

Northrop Grumman Corporation

July 29, 2021

Forward-Looking Statements

This presentation and the information we are incorporating by reference, contain or may contain statements that constitute “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as “will,” “expect,” “anticipate,” “intend,” “may,” “could,” “should,” “plan,” “project,” “forecast,” “believe,” “estimate,” “guidance,” “outlook,” “trends,” “goals” and similar expressions generally identify these forward-looking statements.

Forward-looking statements include, among other things, statements relating to our future financial condition, results of operations and/or cash flows. Forward-looking statements are based upon assumptions, expectations, plans and projections that we believe to be reasonable when made, but which may change over time. These statements are not guarantees of future performance and inherently involve a wide range of risks and uncertainties that are difficult to predict. Specific risks that could cause actual results to differ materially from those expressed or implied in these forward-looking statements include, but are not limited to, those identified and discussed more fully in the section entitled “Risk Factors” in the Form 10-K for the year ended December 31, 2020 and from time to time in our other filings with the Securities and Exchange Commission (SEC). These risks and uncertainties are amplified by the global COVID-19 pandemic, which has caused and will continue to cause significant challenges, instability and uncertainty. They include:

- the impact of the COVID-19 outbreak or future epidemics on our business, including the potential for worker absenteeism, facility closures, work slowdowns or stoppages, supply chain disruptions, additional costs and liabilities, program delays, our ability to recover costs under contracts, changing government funding and acquisition priorities and processes, changing government payment rules and practices, insurance challenges, and potential impacts on access to capital, the markets and the fair value of our assets
- our dependence on the U.S. government for a substantial portion of our business
- significant delays or reductions in appropriations for our programs, and U.S. government funding and program support more broadly
- investigations, claims, disputes, enforcement actions, litigation and/or other legal proceedings
- the use of estimates when accounting for our contracts and the effect of contract cost growth and/or changes in estimated contract revenues and costs
- our exposure to additional risks as a result of our international business, including risks related to geopolitical and economic factors, suppliers, laws and regulations
- the improper conduct of employees, agents, subcontractors, suppliers, business partners or joint ventures in which we participate and the impact on our reputation and our ability to do business
- cyber and other security threats or disruptions faced by us, our customers or our suppliers and other partners
- the performance and financial viability of our subcontractors and suppliers and the availability and pricing of raw materials and components
- changes in procurement and other laws, regulations, contract terms and practices applicable to our industry, findings by the U.S. government as to our compliance with such requirements, and changes in our customers’ business practices globally
- increased competition within our markets and bid protests
- the ability to maintain a qualified workforce with the required security clearances and requisite skills
- our ability to meet performance obligations under our contracts, including obligations that require innovative design capabilities, are technologically complex, require certain manufacturing expertise or are dependent on factors not wholly within our control
- environmental matters, including unforeseen environmental costs and government and third party claims
- natural disasters
- health epidemics, pandemics and similar outbreaks
- the adequacy and availability of our insurance coverage, customer indemnifications or other liability protections
- products and services we provide related to hazardous and high risk operations, including the production and use of such products, which subject us to various environmental, regulatory, financial, reputational and other risks
- the future investment performance of plan assets, changes in actuarial assumptions associated with our pension and other postretirement benefit plans and legislative or other regulatory actions impacting our pension and postretirement benefit obligations
- our ability appropriately to exploit and/or protect intellectual property rights
- our ability to develop new products and technologies and maintain technologies, facilities, and equipment to win new competitions and meet the needs of our customers
- unanticipated changes in our tax provisions or exposure to additional tax liabilities
- changes in business conditions that could impact business investments and/or recorded goodwill or the value of other long-lived assets

You are urged to consider the limitations on, and risks associated with, forward-looking statements and not unduly rely on the accuracy of forward-looking statements. These forward-looking statements speak only as of the date of this presentation or, in the case of any document incorporated by reference, the date of that document. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law. This presentation and the attachments also contain non-GAAP financial measures. A reconciliation to the nearest GAAP measure and a discussion of the company’s use of these measures are included in this presentation.

Northrop Grumman Today

- Leading global aerospace and defense company
- \$36.8 billion sales in 2020
 - 86% U.S. / 14% International
- \$81.0 billion total backlog
(as of December 31, 2020)
- ~90,000 employees
- Leading capabilities in:
 - Space
 - Missiles
 - Advanced Weapons
 - Aeronautics
 - Mission Systems



Focus on Growth and Performance

Four Operating Sectors at a Glance

Aeronautics Systems



- Autonomous Systems
- Aerospace Structures
- Advanced Technologies and Concepts
- Aircraft Design, Integration and Manufacturing
- Long-range Strike
- Multi-Domain Integration and Operations
- Intelligence, Surveillance and Reconnaissance
- Battle Management

Defense Systems



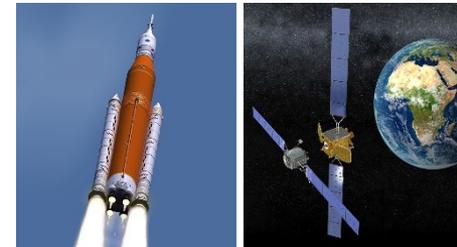
- Integrated Air & Missile Defense
- Platform Modernization and Fleet Operations Support
- Advanced Weapons
- Precision Munitions
- Software Systems Modernization and Sustainment
- Training and Simulation
- Propulsion Systems

Mission Systems



- Airborne Sensors and Networks
- Artificial Intelligence/Machine Learning
- Networked Information Solutions
- Navigation, Targeting and Survivability
- Maritime/Land Systems and Sensors
- Engineering & Sciences
- Emerging Concepts Development
- Multi-domain C2
- Agile/DevSecOps Systems

Space Systems



- Launch Vehicles
- Propulsion Systems
- Commercial Satellites
- Military and Civil Space Systems
- Science and National Security Satellites
- Human Space and Advanced Systems
- Space Components
- Missile Defense
- Space Exploration
- Space ISR Systems

2020 Highlights

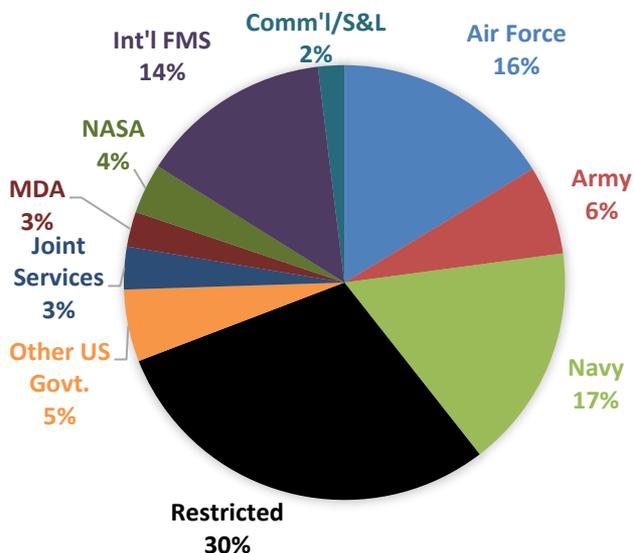
- Total backlog increased 25% to \$81.0 billion
- Book-to-bill of 1.4 times
- Sales of \$36.8 billion - 9% increase
- Total operating margin rate 11.0%
- Segment operating margin rate 11.4%⁽¹⁾
- \$4.3 billion cash provided by operations, after \$750 million discretionary pension contribution
- \$3.7 billion adjusted free cash flow⁽¹⁾
- Balanced capital deployment
 - Quarterly dividend increased 10%
 - Shares outstanding reduced by 1%



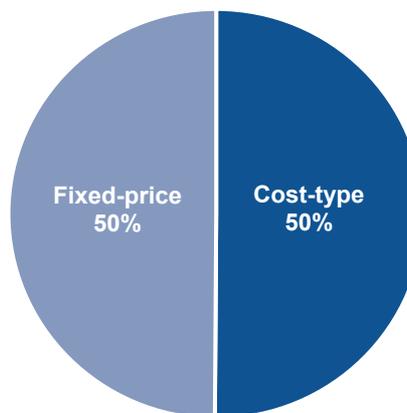
(1) Non-GAAP metric. See appendix.

Note: Pre IT services divestiture

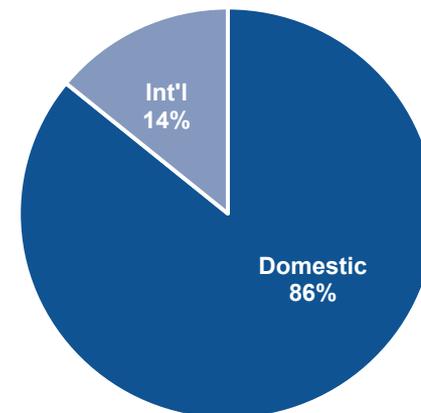
2020 Sales Mix



- Portfolio diversified across U.S. DoD services
- Differentiated technologies in all domains
- Positioned on high priority programs
- Represents ultimate end user customer where we are a subcontractor



- Portfolio addresses entire product lifecycle – development to production to sustainment
- Well balanced cost plus and fixed price contract mix



- Strengthening international business
- Improving export climate

Balanced Portfolio Supports Topline Growth and Solid Performance

Aeronautics Systems



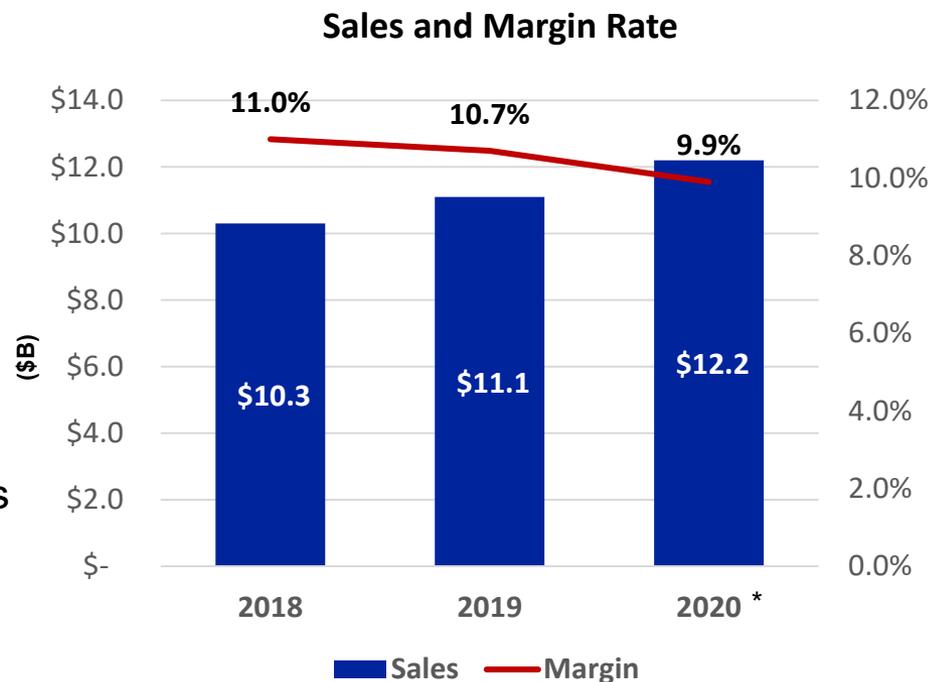
Aeronautics Systems

Performance

- Solid growth with a focus on execution
- Operating performance & cash generation
- Diverse, engaged workforce

Strategy

- Focus on sustainable competitive differentiation
- Invest in our people
- Build strong, trusted customer relationships
- Develop affordable total life cycle solutions
- Invest in new technologies necessary to solve hard national security challenges
- Grow the business through disciplined capture management



* 2020 results include a \$444 million sale of equipment, which was dilutive to the overall margin rate.

Capabilities & Key Programs

Manned Aircraft

- Designs, develops, manufactures and integrates strategic long-range strike aircraft systems, tactical fighter aircraft and airborne battle management systems.
- Key Programs
 - Long-range strike: B-21 Raider, B-2 Spirit
 - Tactical fighters: F-35 Lightning II, F/A-18 Super Hornet
 - Airborne battle management: E-2D Advanced Hawkeye, E-8C JSTARS



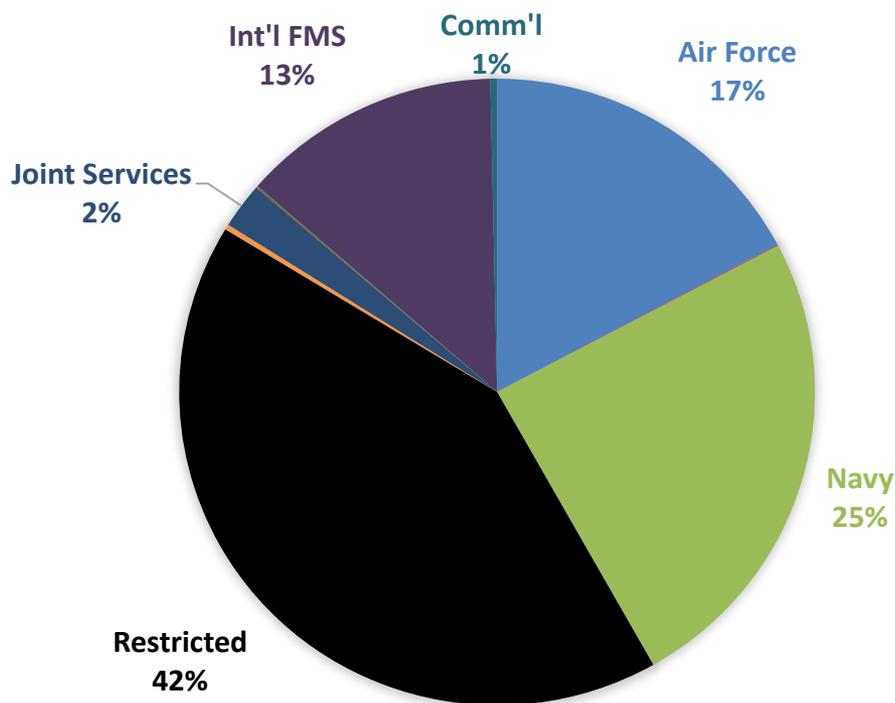
Autonomous Systems

- Designs, develops, manufactures, integrates and sustains autonomous aircraft systems for strategic and tactical intelligence, surveillance and reconnaissance (ISR) missions.
- Key Programs
 - Strategic ISR platforms: RQ-4 Global Hawk, MQ-4C Triton, NATO Alliance Ground Surveillance, international customers
 - Tactical ISR: MQ-8 Fire Scout, Firebird

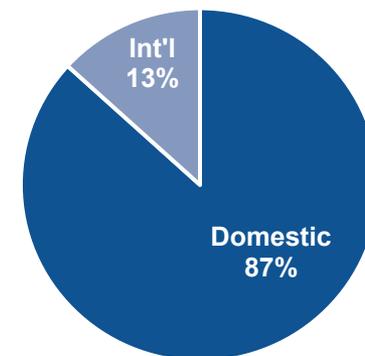


Aeronautics Systems 2020 Sales Mix

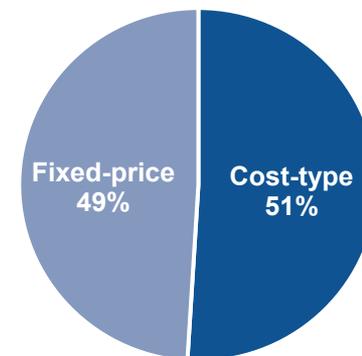
Sales by Customer



International v. Domestic

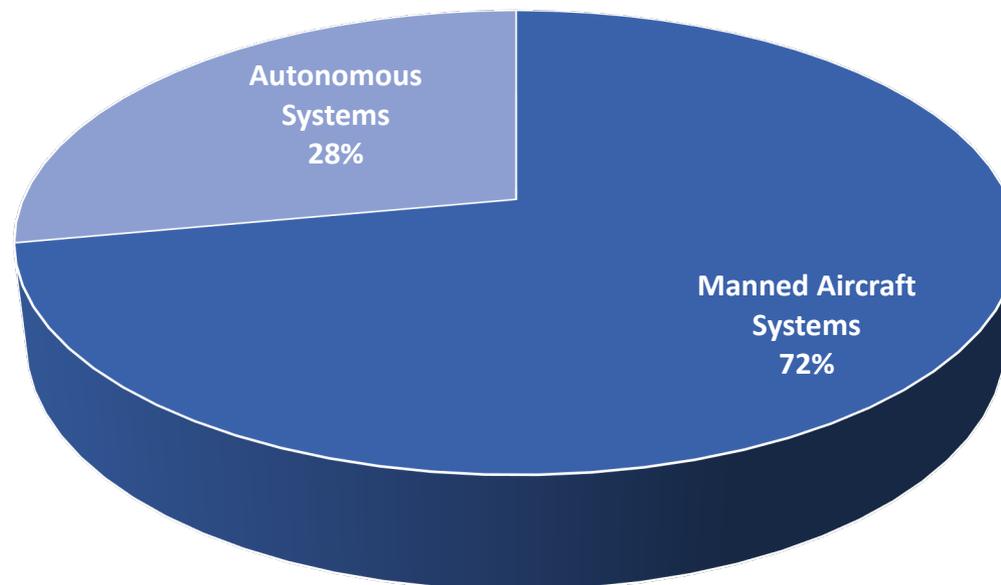


Contract Type



Revenue Distributions

2020 Sales Mix



Defense Systems



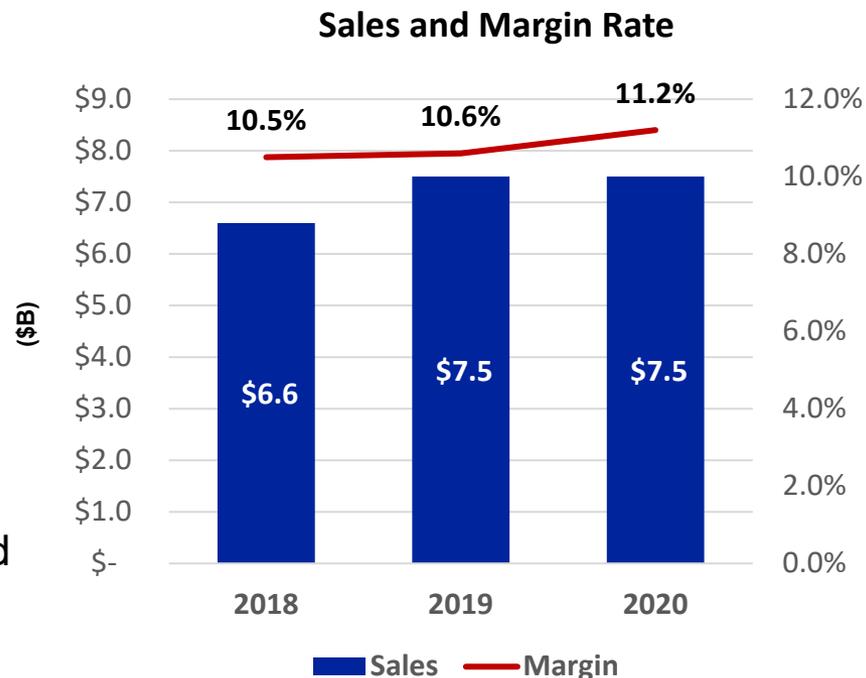
Defense Systems

Performance

- Agile and efficient operations
- Diverse program portfolio
- Strong globally-positioned talent
- Cost focus to increase competitiveness
- Solid cash generation

Strategy

- Broad spectrum provider of critical warfighting capabilities and services including advanced missiles, weapons, command and control, and battle management.
- Focused on all domain solutions from development through sustainment / modernization, delivering tip to tail mission readiness.



Capabilities & Key Programs

Battle Management & Missile Systems

- Designs, develops and integrates multi-domain C2 and weapons systems
- Key programs:
 - Integrated Air and Missile Defense Battle Command System (IBCS) for the U.S. Army and Poland
 - Counter Rocket, Artillery and Mortar (C-RAM)
 - Mission Command Training Program (MCTP)
 - Advanced Anti-Radiation Guided Missile (AARGM)
 - Advanced Anti-Radiation Guided Missile Extended Range (AARGM-ER)
 - Precision Munitions including Precision Guidance Kit (PGK)
 - Forward Area Air Defense Command and Control (FAAD C2)



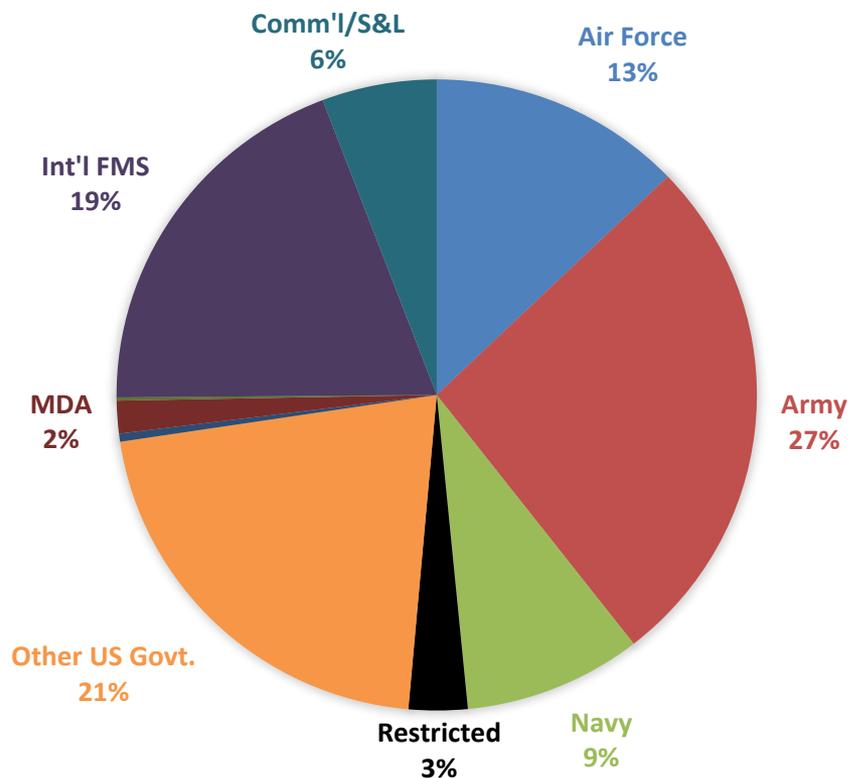
Mission Readiness

- Provides full life cycle service and support for software, weapons systems and aircraft, live virtual constructive training, and logistics support, sustainment, operations and modernization for air, sea and ground
- Key programs:
 - Battlefield Airborne Communications Node (BACN) Fleet
 - B-2 Spirit bomber
 - E-8C JSTARS surveillance aircraft PDM
 - Customs and Border Protection (CBP) P-3 PDM
 - Australia KC-30A multi-role tanker and C-27J transport
 - AAQ-24 Directional Infrared Countermeasures System
 - Unmanned Aircraft Support – RQ-4 Global Hawk and MQ-4C Triton
 - F-35 Lightning II

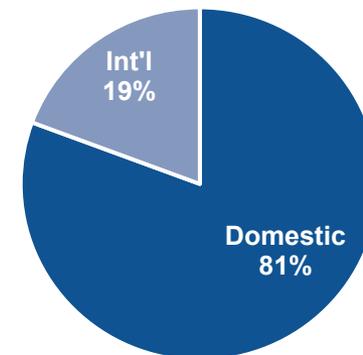


Defense Systems 2020 Sales Mix

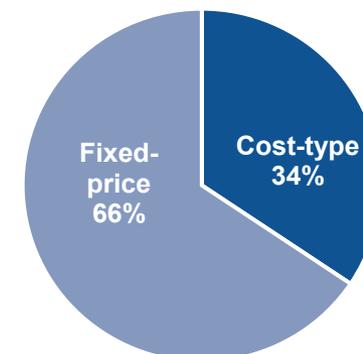
Sales by Customer



International v. Domestic

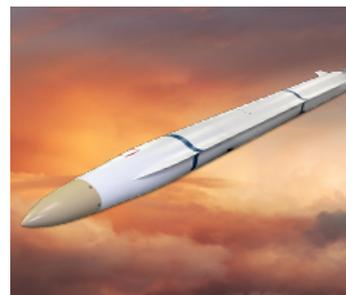
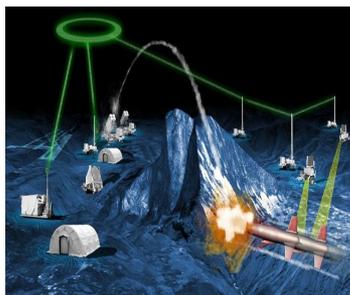
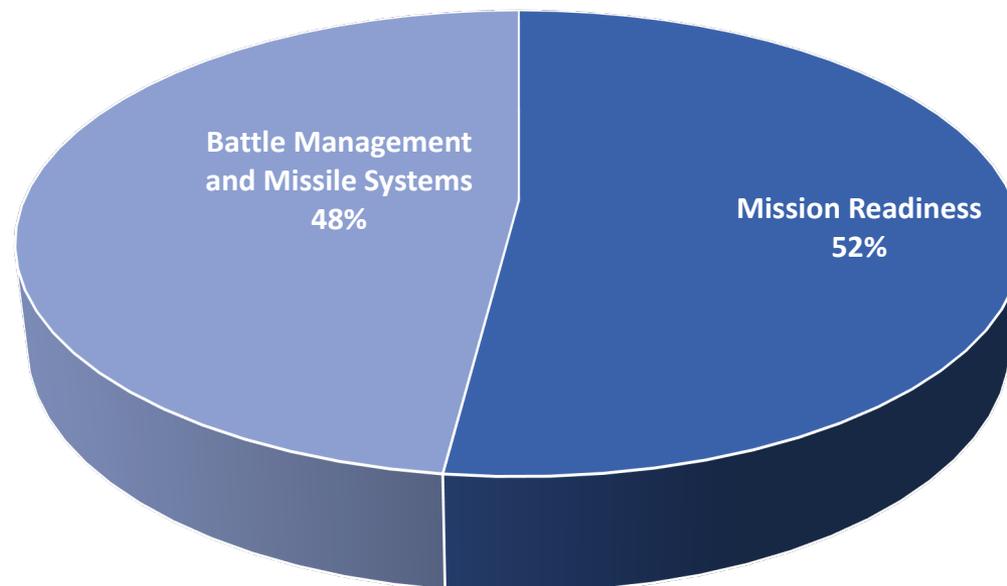


Contract Type



Revenue Distributions

2020 Sales Mix



Mission Systems



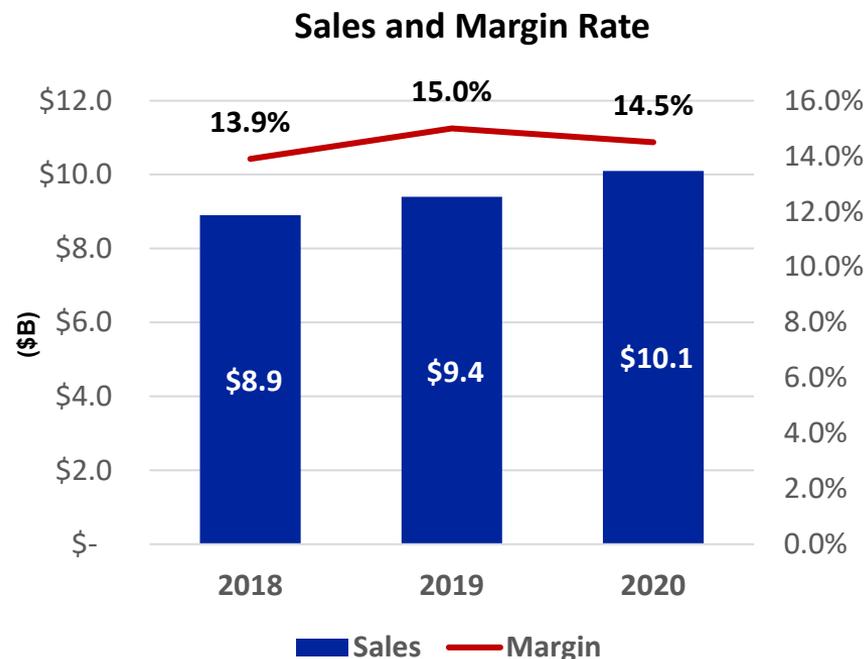
Mission Systems

Performance

- Growing revenue base
- Strong program execution
- Invest and innovate for technological superiority and affordability
- Strong margin performance and cash generation
- Diverse and engaged global workforce

Strategy

- Enable the national defense strategies of the US and its allies
- Focus on mission systems that deliver superiority in highly contested environments
- Combine hardware, software, cyber, and artificial intelligence with systems thinking to create speed, connectivity, and value for our customers
- Digitally transform the way we do business



Capabilities & Key Programs

Airborne Multifunction Sensors

- Fire control, surveillance and early warning and control radar systems; electromagnetic maneuver warfare; multi-sensor processing; and Multi-band/Wide-band/Multi-function sensors and arrays
- Key programs:
 - F-35 Fire Control Radar and Distributed Aperture System
 - F-16 APG-83 Scalable Agile Beam Radar (SABR)
 - E-7/E-2D Airborne Early Warning & Control
 - Apache Longbow
 - EMARS/VADER and Triton/MFAS Ground/Surface Surveillance Radars
 - EA-18G Growler Airborne Electronic Attack
 - P-8A Electronic Support Measures
 - Restricted Programs



Networked Information Solutions

- Integrates cross-domain connectivity, edge processing, and high-speed, cyber-secure and resilient command and control to give customers a decisive advantage over increasing near-peer threats
- Key programs:
 - F-22, F-35 Communications, Navigation and Identification (CNI); & TR3
 - Battlefield Airborne Communications Node (BACN)
 - Unified Platform
 - Joint Counter Radio-Controlled IED Electronic Warfare (JCREW)
 - Freedom Radio Product Line
 - Restricted programs



Capabilities & Key Programs

Maritime/Land Systems & Sensors

- Ground and maritime radar systems; nuclear ship propulsion and power generation systems; shipboard missile and encapsulated payload launch systems; integrated bridge systems; unmanned maritime vehicles; multi-domain warfare capability; maritime EW/IW; high-resolution undersea sensors; deep-sea packaging; and mission integration.
- Key programs:
 - Surface Electronic Warfare Improvement Program (SEWIP) Block III
 - Ground/Air Task Oriented Radar (G/ATOR)
 - Submarine power, propulsion, launch and sensing systems for Ohio, Virginia and Columbia class submarines
 - AQS-24B Mine-hunting System
 - Restricted programs



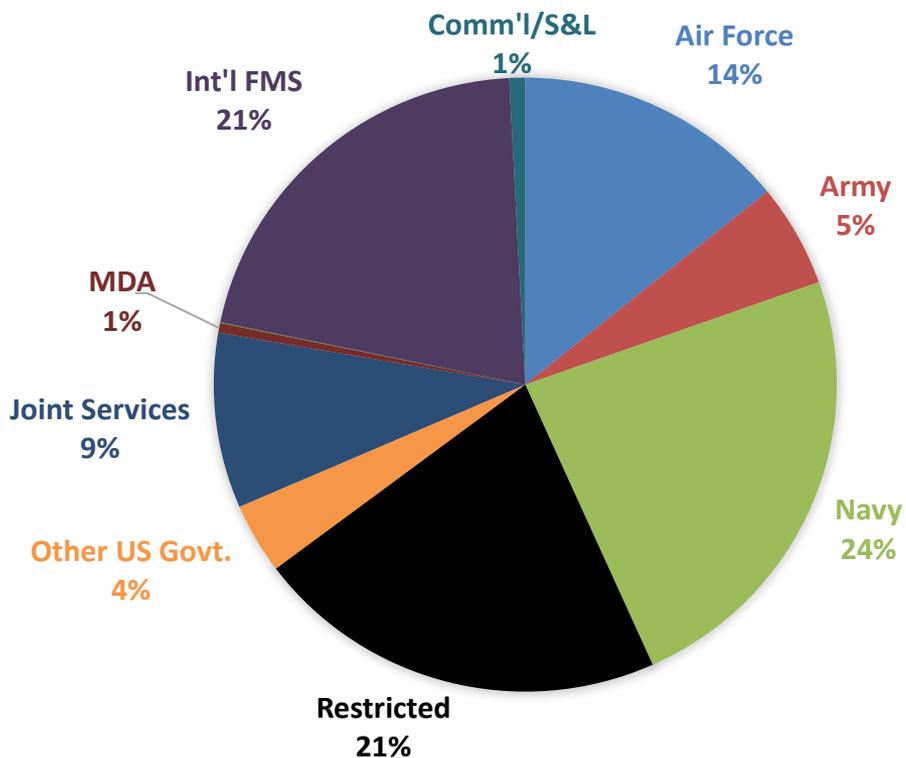
Navigation, Targeting & Survivability

- Competencies include EO/IR and RF self-protection; assured navigation and timing; targeting and surveillance systems; digitized cockpits; passive targeting; multi-spectral survivability (IF & RF); multi-function solutions and inertial navigation systems.
- Key programs:
 - LITENING Advanced Targeting Pod
 - Large Aircraft and Common Infrared Countermeasures (LAIRCM, DoN LAIRCM, CIRCM) systems
 - AC/MC-130J Radio Frequency Countermeasures (RFCM)
 - APR-39 DV(2) and EV(2) Radar Warning Receiver
 - Embedded Global Positioning System (GPS)/Inertial Navigation Systems-Modernization (EGI-M)
 - UH-60V Black Hawk integrated mission equipment package
 - Restricted programs

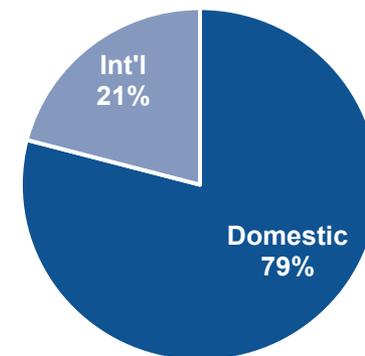


Mission Systems 2020 Sales Mix

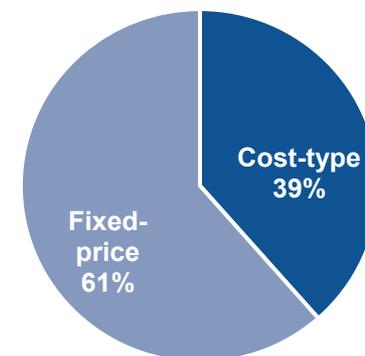
Sales by Customer



International v. Domestic

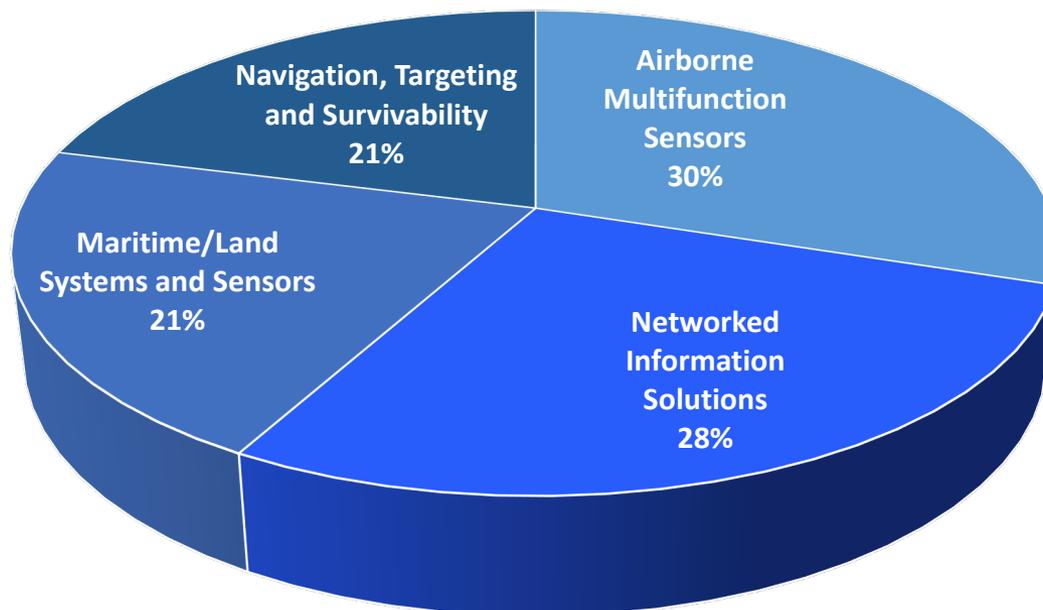


Contract Type



Revenue Distributions

2020 Sales Mix



Space Systems



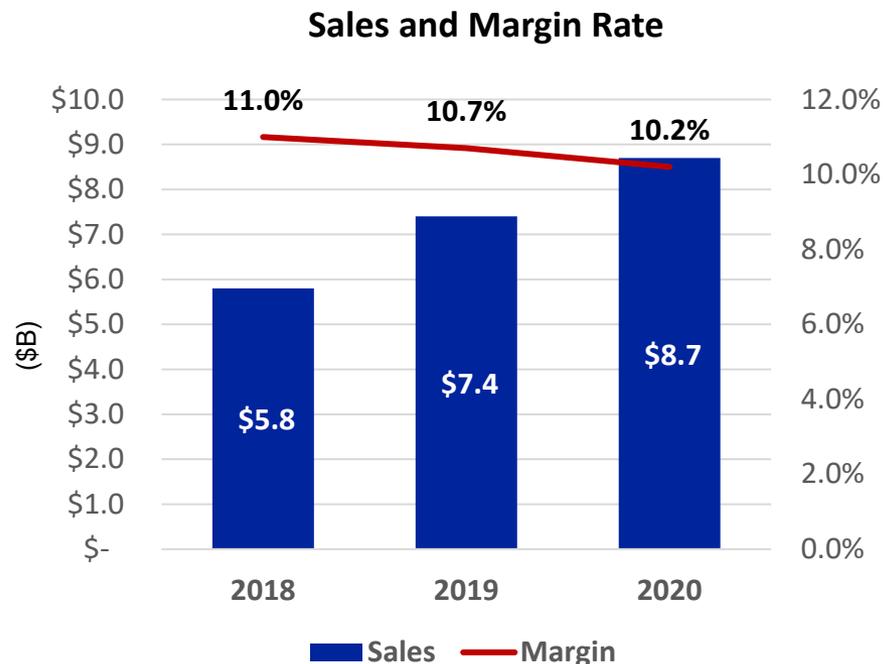
Space Systems

Performance

- Strong sector growth driven by early development programs supporting emerging government space priorities and nuclear triad recapitalization
- Large restricted footprint due to differentiated technologies supporting evolving National Security threats
- Maintain focus on program execution

Strategy

- End to end space, launch, and missile systems provider serving national security, civil & commercial customers
- Develop disruptive technologies
- Attract, develop, and retain diverse talent
- Strategic investments enabling new capabilities and cross-domain missions



Capabilities & Key Programs

Launch & Strategic Missiles

- Competencies include large strategic missile design, integration, production, and sustainment as well as the production of medium and large class rocket propulsion systems for human and cargo launch vehicles, hypersonic boosters and missile defense interceptors
- Key programs:
 - GBSD Engineering & Manufacturing Development program
 - Missile defense systems and interceptor boosters for Ground-based Midcourse Defense (GMD) system
 - Antares rocket for Commercial Resupply Services (CRS)
 - Solid rocket motors for NASA's Space Launch System (SLS) heavy lift vehicle
 - Solid rocket motors for U.S. Navy's Trident II Fleet Ballistic Missile program
 - Intercontinental Ballistic Missile (ICBM) Ground Subsystem Support Contract (GSSC)

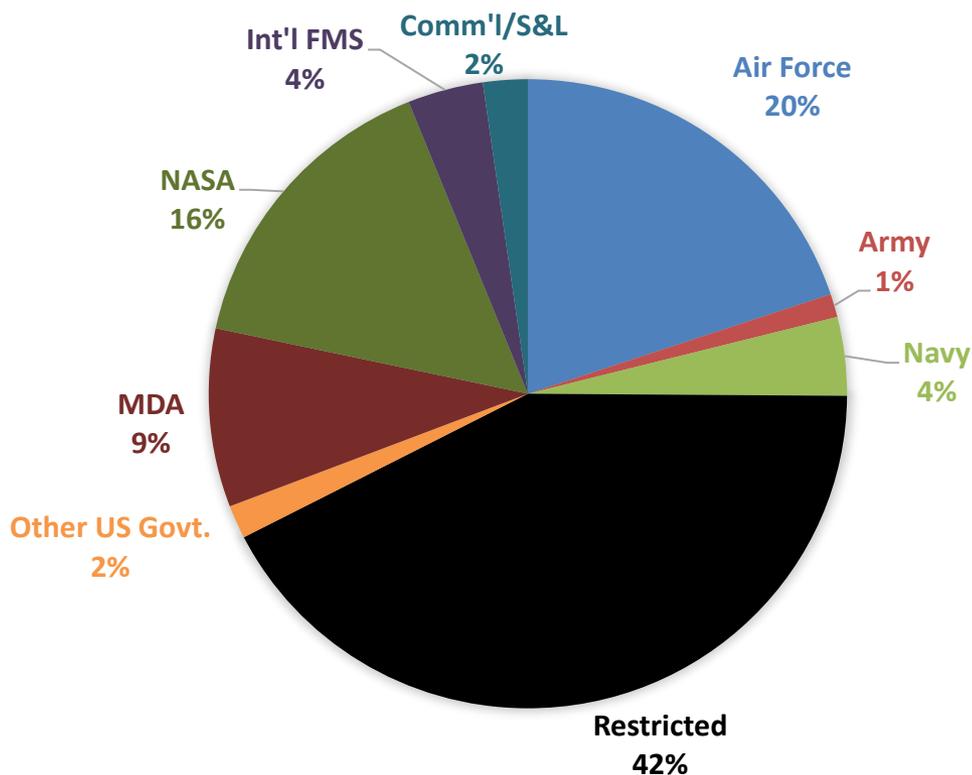
Space

- Designs, develops, manufactures and integrates spacecraft systems, subsystems, sensors, payloads and ground systems to deliver mission capability to national security, science and environmental, communications, on-orbit servicing, and human-rated space systems for earth orbit and deep-space exploration missions.
- Key programs:
 - Restricted
 - Cygnus spacecraft used in CRS contracts with NASA
 - Advanced Extremely High Frequency (AEHF) and Enhanced Polar System (EPS) payloads
 - Next-Generation Overhead Persistent Infrared Program (OPIR) satellites and payloads
 - James Webb Space Telescope (JWST)

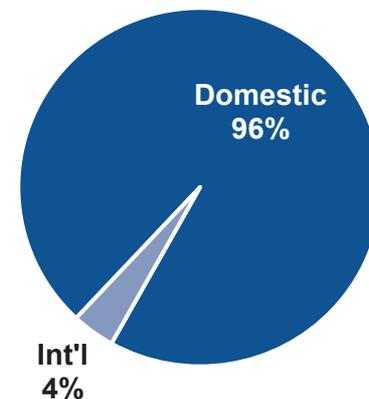


Space Systems 2020 Sales Mix

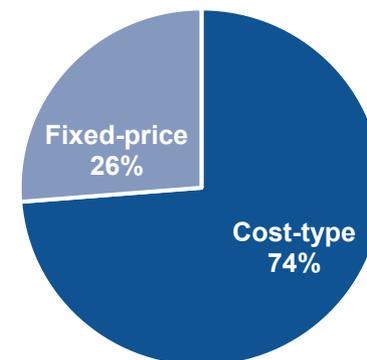
Sales by Customer



International v. Domestic

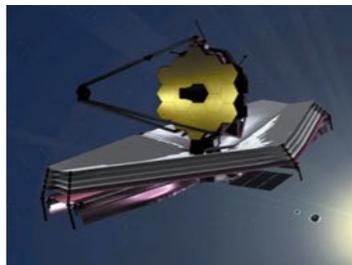
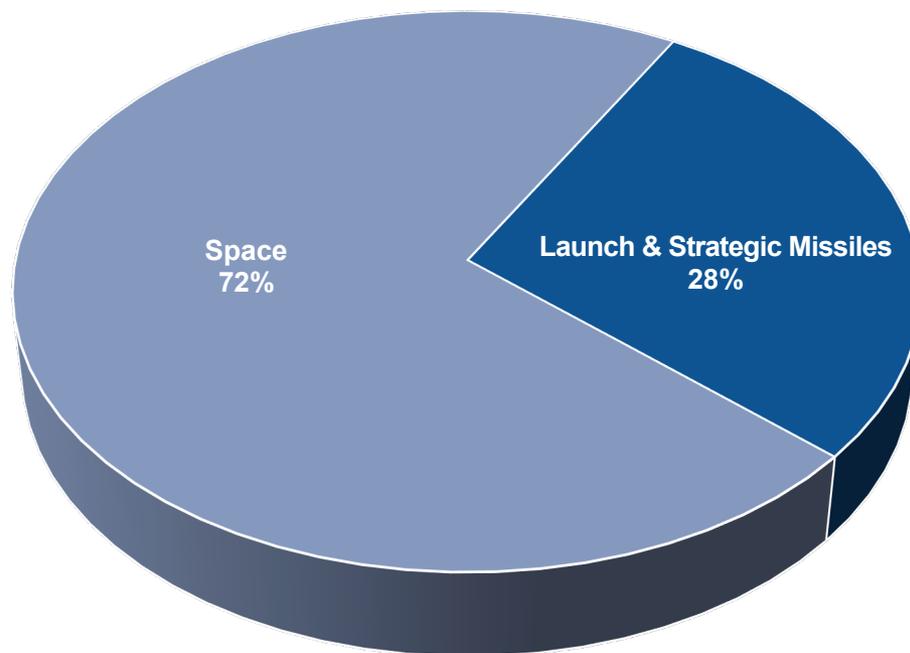


Contract Type



Revenue Distributions

2020 Sales Mix



NOC 2021 Guidance



2021 Sector Guidance⁽¹⁾

	As of 4/29/2021	As of 7/29/2021
Aeronautics Systems		
Sales \$B	Mid to High 11	\$11.5B to \$11.7B
OM Rate	Low 10%	10.1% to 10.3%
Defense Systems		
Sales \$B	Mid to High 5	\$5.75B to \$5.95B
OM Rate	Low 11%	11.3% to 11.5%
Mission Systems		
Sales \$B	~10	\$10.1B to \$10.3B
OM Rate	~15%	15.2% to 15.4%
Space Systems		
Sales \$B	~10	\$10.3B to \$10.5B
OM Rate	~10%	10.2% to 10.4%
Eliminations		
Sales \$B		(\$2.0B to \$2.1B)
OM Rate		12.7% to 12.9%

1. Financial guidance, as well as outlook, trends, expectations and other forward looking statements provided by the company for 2021 and beyond, reflect the company's judgment based on the information available to the company as of July 29, 2021. The company's 2021 financial guidance and outlook beyond 2021 reflect what the company currently anticipates will be the impacts on the company from the global COVID-19 pandemic in 2021, based on what the company understands as of July 29, 2021 and what the company has experienced as of July 29, 2021. However, the company cannot predict how the pandemic will evolve or what impact it will continue to have, and there can be no assurance that the company's underlying assumptions are correct. As discussed more fully in the company's Form 10-K, and among other factors, disruptions to the company's operations (or those of its customers or supply chain), additional costs and liabilities, disruptions in the market, and impacts on programs or payments relating to the global COVID-19 pandemic, as of July 29, 2021 and as it may evolve, can be expected to affect the company's ability to achieve guidance or meet expectations. In addition, the government budget, appropriations and procurement priorities and processes can impact our customers, programs and financial results. These priorities and processes, including the timing of appropriations and the occurrence of an extended continuing resolution and/or prolonged government shutdown, as well as a breach of the debt ceiling, extraordinary measures taken in connection with a breach, or changes in support for our programs or in federal corporate tax rates, can impact the company's ability to achieve guidance or meet expectations. Effective Jan 30, 2021, Northrop Grumman completed the divestiture of its IT services business for approximately \$3.4 billion in cash. The guidance above is updated for operations and continues to reflect the divestiture.

2021 Guidance⁽¹⁾

\$ in millions, except per share amounts	As of 4/29/2021		As of 7/29/2021	
Sales	35,300	— 35,700	35,800	— 36,200
Segment operating margin % ⁽²⁾	11.5	— 11.7	11.6	— 11.8
Total Net FAS/CAS pension adjustment ⁽³⁾	~1,540		~1,540	
Unallocated corporate expense / (income)				
Intangible asset amortization and PP&E step-up depreciation	~260		~260	
Divestiture related ⁽⁴⁾	~(1,790)		~(1,790)	
Other items	~220		~190	
Operating margin % ⁽⁵⁾	15.4	— 15.6	15.5	— 15.7
Interest expense	~560		~560	
Effective tax rate %	~22.0		~22.5	
Weighted average diluted shares outstanding	~161		~161	
MTM-adjusted EPS ⁽²⁾	30.90	— 31.40	31.30	— 31.70
Adjusted free cash flow ⁽²⁾	~2,200	— ~2,500	~2,200	— ~2,500
Transaction-adjusted EPS ⁽²⁾	24.00	— 24.50	24.40	— 24.80
Transaction-adjusted free cash flow ⁽²⁾	~3,000	— ~3,300	~3,000	— ~3,300

1. Financial guidance, as well as outlook, trends, expectations and other forward looking statements provided by the company for 2021 and beyond, reflect the company's judgment based on the information available to the company as of July 29, 2021. The company's 2021 financial guidance and outlook beyond 2021 reflect what the company currently anticipates will be the impacts on the company from the global COVID-19 pandemic in 2021, based on what the company understands as of July 29, 2021 and what the company has experienced as of July 29, 2021. However, the company cannot predict how the pandemic will evolve or what impact it will continue to have, and there can be no assurance that the company's underlying assumptions are correct. As discussed more fully in the company's Form 10-K, and among other factors, disruptions to the company's operations (or those of its customers or supply chain), additional costs and liabilities, disruptions in the market, and impacts on programs or payments relating to the global COVID-19 pandemic, as of July 29, 2021 and as it may evolve, can be expected to affect the company's ability to achieve guidance or meet expectations. In addition, the government budget, appropriations and procurement priorities and processes can impact our customers, programs and financial results. These priorities and processes, including the timing of appropriations and the occurrence of an extended continuing resolution and/or prolonged government shutdown, as well as a breach of the debt ceiling, extraordinary measures taken in connection with a breach, or changes in support for our programs or in federal corporate tax rates, can impact the company's ability to achieve guidance or meet expectations. Effective Jan 30, 2021, Northrop Grumman completed the divestiture of its IT services business for approximately \$3.4 billion in cash. The guidance above is updated for operations and continues to reflect the divestiture.

2. Non-GAAP metric. See Appendix.

3. Total Net FAS/CAS pension adjustment is presented as a single amount consistent with our historical presentation, and includes \$485 million of expected CAS pension cost and \$1,055 million of expected FAS pension benefit. \$415 million of FAS (service-related) pension cost is reflected in operating income and \$1,470 million of FAS (non-service) pension benefit is reflected below operating income. CAS pension cost continues to be recorded in operating income.

4. Divestiture related includes impacts related to the company's IT services divestiture, including (as applicable) the gain on sale of the business, associated federal and state income tax expense, transaction costs, the make-whole premium for early debt redemption and related tax impacts.

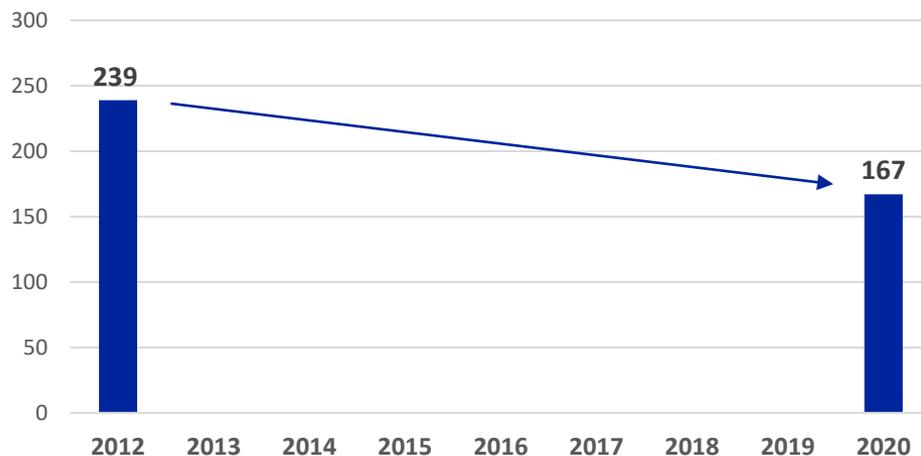
5. Divestiture related impact on operating margin was ~5%.

IT Services Divestiture Effective 1/30/21

- Total proceeds of ~\$3.4B, net benefit of ~\$1.1B after taxes and fees
- Net proceeds plus existing cash:
 - > \$3B in share buybacks in 2021, subject to market conditions, including \$2B ASR announced 2/1 and completed in Q2 2021
 - Repaid \$700M March 2021 debt maturity
 - Redeemed \$1.5B debt due October 2022
- Transaction-adjusted guidance provided to reflect impacts related to IT Services Divestiture

Consistent Return of Cash to Shareholders

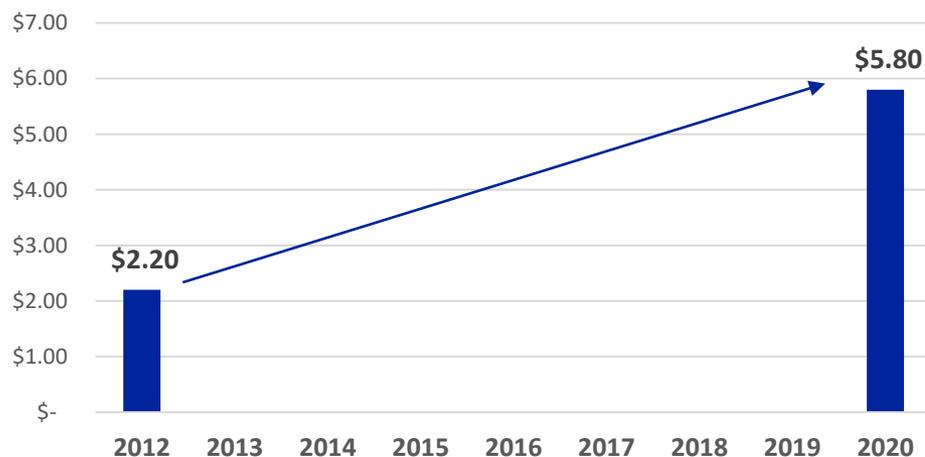
Shares Outstanding



Share Repurchases

- ~54% reduction in shares outstanding between 2003 and 2020 at average price of \$87.04 per share
 - ~30% reduction in shares outstanding since 2012
- \$1 billion ASR announced in Q4 2018 completed in Jan. 2019, retiring 3.84 million shares at average price of ~\$260
- \$2B ASR announced in Q1 2021 and completed in Q2 2021, retiring 6.1 million shares at average price of ~\$327

Annualized Dividend



Dividends

- 18 consecutive annual dividend increases
- 10% Dividend increase in May 2019
- 10% Dividend increase in May 2020
- 8% Dividend increase in May 2021

Industry Leader in ESG

Environmental

- Committed to addressing today's environmental and climate challenges
- Reduced our greenhouse gas (GHG) emissions by 43.7% from 2010
- Decreased our water use by 20.0% from 2014
- Achieved a solid waste diversion rate from landfills of 69.2%

Social

- Strong corporate culture and ethics program
- Robust diversity, equity, and inclusion (DEI) strategy & priorities
- Human rights policy and working group led by our general counsel
- Political contributions policy disclosed on our website

Governance

- Board of Directors (BoD) is 92% independent
- BoD is 31% female and 23% people of color
- Annual incentive compensation includes non-financial metrics such as quality, engagement & inclusion, diversity, sustainability, and safety

References: [2020 Sustainability Report](#)
[2021 Proxy Statement](#)

2020 ESG Report Card

- Dow Jones Sustainability North America Index for the fifth consecutive year; DJSI Sustainability Yearbook.
- AA rating from MSCI for ESG management and performance
- Perfect score CPA-Zicklin Index of Corporate Political Disclosure and Accountability
- Corporate Responsibility Magazine's 100 Best Corporate Citizens
- DiversityInc's Top 50 Companies for Diversity and top company for veterans, people with disabilities, employee resource groups, executive diversity councils, philanthropy, and ESG.
- Equileap's Top 25 for gender equality
- Highest ranking for the fifth year in a row on the Disability Equality Index; named a "Best Place to Work For Disability Inclusion"
- Perfect score on the Corporate Equality Index, designated a "Best Place to Work for LGBTQ Equality"
- Top 10 industry supporter for engineering programs at HBCU's - Career Communications Group, Inc
- Leadership score of A- in CDP's 2020 climate change program for the 10th consecutive year
- Pledge to America's Workers Presidential Award, highlighting workforce development
- Best of the Best Top Supplier Diversity Programs by U.S. Veterans magazine



Appendix

Non-GAAP Definitions

Non-GAAP Financial Measures Disclosure: This presentation contains non-GAAP (accounting principles generally accepted in the United States of America) financial measures, as defined by SEC Regulation G and indicated by a footnote in the text of the presentation. Definitions for the non-GAAP measures are provided below and reconciliations are provided in this Appendix, except that reconciliations of forward-looking non-GAAP measures are not provided because the company is unable to provide such reconciliations without unreasonable effort due to the uncertainty and inherent difficulty of predicting the occurrence and financial impact of certain items, including, but not limited to, the impact of any mark-to-market pension adjustment. Other companies may define these measures differently or may utilize different non-GAAP measures.

MTM-adjusted diluted EPS: Diluted earnings per share excluding the per share impact of MTM expense and related tax impacts. This measure may be useful to investors and other users of our financial statements as a supplemental measure in evaluating the company's underlying financial performance per share by presenting the company's diluted earnings per share results before the non-operational impact of pension and OPB actuarial gains and losses.

Transaction-adjusted EPS: Diluted earnings per share excluding the per share impacts related to the company's IT services divestiture, including the gain on sale of the business, associated federal and state income tax expenses, transaction costs, and the make-whole premium for early debt redemption, as well as MTM expense and related tax impacts. This measure may be useful to investors and other users of our financial statements as a supplemental measure in evaluating the company's underlying financial performance per share by presenting the company's diluted earnings per share results before the non-operational impact of the IT services divestiture and pension and OPB actuarial gains and losses.

Segment operating income and segment operating margin rate: Segment operating income, as reconciled in the "Non-GAAP Reconciliations – Segment Operating Income" table within this Appendix, and segment operating margin rate (segment operating income divided by sales) reflect total earnings from our four segments, including allocated pension expense we have recognized under CAS, and excluding unallocated corporate items and FAS pension expense. These measures may be useful to investors and other users of our financial statements as supplemental measures in evaluating the financial performance and operational trends of our sectors. These measures should not be considered in isolation or as alternatives to operating results presented in accordance with GAAP.

Adjusted free cash flow: Net cash provided by or used in operating activities less capital expenditures, plus proceeds from the sale of equipment to a customer (not otherwise included in net cash provided by or used in operating activities) and the after-tax impact of discretionary pension contributions. Adjusted free cash flow includes proceeds from the sale of equipment to a customer as such proceeds were generated in a customer sales transaction. It also includes the after-tax impact of discretionary pension contributions for consistency and comparability of financial performance. This measure may not be defined and calculated by other companies in the same manner. We use adjusted free cash flow as a key factor in our planning for, and consideration of, acquisitions, the payment of dividends and stock repurchases. This non-GAAP measure may be useful to investors and other users of our financial statements as a supplemental measure of our cash performance, but should not be considered in isolation, as a measure of residual cash flow available for discretionary purposes, or as an alternative to operating cash flows presented in accordance with GAAP. Adjusted free cash flow is reconciled in the "Non-GAAP Reconciliations – Adjusted Free Cash Flow" table within this Appendix.

Non-GAAP Definitions

Transaction-adjusted free cash flow: Net cash provided by or used in operating activities less capital expenditures, plus proceeds from the sale of equipment to a customer (not otherwise included in net cash provided by or used in operating activities), the after-tax impact of discretionary pension contributions and cash paid for federal and state taxes and transaction costs associated with the IT services divestiture. Transaction-adjusted free cash flow includes proceeds from the sale of equipment to a customer as such proceeds were generated in a customer sales transaction. It also includes the after-tax impact of discretionary pension contributions and cash paid for federal and state taxes and transaction costs associated with the IT services divestiture for consistency and comparability of financial performance. This measure may not be defined and calculated by other companies in the same manner. We use transaction-adjusted free cash flow as a key factor in our planning for, and consideration of, acquisitions, the payment of dividends and stock repurchases. This non-GAAP measure may be useful to investors and other users of our financial statements as a supplemental measure of our cash performance, but should not be considered in isolation, as a measure of residual cash flow available for discretionary purposes, or as an alternative to operating cash flows presented in accordance with GAAP.

Non-GAAP Reconciliations – Adjusted Free Cash Flow

	Three Months Ended December 31			Year Ended December 31		
	Q4 2019	Q4 2020	▲%	2019	2020	▲%
Net cash provided by operating activities	\$ 2,464	\$ 1,602	(35)%	\$ 4,297	\$ 4,305	—%
Capital expenditures	(471)	(592)	26%	(1,264)	(1,420)	12%
Proceeds from sale of equipment to a customer	—	205	NM	—	205	NM
After-tax discretionary pension contributions	95	593	524%	95	593	524%
Adjusted free cash flow	\$ 2,088	\$ 1,808	(13)%	\$ 3,128	\$ 3,683	18%

Non-GAAP Reconciliations – Segment Operating Income

	Three Months Ended December 31		Year Ended December 31	
	Q4 2019	Q4 2020	2019	2020
Sales	\$8,721	\$10,212	\$33,841	\$36,799
Segment operating income	1,052	1,141	3,978	4,188
Segment operating margin %	12.1%	11.2%	11.8%	11.4%
Reconciliation to operating income				
FAS/CAS operating adjustment	\$119	\$102	\$465	\$418
Unallocated corporate expense:				
Intangible asset amortization and PP&E step-up depreciation	(98)	(82)	(390)	(322)
MTM-related deferred state tax benefit	81	54	81	54
Other unallocated corporate expense	(18)	(63)	(165)	(273)
Unallocated corporate expense	(35)	(91)	(474)	(541)
Total operating income	\$1,136	\$1,152	\$3,969	\$4,065
Operating margin rate	13.0%	11.3%	11.7%	11.0%

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The logo symbol consists of a thick horizontal line on the right side of the word "NORTHROP", a vertical line extending downwards from the end of that horizontal line, and a shorter horizontal line at the bottom connecting the vertical line back to the right edge of the word "GRUMMAN".