Motorola Solutions Long Range Incentive Plan (LRIP), as approved on February 13, 2020 (incorporated by reference to Exhibit 10.1 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended March 28, 2020).
- 10.47 Motorola Solutions Management Deferred Compensation Plan (As Amended and Restated Effective as of June 1, 2013) (incorporated by reference to Exhibit 10.1 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on June 5, 2013).
- 10.48 Motorola Solutions Management Deferred Compensation Plan, as amended and restated effective as of December 1, 2010, as amended January 4, 2011 (incorporated by reference to Exhibit 10.57 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2010).
- 10.49 Motorola Solutions, Inc. 2011 Senior Officer Change in Control Severance Plan, as amended and restated November 13, 2014 (incorporated by reference to Exhibit No. 10.54 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2014).
- 10.50 Motorola Solutions, Inc. 2011 Executive Severance Plan, as amended and restated November 13, 2014 (incorporated by reference to Exhibit No. 10.55 to Motorola Solutions, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2014).
- 10.51 Arrangement for directors' fees for non-employee directors (description incorporated by reference from the information under the caption "How our Directors are Compensated" of Motorola Solutions Inc.'s Proxy Statement on Schedule 14A for the 2020 Annual Meeting of Shareholders filed on March 27, 2020 ("Motorola Solutions' Proxy Statement")).
- 10.52 Description of insurance covering non-employee directors and their spouses (including a description incorporated by reference from the information under the caption "Director Retirement Plan and Insurance Coverage" of the Motorola Solutions' Proxy Statement, and incorporated by reference to Exhibit 10.2 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended on July 1, 2017).
- 10.53 Employment Agreement, dated August 27, 2008, by and between Motorola, Inc. and Gregory Q. Brown (incorporated by reference to Exhibit 10.1 to Motorola, Inc.'s Current Report on Form 8-K filed on August 29, 2008).
- 10.54 Amendment made on December 15, 2008, to the Employment Agreement dated August 27, 2008 by and between Motorola, Inc. and Gregory Q. Brown (incorporated by reference to Exhibit No. 10.50 to Motorola, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2008).
- 10.55 Second Amendment, dated May 28, 2010, to the Employment Agreement dated August 27, 2008, as amended, by and between Motorola, Inc. and Gregory Q. Brown (incorporated by reference to Exhibit 10.1 to Motorola, Inc.'s Current Report on Form 8-K filed on May 28, 2010).
- 10.56 Third Amendment, dated March 10, 2014, to the Employment Agreement dated August 27, 2008, as amended, by and between Motorola Solutions, Inc. and Gregory Q. Brown (incorporated by reference to Exhibit 10.1 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on March 13, 2014).
- 10.57 Revolving Credit Agreement, dated as of April 25, 2017, among Motorola Solutions, Inc., JPMorgan Chase Bank, N.A., as administrative agent, and the several lenders and agents party thereto (incorporated by reference to Exhibit 10.1 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on April 27, 2017).
- 10.58 Revised and Amended Aircraft Time Sharing Agreement, dated as of October 1, 2015, between Motorola Solutions, Inc. and Gregory Q. Brown (incorporated by reference to Exhibit 10.4 to Motorola Solutions, Inc.'s Quarterly Report on Form 10-Q for the fiscal quarter ended October 3, 2015).
- 10.59 Investment Agreement, dated as of September 5, 2019, among Motorola Solutions, Inc., Silver Lake Alpine, L.P. and Silver Lake Alpine (Offshore Master) L.P. (incorporated by reference to Exhibit 10.1 to Motorola Solutions, Inc.'s Current Report on Form 8-K filed on September 5, 2019).
- *21 Subsidiaries of Motorola Solutions, Inc.
- *23.1 Consent of Independent Registered Public Accounting Firm.
- *23.2 Consent of Independent Registered Public Accounting Firm.
- *31.1 Certification of Gregory Q. Brown pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- *31.2 Certification of Jason J. Winkler pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- **32.1 Certification of Gregory Q. Brown pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- **32.2 Certification of Jason J. Winkler pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 101.INS Inline XBRL Instance Document
- 101.SCH Inline XBRL Taxonomy Extension Scheme 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 Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

* Filed herewith

** Furnished herewith

(b) Exhibits:

See Item 15(a) 3 above.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, Motorola Solutions, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

MOTOROLA SOLUTIONS, INC.

By: /S/ GREGORY Q. BROWN

Gregory Q. Brown

Chairman and Chief Executive Officer

February 12, 2021

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of Motorola Solutions, Inc. and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u> /S/ GREGORY Q. BROWN </u> Gregory Q. Brown	Chairman and Chief Executive Officer and Director (Principal Executive Officer)	February 12, 2021
<u> /S/ JASON J. WINKLER </u> Jason J. Winkler	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 12, 2021
<u> /S/ DAN PEKOFKSKE </u> Dan Pekofske	Corporate Vice President and Chief Accounting Officer (Principal Accounting Officer)	February 12, 2021
<u> /S/ KENNETH D. DENMAN </u> Kenneth D. Denman	Director	February 12, 2021
<u> /S/ EGON P. DURBAN </u> Egon P. Durban	Director	February 12, 2021
<u> /S/ CLAYTON M. JONES </u> Clayton M. Jones	Director	February 12, 2021
<u> /S/ JUDY C. LEWENT </u> Judy C. Lewent	Director	February 12, 2021
<u> /S/ GREGORY K. MONDRE </u> Gregory K. Mondre	Director	February 12, 2021
<u> /S/ JOSEPH M. TUCCI </u> Joseph M. Tucci	Director	February 12, 2021