

Northrop Grumman Corporation

THE VALUE OF PERFORMANCE.

NORTHROP GRUMMAN

July 2019

Forward-Looking Statements

This presentation and the information we are incorporating by reference 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, 2018 and from time to time in our other filings with the Securities and Exchange Commission (SEC). They include:

- 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 more broadly
- investigations, claims, disputes, enforcement actions and/or litigation
- 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, 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, our ability to do business, and our financial position, results of operations and/or cash flows
- 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, chemicals and components
- changes in procurement and other laws, regulations and practices applicable to our industry, findings by the U.S. government as to our compliance with such laws and regulations, and changes in our customers’ business practices globally
- increased competition within our markets and bid protests
- the ability to maintain a qualified workforce
- our ability to meet performance obligations under our contracts, including obligations that 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
- 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, postretirement and health and welfare plans
- our ability successfully to integrate the Orbital ATK business and realize fully the anticipated benefits of the acquisition, without adverse consequences
- our ability to exploit 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
- changes in business conditions that could impact business investments and/or recorded goodwill or the value of other long-lived assets
- unanticipated changes in our tax provisions or exposure to additional tax liabilities, including qualification of the Alliant Techsystems Inc. spin-off of Vista Outdoor Inc. as a tax-free transaction

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. 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 also contains 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 security company
- \$30.1 billion sales in 2018
 - 85% U.S. / 15% International
- \$63 billion total backlog (6/30/19)
- ~ 85,000 employees
- Leading capabilities in:
 - Autonomous Systems
 - Cyber
 - C4ISR
 - Space
 - Strike
 - Logistics & Modernization
 - Armaments
- Well positioned for National Defense Strategy, National Security Strategy and Missile Defense Review priorities



Positioned for long-term profitable growth

2018 Highlights



- 16% sales increase
- Orbital ATK acquisition completed on 6/6/18, Innovation Systems stood up as new, fourth sector
- 12.6% operating margin rate
- 11.5% segment operating margin rate⁽¹⁾
- \$18.49 EPS; \$21.33 MTM-adjusted EPS⁽¹⁾
- \$2.1 billion for share repurchases and dividends
 - Two dividend increases totaling 20%
 - \$1.3 billion share repurchases, including \$1 billion accelerated share repurchase
- \$2.3 billion of debt retired
- \$3.8 billion cash provided by operations; \$4 billion cash provided by operations before after-tax discretionary pension contribution⁽¹⁾
- \$2.8 billion free cash flow before after-tax discretionary pension contribution⁽¹⁾

⁽¹⁾ Non-GAAP metric. See Appendix.

Operating Structure

AS



- Autonomous Systems
- Manned Aircraft
- Space

Advanced Platforms

IS



- Defense Systems
- Flight Systems
- Space Systems

Responsive, Reliable Solutions

MS



- Advanced Capabilities
- Cyber and ISR
- Sensors and Processing

Multifunction, Trusted Systems

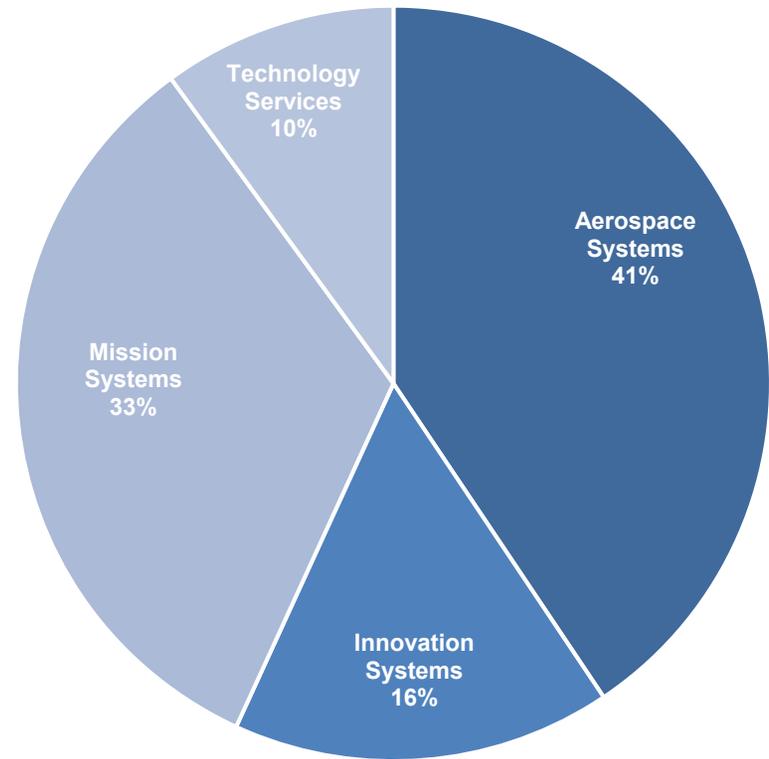
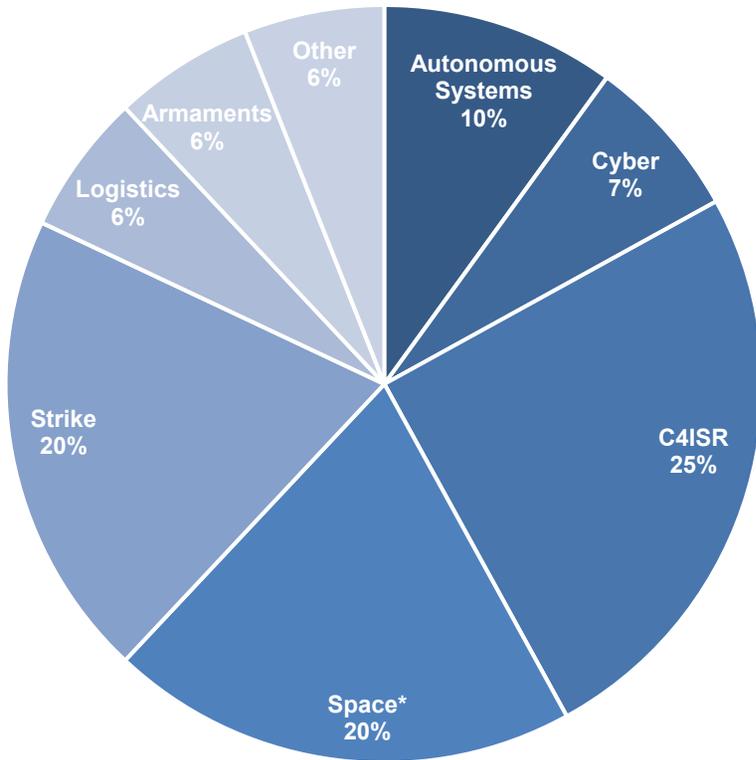
TS



- Global Logistics and Modernization
- Global Services

Differentiated Services

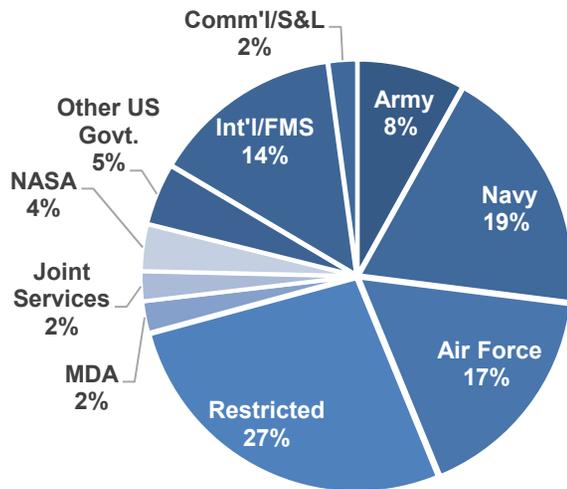
2019E Sales Mix



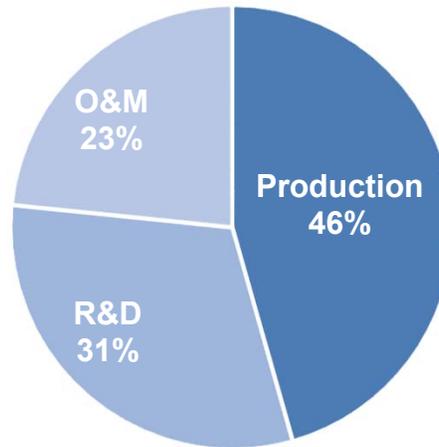
* Some C4ISR in Space

Leading technologies and capabilities aligned with customer needs

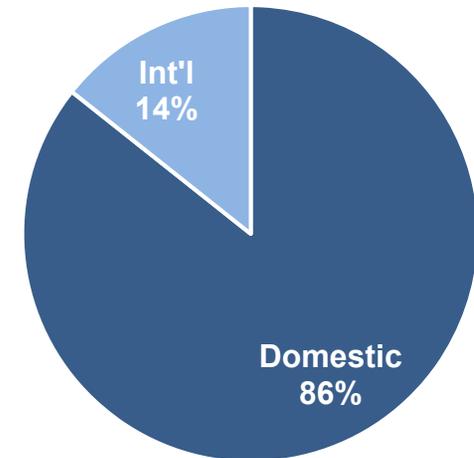
2019E Sales Mix



- Portfolio diversified across U.S. DoD services
- Differentiated technologies in all domains
- >25% restricted
- Positioned on high priority programs
- Represents ultimate end user customer where we are a subcontractor

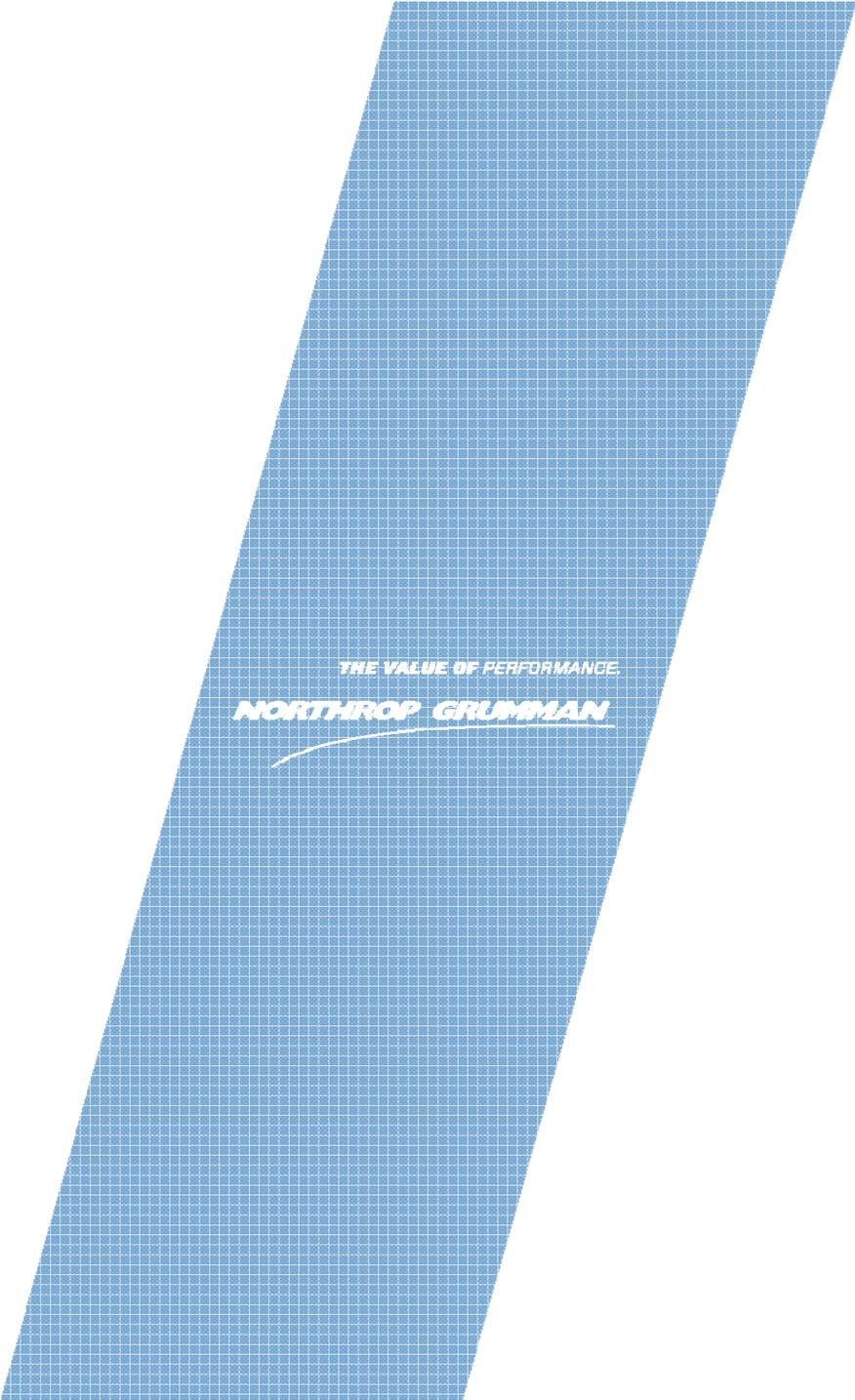


- Portfolio addresses entire product lifecycle - production to development
- Well balanced cost plus and fixed price contract mix



- Strengthening international business
- Improving export climate

Balanced Portfolio Supports Topline Growth and Solid Performance



THE VALUE OF PERFORMANCE.
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Aerospace Systems

Aerospace Systems – Value Proposition



Performance

- Strong growth
- Focus on execution
- Margin performance and cash generation
- Invest and innovate for affordability
- Diverse, engaged workforce

Strategy

- 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 smart capture management

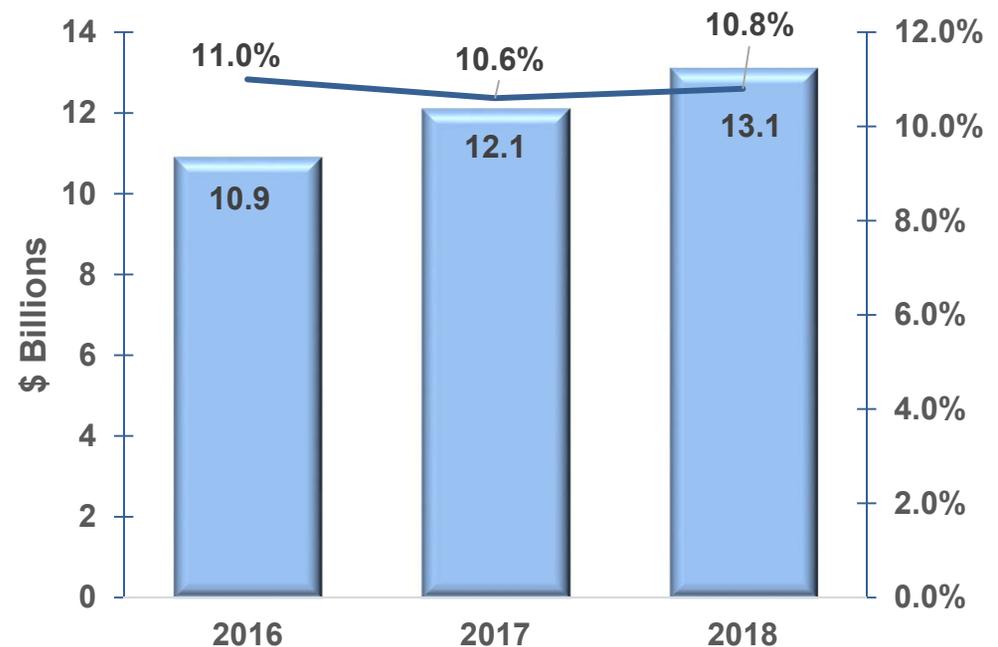


Aerospace Systems Financial Performance



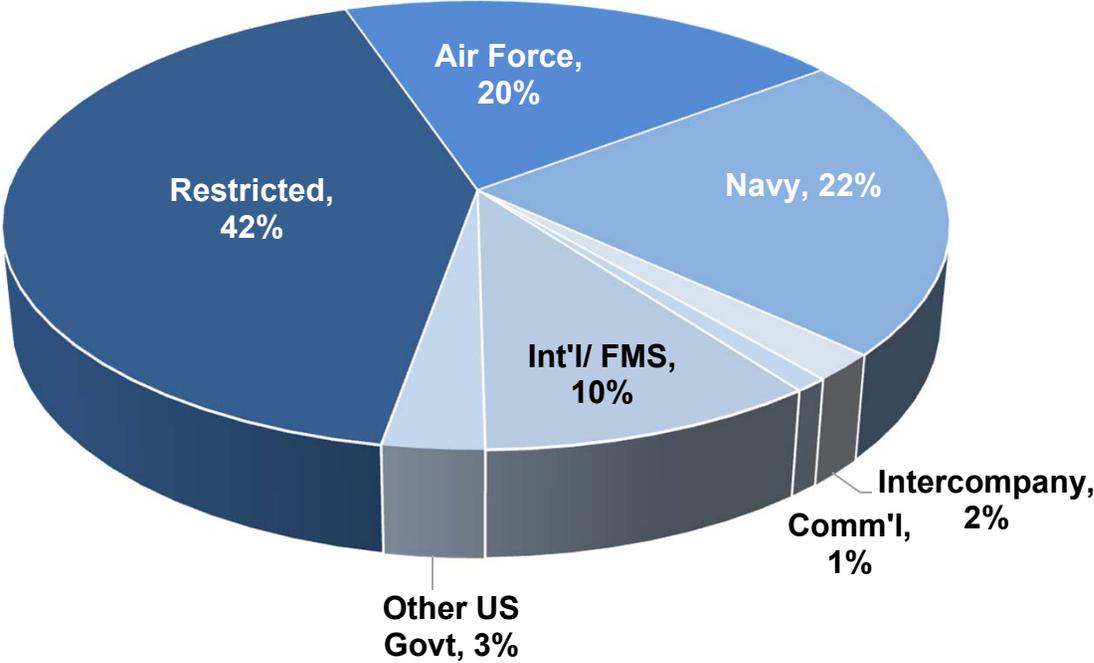
- Growing revenue base
 - New development programs
 - Production program ramp-ups
- Continued early phase development volume reflected in margin rate trend
- Strong, consistent cash from operations
- Investing for affordability and growth

Sales and Margin %

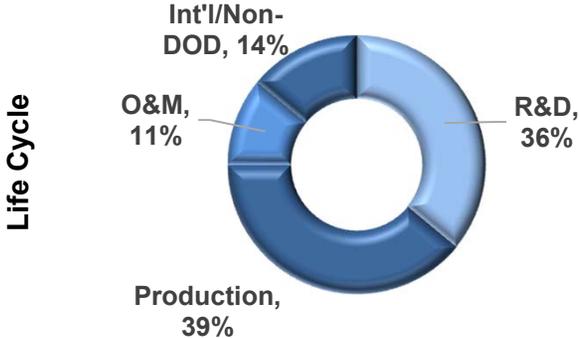
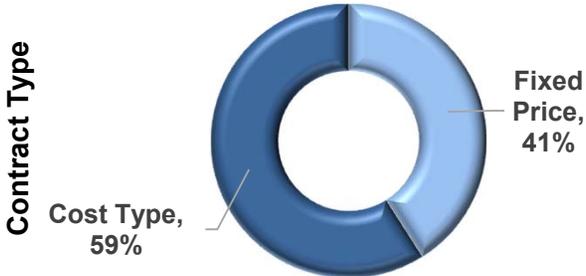
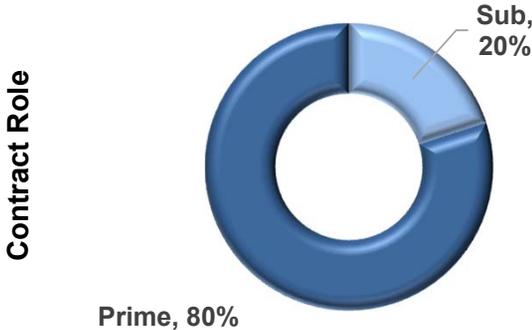


Aerospace Systems Portfolio...Who we serve

Sales By Customer*



Revenue Distributions (1)

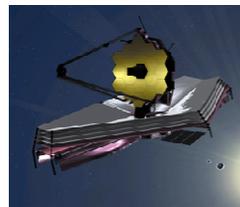
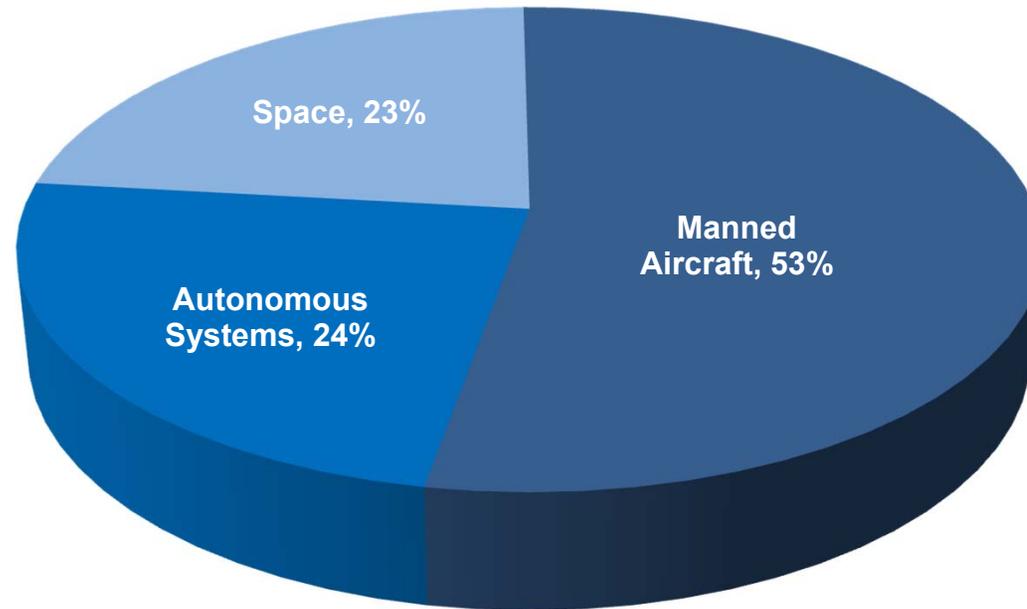


(1) Based on 2018 external customer sales.

*Represents ultimate end customer where we are a subcontractor.

All data based on 2018 sales

Aerospace Systems Portfolio...What We Do



All data based on 2018 sales

Autonomous Systems



Key Capabilities:

- Prime contractor of autonomous aircraft and ground control systems
- Differentiated by technology leadership in autonomy and networked systems



Key Programs:

- RQ-4 Global Hawk
- MQ-4C Triton
- NATO Alliance Ground Surveillance
- MQ-8B & MQ-8C Fire Scout
- Firebird



Manned Aircraft



Key Capabilities:

- Prime contractor of air C4ISR and penetrating strike platforms
- Differentiated by our unique experience base, systems engineering expertise and focused risk reduction efforts
- State-of-the-art composite manufacturing
- Air vehicle design
- Survivability

Key Programs:

- B-21 Raider
- B-2 Spirit
- F-35 Lightning II
- F/A-18 Super Hornet
- E-2D Advanced Hawkeye
- E-8C JSTARS



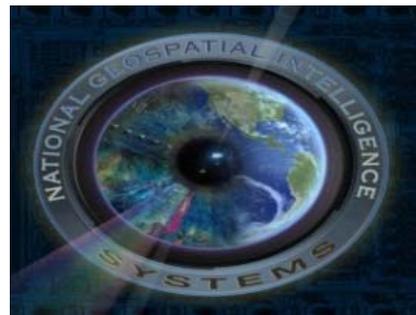
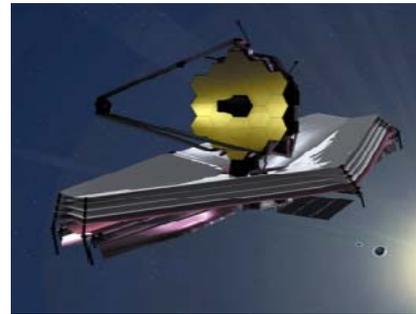
Space

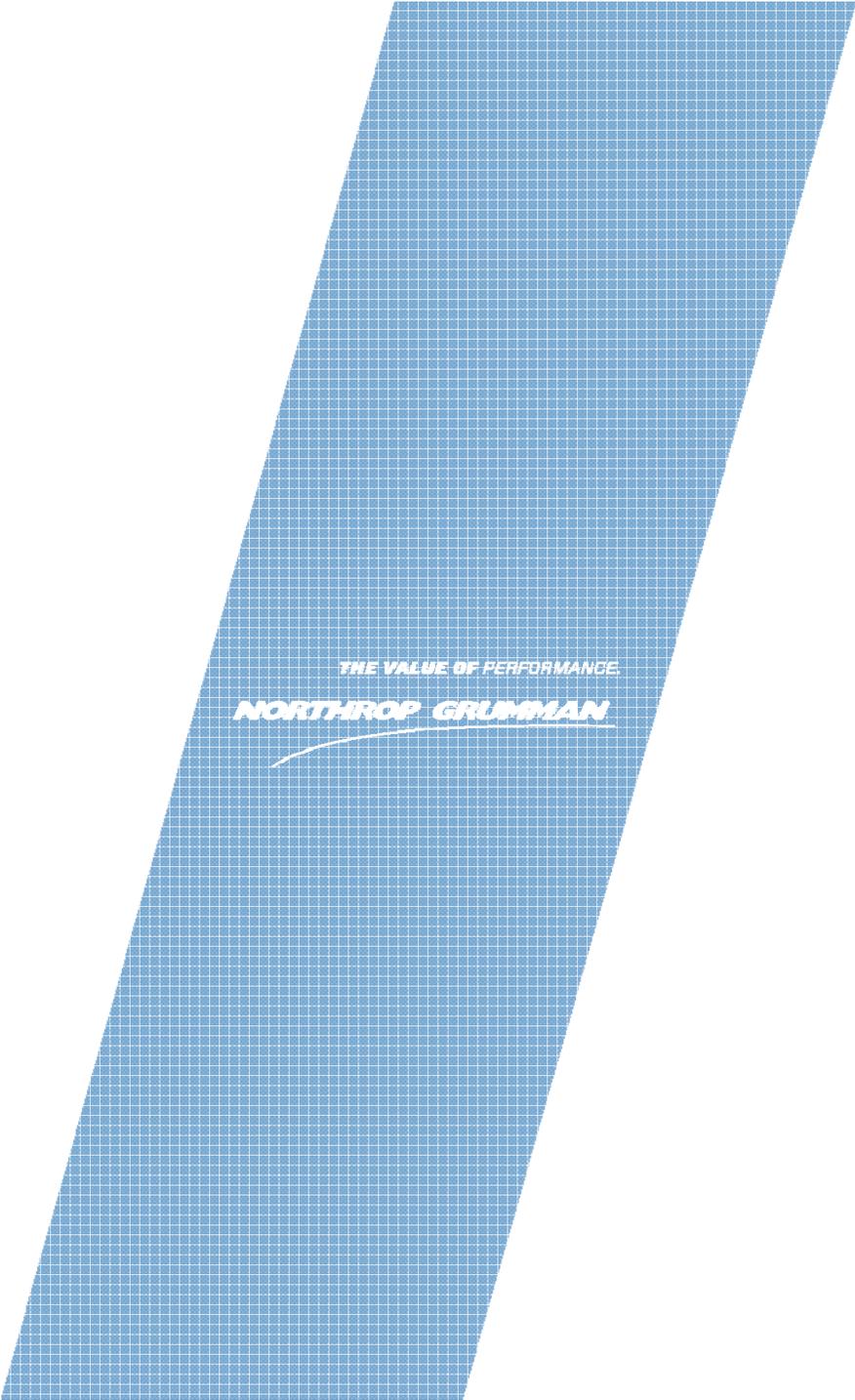
Key Capabilities:

- Space-based C4ISR and space exploration platforms
- State-of-the-art technology and systems integration capabilities
- In-depth mission understanding

Key Programs:

- Restricted
- Advanced Extremely High Frequency (AEHF) payload
- James Webb Space Telescope (JWST)
- Space-Based Infrared System (SBIRS) payload
- Ground Based Strategic Deterrent (GBSD) TMRR





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Innovation Systems

Innovation Systems – Value Proposition



Performance

- Strong growth
- Excellence in program execution
- Strong earnings performance and cash generation
- Agile and efficient operations

Strategy

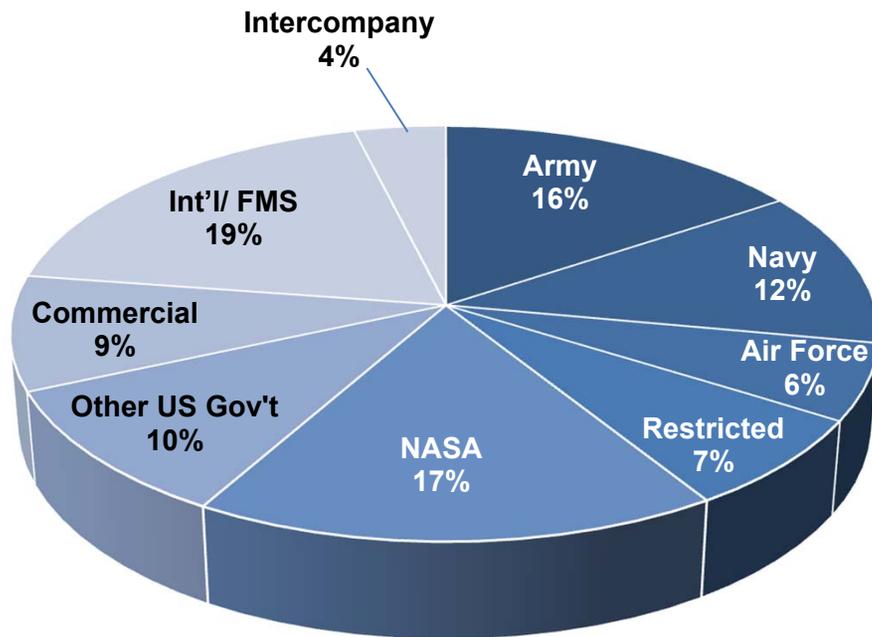
- Maintain relentless focus on execution
- Offer affordable and responsive solutions
- Attract and develop a diverse and engaged workforce
- Enhance space and missile and missile defense offerings through combined capabilities of the merged company



Innovation Systems Portfolio...Who we serve



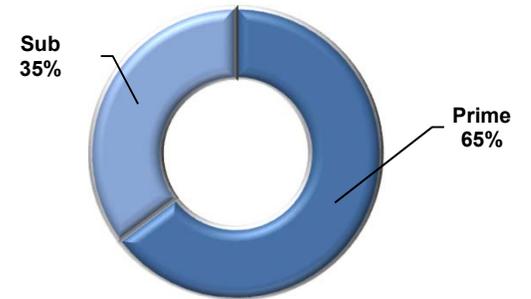
Sales By Customer*



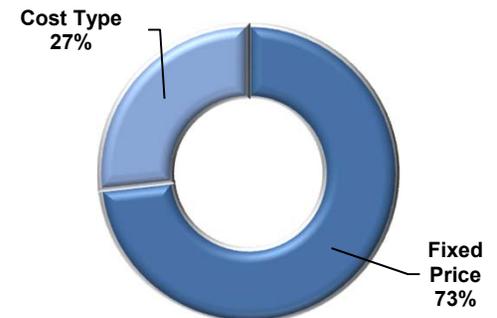
*Represents ultimate end customer where we are a subcontractor.
 All data based on 2018 partial year sales (June to December)

Revenue Distributions (1)

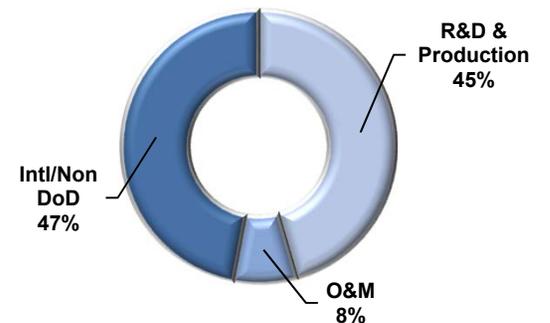
Contract Role



Contract Type

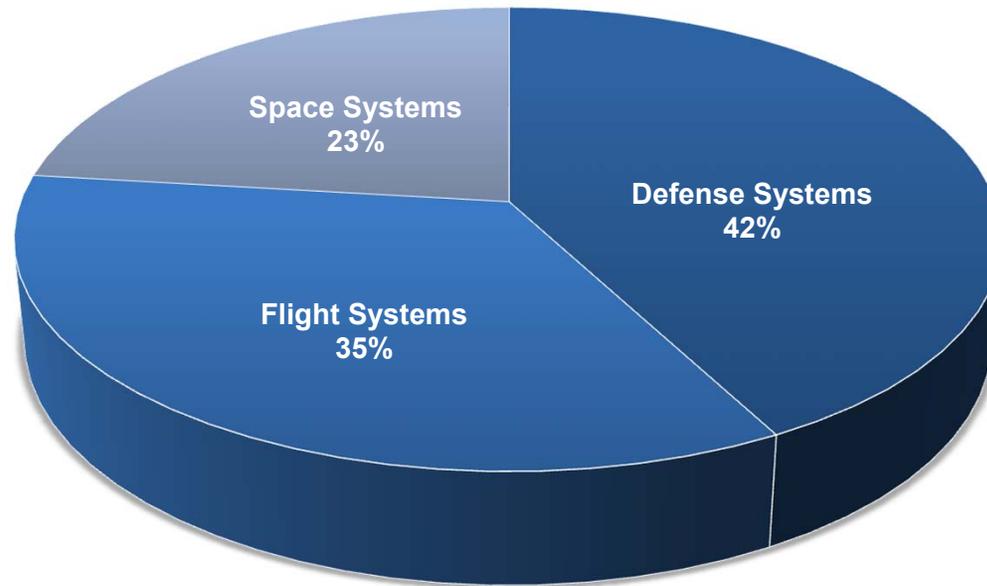


Life Cycle



(1) Based on 2018 external customer sales.

Innovation Systems Portfolio...What We Do



All data based on 2018 partial year sales (June to December)

Defense Systems



Key Capabilities:

- Advanced Tactical Missiles
- Precision Munitions
- Missile Propulsion and Warhead Systems
- High Performance Gun Systems
- Large/Medium/Small-Caliber Ammunition

Key Programs:

- Advanced Anti Radiation Guided Missile (AARGM and AARGM-ER)
- GMLRS Rocket Motor & Warhead
- Precision Guidance Kit for 155mm Artillery
- Bushmaster Cannons
- Lake City Army Ammunition Plant



Flight Systems



Key Capabilities:

- Space & Strategic Propulsion Systems
- Space Launch Vehicles
- Missile Defense Interceptors & Targets
- Aerospace Composite Structures

Key Programs:

- Trident D5 propulsion
- NASA Space Launch System Boosters
- GMD Boosters
- F-35 Lightning II Composite Structures



Space Systems



Key Capabilities:

- National Security Satellites
- Human Space Systems
- Commercial, Civil, Science Satellites
- Space Components & Engineering

Key Programs:

- Restricted
- Commercial Resupply Service (CRS) for the International Space Station
- Geosynchronous Space Situational Awareness Program (GSSAP)
- Joint Polar Satellite System (JPSS)
- Satellite Mission Extension Vehicle





Mission Systems

Mission Systems – Value Proposition



Performance

- Expanding top-line
- Strong program execution
- Invest and innovate for technological superiority and affordability
- Strong margin performance and cash generation
- Diverse and engaged global workforce



Strategy

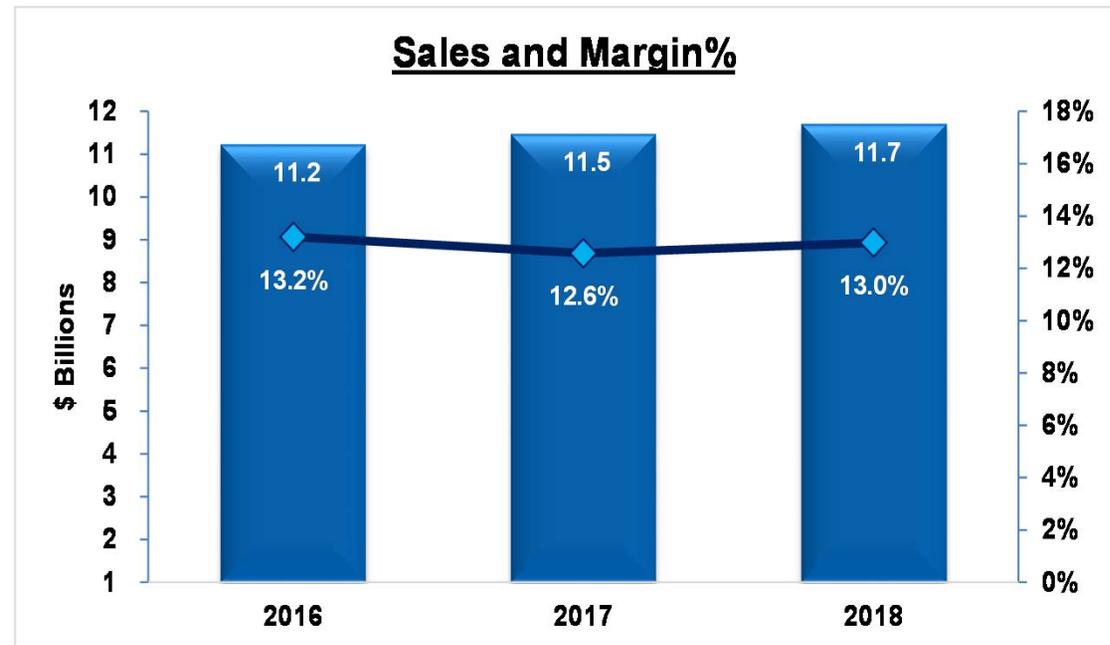
- Deliver affordable solutions that unlock speed, connectivity, and value for customers
- Expand platform positions with integrated solutions
- Maintain focus on program execution
- Grow internationally
- Attract, develop, and maintain world class workforce



Mission Systems Financial Performance



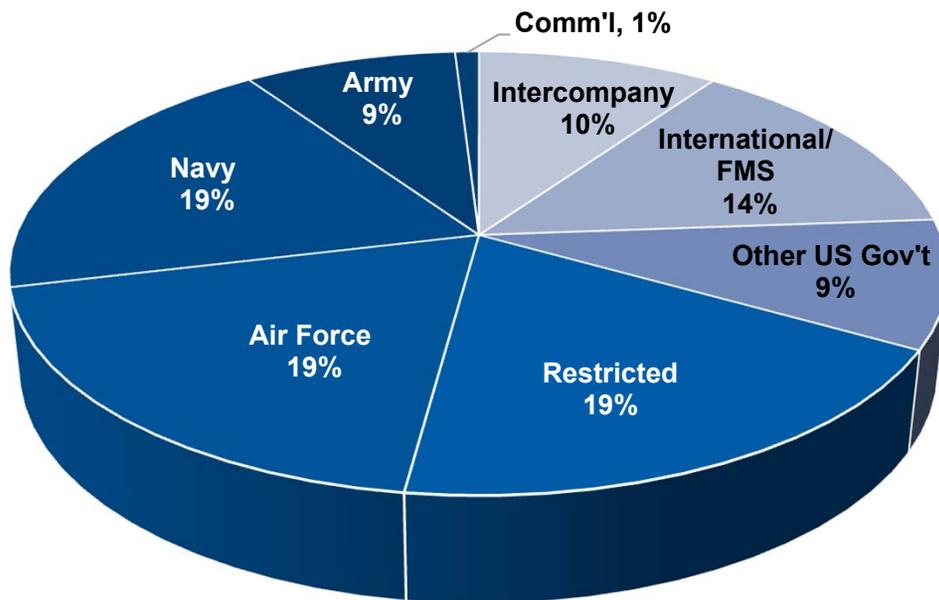
- Growing revenue
 - New development programs
 - Production program ramp-ups
- Strong margin rate performance
 - Solid program performance
 - Disciplined focus on cost and affordability
- Cash
 - Strong, consistent cash generation
 - Investing for the future



Mission Systems Portfolio...Who we serve



Sales By Customer*

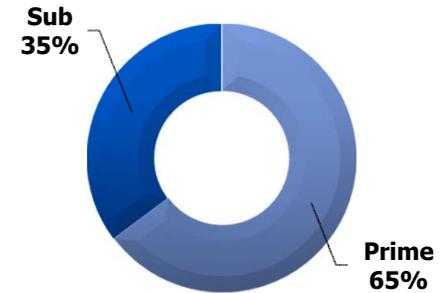


*Represents ultimate end user customer where we are a subcontractor

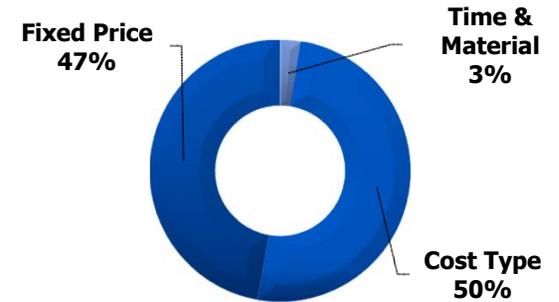
All data based on 2018 sales

Revenue Distributions ⁽¹⁾

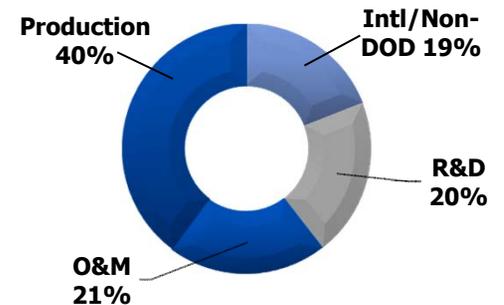
Contract Role



Contract Type

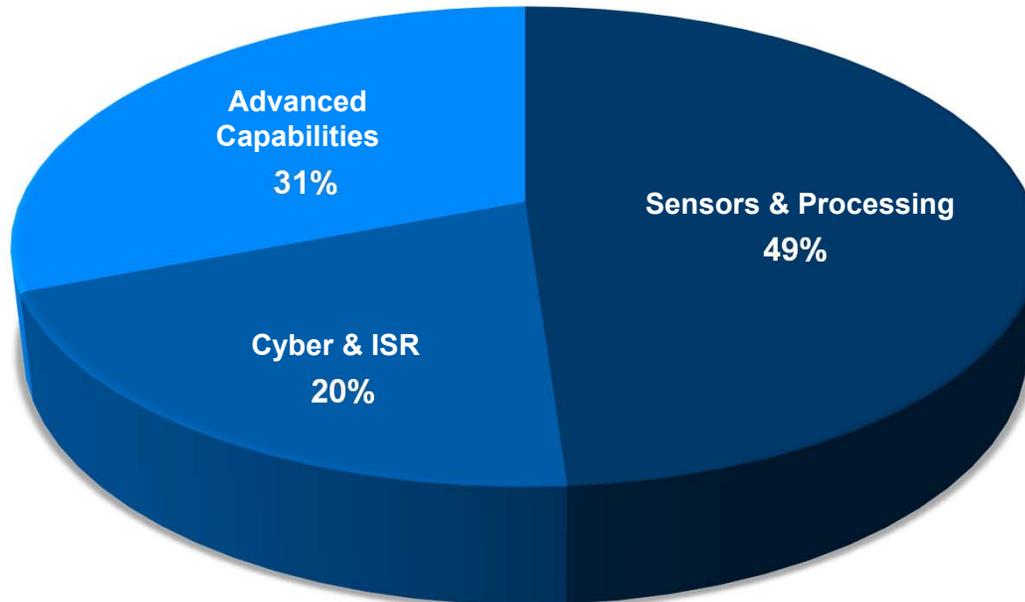


Life Cycle



⁽¹⁾ Based on 2018 external customer sales.

Mission Systems Portfolio...What we do



All data based on 2018 sales

Advanced Capabilities



Key Capabilities:

- Advanced technologies
- Missile Defense command and control
- Maritime surveillance & sensors
- Shipborne electronic warfare systems
- Navigation and positioning systems
- International footprint

Key Programs:

- Integrated Air & Missile Defense Battle Command System (IBCS)
- Ground-based Midcourse Defense (GMD) system
- Surface Electronic Warfare Improvement Program
- Columbia, Trident and Virginia-Class launch & propulsion systems
- Restricted



Cyber and ISR

Key Capabilities:

- Large scale cyber solutions
- Space-based payload and exploitation systems
- ISR data processing systems
- Data science and data fusion

Key Programs:

- Restricted payload, exploitation and cyber programs
- United States Computer Emergency Readiness Team (US-CERT)
- USCYBERCOM Unified Platform
- Enterprise Application Managed Services (EAMS) program
- Enhanced Polar System Control and Planning Segment (EPS CAPS)



Sensors and Processing



Key Capabilities:

- Leading provider of ground and air radar and integrated avionics solutions
- Aircraft self-protection & laser targeting solutions
- Airborne communications solutions
- Electronic warfare
- Significant restricted business

Key Programs:

- F-16, F-22, and F-35 AESA fire control radar family
- UH-60V integrated avionics system
- Ground/Air Task Oriented Radar (G/ATOR)
- Payloads for unmanned platforms
- Infrared countermeasure systems
- Battlefield Airborne Communications Node (BACN)
- EA-18G electronic attack system
- Airborne early warning & control radar





Technology Services

Technology Services – Value Proposition



Performance

- Strong program execution
- Sustained margin performance
- Strong cash generation
- Invest and innovate for differentiation
- Diverse and engaged global workforce

Strategy

- Capture Northrop Grumman product life cycle revenue stream
- Pursue global sustainment, modernization & upgrade opportunities
- Focus on differentiated mission services for military and federal civil customers

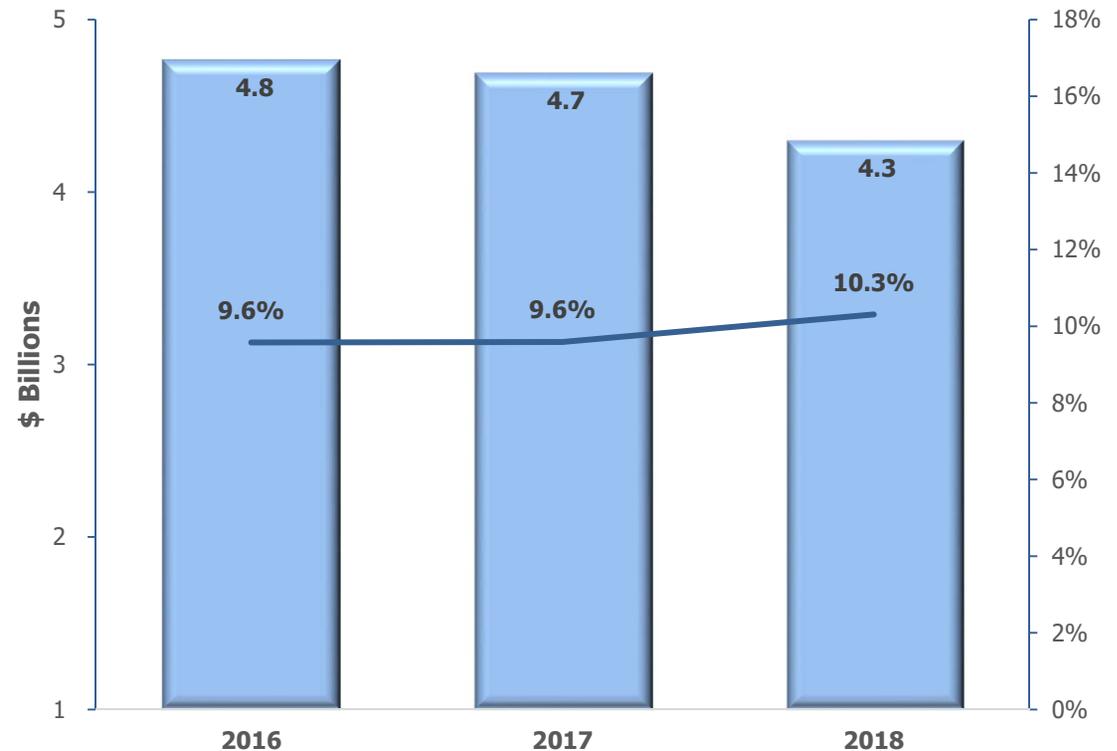


Technology Services Financial Performance



- Revenue impacted by selective portfolio shaping efforts
- Strong margins resulting from
 - Solid program performance & differentiated services
 - Disciplined focus on cost, risk and affordability
- Strong, consistent cash generation
- Low capital requirements
- High return on assets

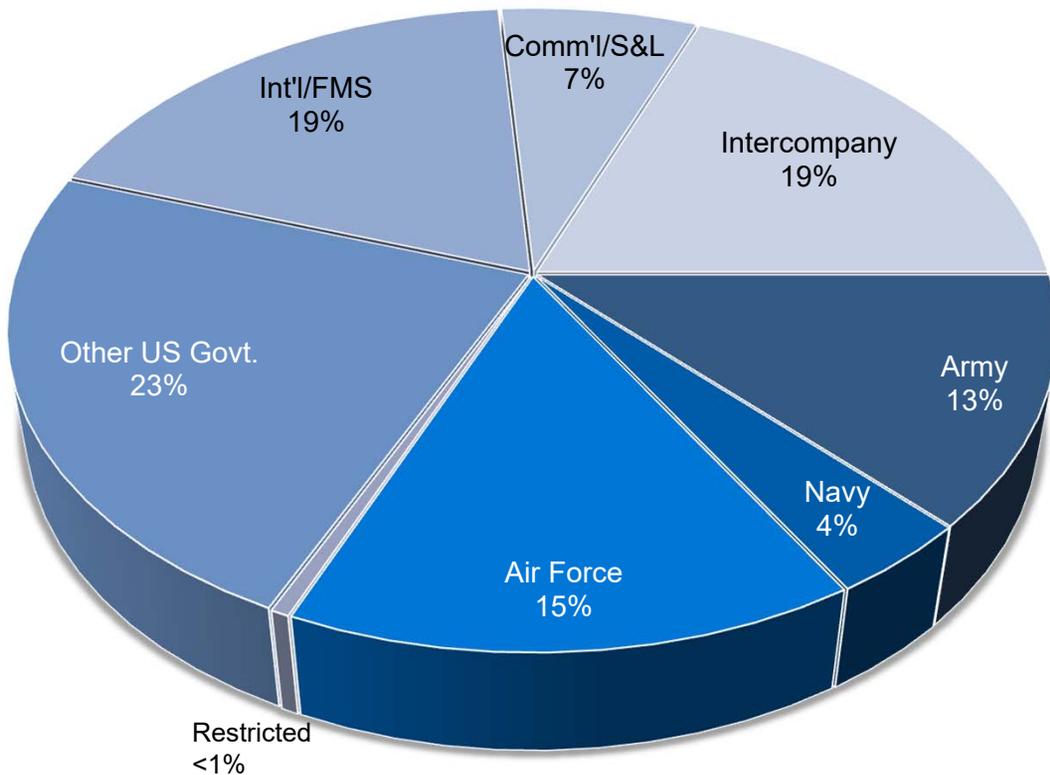
Sales and Margin %



Technology Services Portfolio...Who we serve

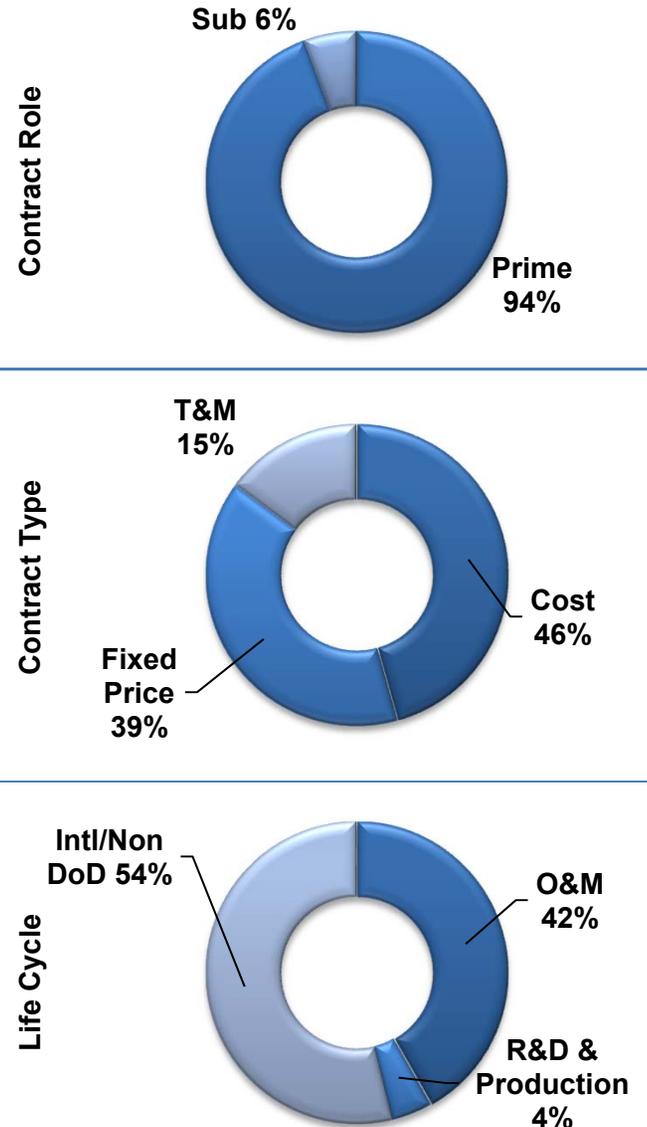


Sales By Customer*



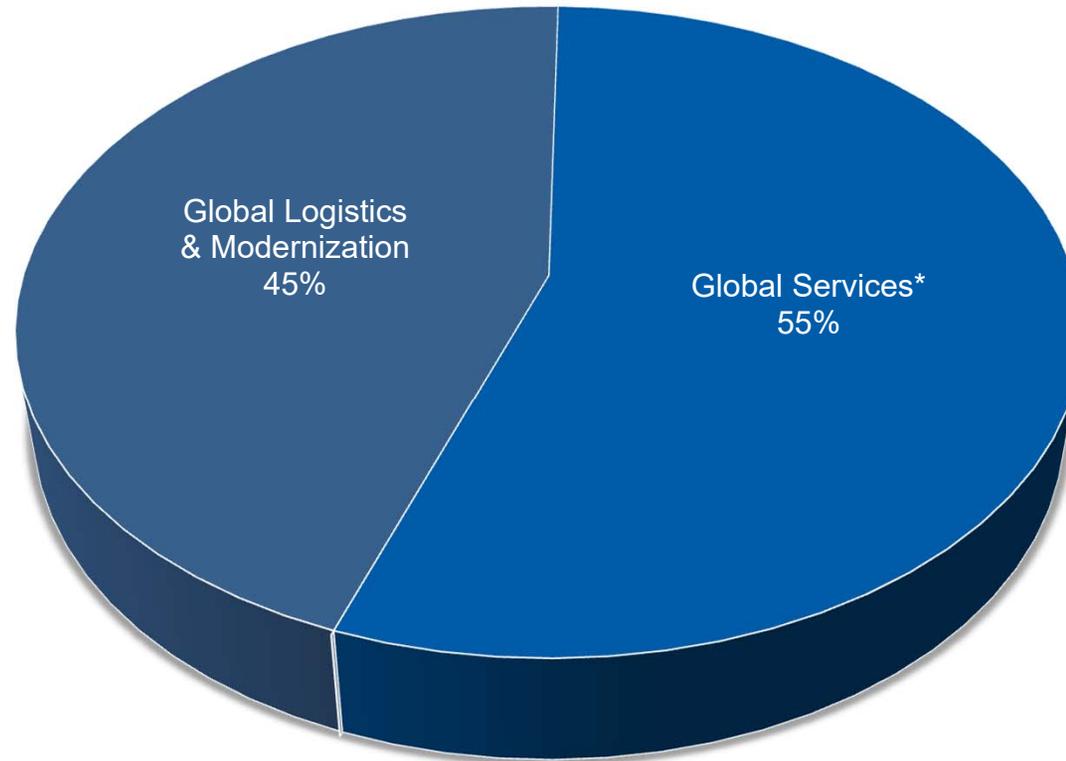
Represents ultimate end user customer where we are a subcontractor.
All data based on 2018 sales

Revenue Distributions ⁽¹⁾



⁽¹⁾ Based on 2018 external customer sales.

Technology Services Portfolio...What we do



All data based on 2018 sales

*Effective January 1, 2019, Advanced Defense Services and System Modernization and Services merged to create the Global Services business area.

Global Logistics & Modernization



Key Capabilities:

- Aircraft Modernization & Sustainment
- Electronic Systems Modernization & Sustainment
- ICBM Modernization & Sustainment

Key Programs:

- B-2, E-8C JSTARS, UK AWACS
- Australia MRTT KC-30, C27J, Special Purpose Aircraft
- Global Hawk, Triton, Hunter
- Electronic Warfare/Electronic Attack, Countermeasures and Radar
- ICBM system modernization, sustainment and support
- Special Electronic Mission Aircraft



Global Services



Key Capabilities:

- Software Development, Modernization & Sustainment
- Secure Networks, Cloud & IT Infrastructure
- Information Systems
- Training Systems and Services
- Cyber Operations

Key Programs:

- DHS CBP Passenger Systems Program Directorate
- CDC Information Management Services
- CMS Strategic Partners Acquisition Readiness Contract
- SSA Information Technology Support Services Contract
- DoS IRM Vanguard
- US ARMY Mission Command Training Program
- USCENTCOM Counter Threat Messaging
- KSA Ministry of the National Guard





NOC 2019 Guidance

2019 Guidance⁽¹⁾ as of 7/24/19



Sales (\$B)	~34.0
Segment operating margin rate ⁽²⁾	~11.5%
Total Net FAS/CAS pension adjustment (\$B) ⁽³⁾	~1.2
Unallocated corporate expense (\$M)	
Intangible asset amortization and PP&E step-up depreciation	~385
Other items	~225
Operating margin rate	High 10%
Interest expense (\$M)	~560
Effective tax rate	Mid 17%
Weighted average diluted shares outstanding	~170M
MTM-adjusted EPS ⁽²⁾	\$19.30 – \$19.55
Capital expenditures (\$B)	~1.2
Free cash flow (\$B) ⁽²⁾	2.6 – 3.0

(1) 2019 financial guidance reflects the company's judgment based on the information available to the company at the time of the Second Quarter 2019 earnings release. The government budget and appropriations processes can impact our customers, programs and financial results. Government budgets and appropriations, 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, can impact the company's ability to achieve 2019 guidance.

(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 \$770 million of expected CAS pension cost and \$430 million of expected FAS pension benefit. In accordance with ASU No. 2017-07, \$370 million of FAS (service-related) pension cost is reflected in operating income and \$800 million of FAS (non-service) pension benefit is reflected below operating income. CAS pension cost continues to be recorded in operating income.

2019 Sector Guidance – 7/24/2019



Sector	Sales	Segment OM Rate
Aerospace Systems	High \$13B	Mid to High 10%
Innovation Systems	~\$6B	High 10%
Mission Systems	Low to Mid \$12B	~13%
Technology Services	Low \$4B	Low 10%

Pension Status



	2018	2019
	Actual	Assumptions
Discount rate	3.68%	4.31%
Net asset return	(3.5%)	8.0%*
	2018	2019
	Actual	Estimates
Total Net FAS/CAS adjustment (\$M)	1,662	~1,200
CAS (\$M)	1,017	~770
Total Net FAS benefit (\$M)	645	~430
Mark-to-market (\$M)	(655)	N/A

* Long-term rate of return assumption

2019 – 2021 Pension Estimates (\$M)⁽¹⁾



	2019E	2020E	2021E
Total Net FAS/CAS adjustment	~1,200	~1,340	~1,600
CAS	~770	~850	~1,100
FAS service expense	~(370)	~(350)	~(330)
FAS non-service benefit	~800	~840	~830
Required Funding	~90	~220	~410

(1) Assumes a 4.31% discount rate and an 8% long-term rate of return for all years presented.

Pension Sensitivities^{*(1)}



2019 Mark-to-Market/ Net Pension Liability		Inc/(Dec) to Expense (\$M)
Discount rate	+25 bps	~(1,000)
	-25 bps	~1,000
Plan asset returns	+100 bps	~(275)
	-100 bps	~275

2020+ Non-Service FAS		Inc/(Dec) to Expense (\$M)
Discount rate	+25 bps	~35
	-25 bps	~(35)
Plan asset returns	+100 bps	~(25)
	-100 bps	~25

*From 2019 discount rate of 4.31% and assumed net pension asset returns of 8.0%

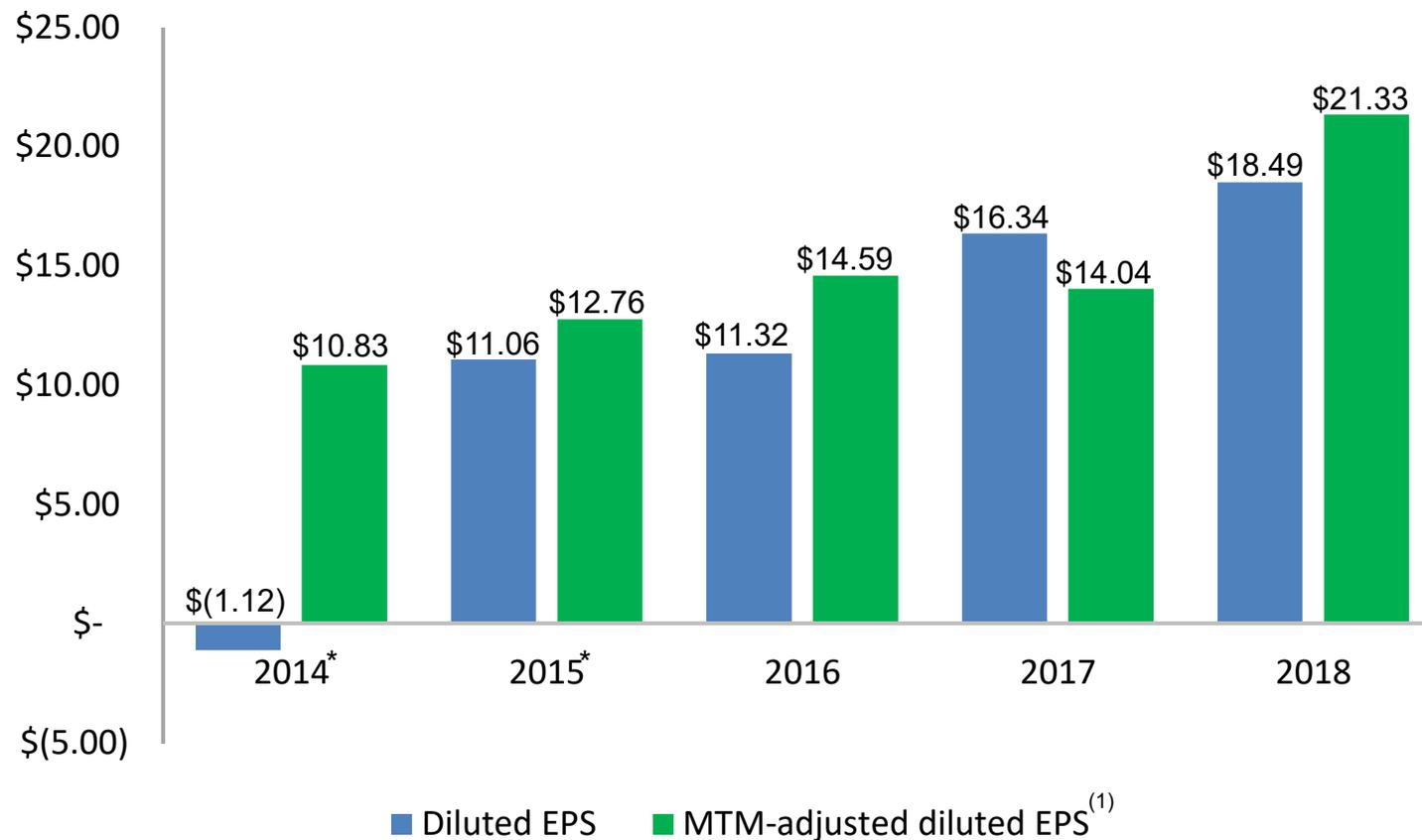
(1) Service FAS expense is not significantly sensitive to discount rate or plan asset returns.

Intangible Asset Amortization and PP&E Step-up Depreciation Schedule



(\$ Millions)	2019	2020	2021	2022	2023
Amortization of OA Purchased Intangibles	320	255	197	190	72
Amortization of Other Purchased Intangibles	11	7	7	7	6
Step-up Property, Plant & Equipment Depreciation	55	51	50	44	43
Total	386	313	254	241	121

Performance & Cash Deployment Drive EPS Growth



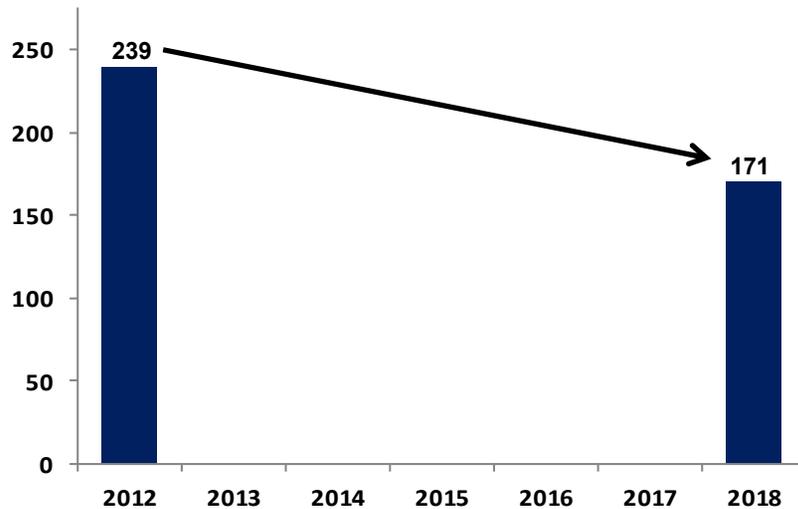
(1) Non-GAAP metric as defined and reconciled in the Appendix of this presentation.

* Years prior to 2016 do not reflect the effects from our January 1, 2018 adoption of ASC Topic 606.

Consistent Return of Cash to Shareholders



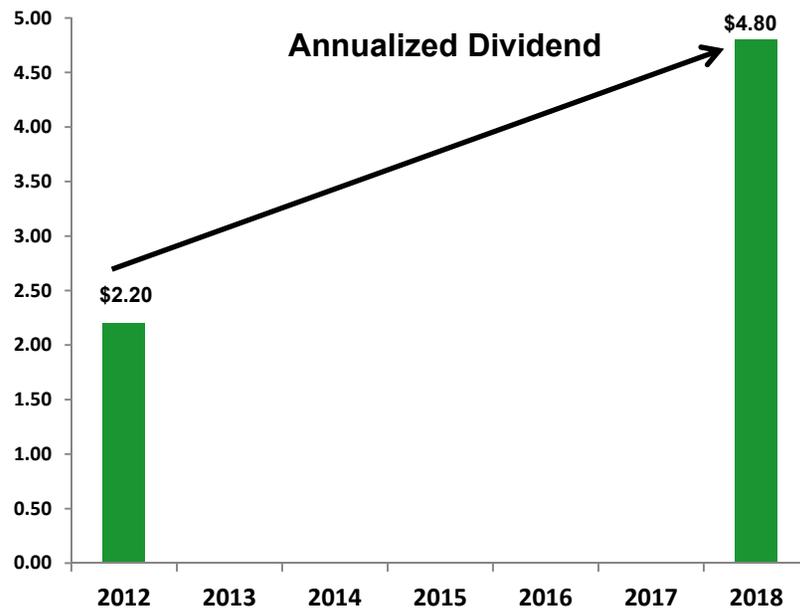
Shares Outstanding



Share Repurchases

- 60M share repurchase program completed in October 2015 @ average price of ~\$125 per share
- >50% reduction in shares outstanding since 2003 @ average price of ~\$80 per share
- \$1 billion ASR announced in Q4 2018 completed in Jan. 2019, retiring 3.84 million shares @ average price of ~\$260.

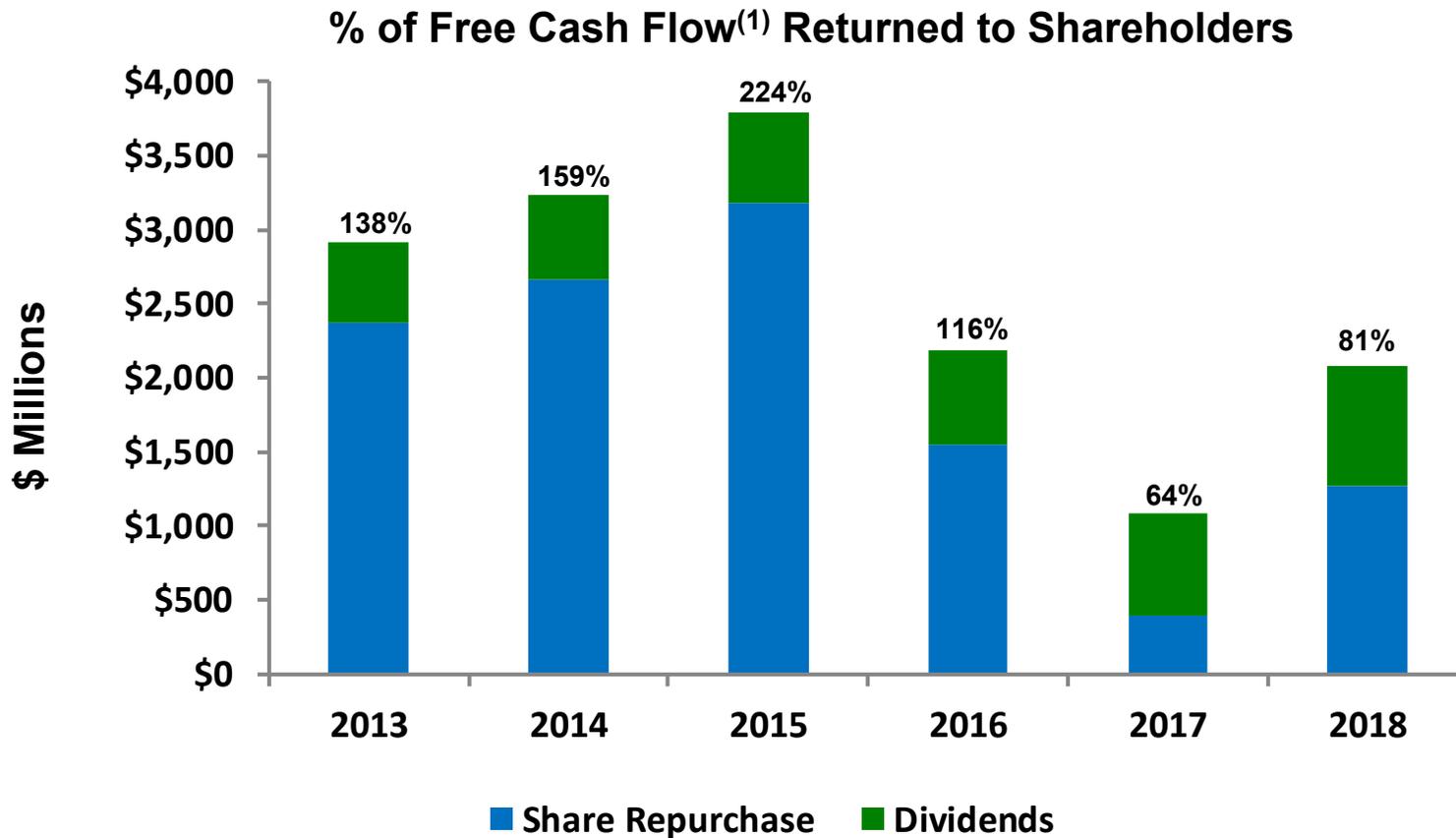
Annualized Dividend



Dividends

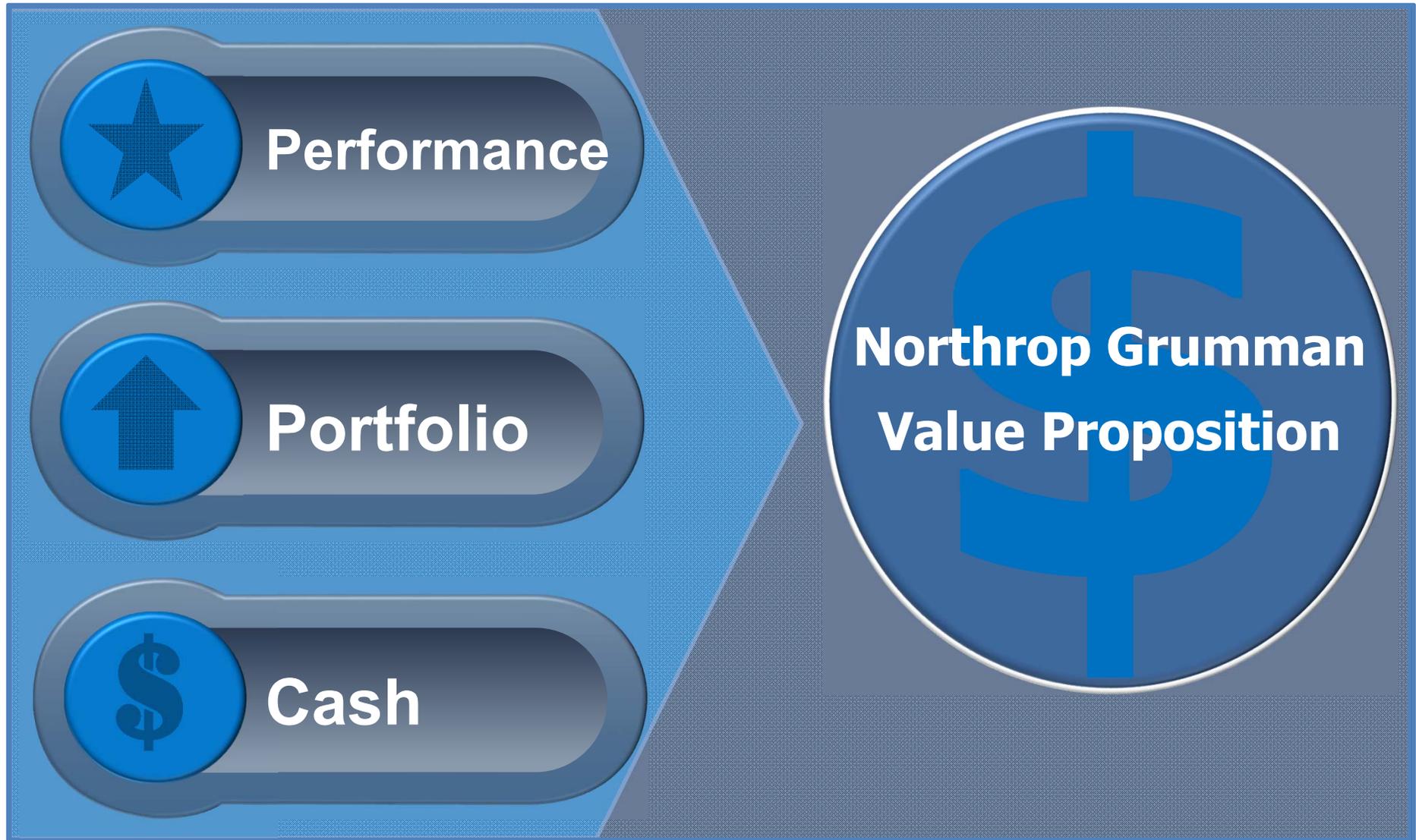
- 20% Dividend increase in 2018, including:
 - 10% off-cycle increase in January
 - 9% increase in May
- 10% Dividend increase in May 2019

Consistent Return of Cash to Shareholders



(1) Non-GAAP metric as defined in the Appendix of this presentation.

The Northrop Grumman Value Proposition





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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 (Securities and Exchange Commission) Regulation G and indicated by a footnote in the presentation. Definitions for the non-GAAP measures are provided below and reconciliations are provided in this presentation. Other companies may define these measures differently or may utilize different non-GAAP measures.

MTM-adjusted net earnings: Net earnings excluding MTM (expense) benefit 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 by presenting the company's operating results before the non-operational impact of pension and OPB actuarial gains and losses. This measure is also consistent with how management views the underlying performance of the business as the impact of MTM accounting is not considered in management's assessment of the company's operating performance or in its determination of incentive compensation awards.

MTM-adjusted diluted EPS: Diluted earnings per share excluding the per share impact of MTM (expense) benefit 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.

Segment operating income and segment operating margin rate: Segment operating income and segment operating margin rate (segment operating income divided by sales) reflect total earnings from our four segments including allocated pension expense 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.

Cash provided by operating activities before after-tax discretionary pension contributions: Cash provided by operating activities before the after-tax impact of discretionary pension contributions. Cash provided by operating activities before after-tax discretionary pension contributions has been provided for consistency and comparability of financial performance.

Non-GAAP Definitions



Free cash flow: Net cash provided by operating activities less capital expenditures. We use free cash flow as a key factor in our planning for, and consideration of, acquisitions, stock repurchases and the payment of dividends. This 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.

Free cash flow before after-tax discretionary pension contributions: Free cash flow before the after-tax impact of discretionary pension contributions. Free cash flow before after-tax discretionary pension contributions is a key factor in our planning for, and consideration of, acquisitions, stock repurchases and the payment of dividends. This 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 – Segment Operating Income



<i>\$ millions</i>	Twelve Months	
	2018	2017
Sales	\$ 30,095	\$ 26,004
Segment operating income	3,447	2,903
Segment operating margin rate	11.5%	11.2%
Reconciliation to operating income		
Net FAS (service)/CAS pension adjustment	\$ 613	\$ 638
Unallocated corporate expense and other	(280)	(323)
Intangible asset amortization and PP&E step-up depreciation	(220)	-
MTM-related deferred state tax benefit (expense) ¹	29	(24)
Other ²	(89)	(299)
Operating income	\$ 3,780	\$ 3,218
Operating margin rate	12.6%	12.4%

¹ Based on a 21% federal tax rate and 4.5% state tax rate for all periods presented.

² Includes deferred state tax expense of \$24 million and \$34 million, respectively, for the years ended December 31, 2018 and 2017, resulting from reversal of previously recognized amortization of net actuarial losses in connection with the change in pension accounting.

Non-GAAP Reconciliations – MTM-adjusted net earnings and earnings per share



<i>\$ millions, except per share amounts</i>	Twelve Months				
	2018	2017	2016	2015 ²	2014 ²
Net earnings (loss)	\$ 3,229	\$ 2,869	\$ 2,043	\$ 2,119	\$ (233)
MTM expense (benefit)	655	(536)	950	524	4,096
MTM-related deferred state tax (benefit) expense ¹	(29)	24	(43)	(24)	(205)
Federal tax (benefit) expense of items above ¹	(131)	108	(317)	(175)	(1,362)
After-tax MTM adjustment	495	(404)	590	325	2,529
MTM-adjusted net earnings	\$ 3,724	\$ 2,465	\$ 2,633	\$ 2,444	\$ 2,296
Diluted EPS	\$ 18.49	\$ 16.34	\$ 11.32	\$ 11.06	\$ (1.12)
MTM expense (benefit) per share	3.76	(3.06)	5.27	2.74	19.32
MTM-related deferred state tax (benefit) expense per share ¹	(0.17)	0.14	(0.24)	(0.13)	(0.96)
Federal tax (benefit) expense of items above per share ¹	(0.75)	0.62	(1.76)	(0.91)	(6.41)
After-tax MTM adjustment per share	2.84	(2.30)	3.27	1.70	11.95
MTM-adjusted diluted EPS	\$ 21.33	\$ 14.04	\$ 14.59	\$ 12.76	\$ 10.83

¹ Based on a 35% and 21% federal tax rate for 2014-2016 and 2017-2018, respectively, and a 5.0% and 4.5% state tax rate for 2014 and 2015-2018, respectively.

² Years prior to 2016 do not reflect the effects from our January 1, 2018 adoption of ASC Topic 606.

Non-GAAP Reconciliations – Cash Flow Highlights



<i>\$ millions</i>	Twelve Months					
	2018	2017	2016	2015	2014	2013
Net cash provided by operating activities	\$ 3,827	\$ 2,613	\$ 2,813	\$ 2,162	\$ 2,593	\$ 2,483
After-tax discretionary pension contributions impact	186	325	-	325	-	323
Cash provided by operating activities before after-tax discretionary pension contributions	\$ 4,013	\$ 2,938	\$ 2,813	\$ 2,487	\$ 2,593	\$ 2,806
Net cash provided by operating activities	\$ 3,827	\$ 2,613	\$ 2,813	\$ 2,162	\$ 2,593	\$ 2,483
Less: capital expenditures	(1,249)	(928)	(920)	(471)	(561)	(364)
Free cash flow	\$ 2,578	\$ 1,685	\$ 1,893	\$ 1,691	\$ 2,032	\$ 2,119
After-tax discretionary pension contributions impact	186	325	-	325	-	323
Free cash flow before after-tax discretionary pension contributions	\$ 2,764	\$ 2,010	\$ 1,893	\$ 2,016	\$ 2,032	\$ 2,442

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