

BAE Systems Investor Day 2018

Electronic Systems

May 14 - 15, 2018

Plc Cautionary Statement

All statements other than statements of historical fact included in this statement are forward-looking statements. Such forward-looking statements, which reflect management's assumptions made on the basis of information available to it at this time, involve known and unknown risks, uncertainties and other important factors which could cause the actual results, performance or achievements of BAE Systems or the markets and economies in which BAE Systems operates to be materially different from future results, performance or achievements expressed or implied by such forward-looking statements. BAE Systems plc and its directors accept no liability to third parties in respect of this statement, save as would arise under English law. Accordingly, any liability to a person who has demonstrated reliance on any untrue or misleading statement or omission shall be determined in accordance with section 90A of the Financial Services and Markets Act 2000.

Issued by:

BAE Systems plc

London

Safety

- There are no planned fire alarms
- In the event of a **fire** or other event requiring **evacuation**
 - Distinct alarms will sound
 - Quickly and calmly proceed to the nearest exit (lighted **EXIT** sign)
 - Follow egress routes and directions from Emergency Personnel

Agenda

- | | | | |
|---------|---------------------------------|------------------|------------|
| • 08:00 | Introduction | Charles Woodburn | Auditorium |
| • 08:05 | Business Update | Peter Lynas | Auditorium |
| • 08:15 | Q&A | | Auditorium |
| • 08:45 | US Operations & Market Overview | Jerry DeMuro | Auditorium |
| • 09:05 | BAE Systems Inc. Portfolio | Tom Arseneault | Auditorium |
| • 09:30 | Overview of Electronic Systems | Terry Crimmins | Auditorium |
| • 10:10 | Break | | |
| • 10:40 | Q&A | | Auditorium |
| • 11:10 | Summary & Closing Remarks | Jerry DeMuro | Auditorium |
| • 11:15 | Lunch | | Tent |
| • 12:00 | Product demos | | NHQ/MER |
| • 14:30 | Tea & coffee | | Lobby |
| • 14:45 | Depart | | |

Product Demo Schedule

- Attendees will break up into two pre-determined groups from 12:00 – 14:30
- Each product demonstration will be 8 minutes and 2 minutes to transition to the next demo

Group 1

- Product Demonstrations – Nashua
 - Precision Munitions
 - High-integrity Avionic Solutions
 - Advanced Display Solutions
- Series Hybrid Bus Ride
- Product displays – Merrimack
 - Space Solutions
 - Thermal Targeting Solutions
 - Electronic Warfare
 - Optical Electronic Warfare
- Coach Bus Ride

Group 2

- Coach Bus ride
- Product Demonstrations – Merrimack
 - Space Solutions
 - Thermal Targeting Solutions
 - Electronic Warfare
 - Optical Electronic Warfare
- Series Hybrid Bus Ride
- Product Demonstrations – Nashua
 - Precision Munitions
 - High-integrity Avionic Solutions
 - Advanced Display Solutions



Charles Woodburn

Chief Executive

Introduction

- First in a series of Investor events over the next couple of years covering our major divisions
- Focus of this event is the Electronic Systems business
- Aim to demonstrate:
 - Portfolio well aligned to US budget growth
 - Strength and depth of our portfolio
 - Investment in technology for now and the future
 - Well positioned for medium term growth
- Chance to see a range of product sets
- Plenty of opportunity for Q&A and discussions with management

Strategic Priorities

- Electronic Systems demonstrates our strategic priorities in action
 - Operational Excellence
 - Improving competitiveness and efficiency
 - Advancing and further leveraging our technology



Peter Lynas

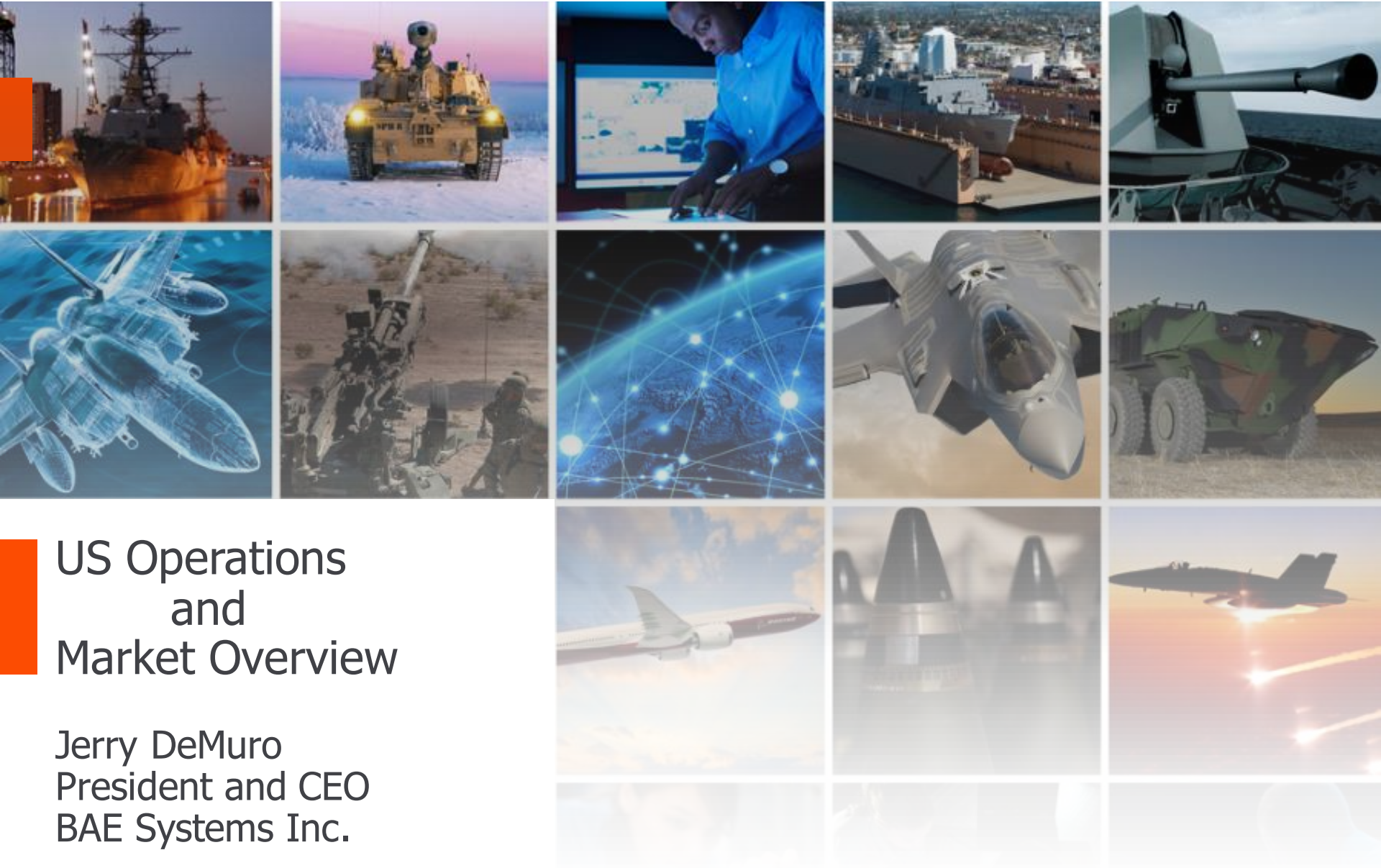
Finance Director

Business Update

- Guidance for the year confirmed in trading update
- UK – outlook stable from long term contracted positions
 - Furthered by Astute Boat 7 award and Dreadnought funding
 - Modernising Defence Programme review
- KSA Typhoon - Memorandum of Intent – negotiations progressing
- Strong existing order backlog - series of decisions expected by half year
 - SEA 5000 – 9 ship Australian future frigate programme
 - Amphibious Combat Vehicle
 - Qatar Typhoon
- Cash – outlook unchanged – 2019 and beyond benefits of lower cash tax and interest



Q&A Session



US Operations and Market Overview

Jerry DeMuro
President and CEO
BAE Systems Inc.

Current Landscape

- Recent budget agreement provides stability and growth
 - Two year increase of \$300B above budget caps
 - DoD Investment accounts increase by 21%
- National Defense Strategy Issued
 - Emphasis on peer threats
 - Priorities well defined
 - Core programs and adjacent markets well supported
- Congressional restrictions on Gulf Nations arms sales lifted
- Commercial Aviation backlog at record levels
- International budgets driven by same threats as the US - Partners and Allies increasing defense budgets as a result

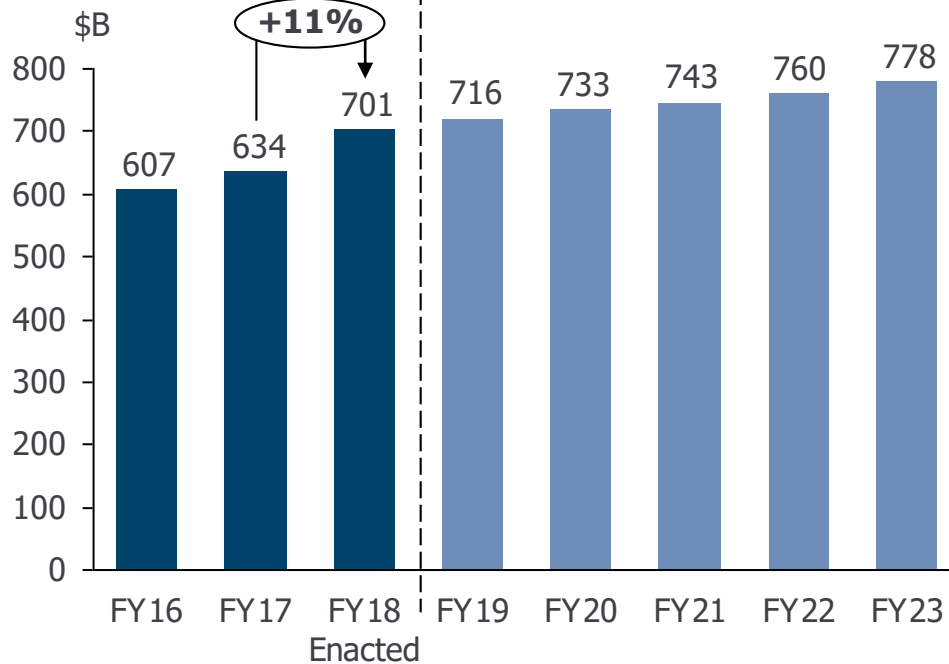
Strong near-term uplift to defense budget

National Defense (050) Top-line

Budget Authority, Then Year \$B

Actual

FY19 President's Request



- Bipartisan agreement raised defense budget caps for FY18 and FY19
- FY18-19 increases will result in higher industry sales over next several years
- National Defense Strategy will guide future growth areas
 - Nuclear modernization
 - Space and cyberspace
 - Missile defense
 - C4ISR and lethality in contested environments
 - Military application of autonomy, AI & machine learning

Portfolio well aligned with DoD budget growth

Estimated DoD Spending by Category

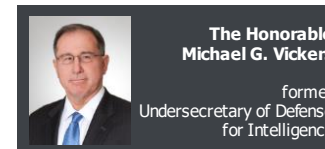
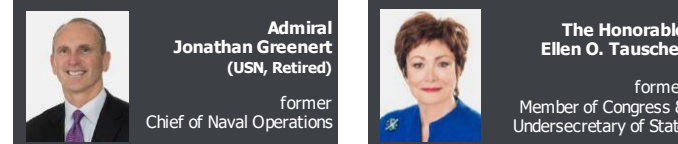
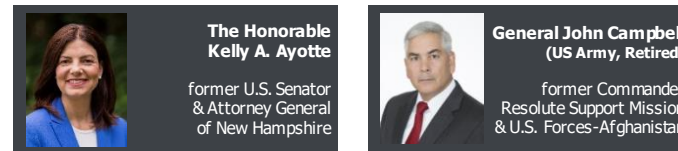
	FY17-19 % Growth	FY19 Budget (\$B)	BAE Programs & Opportunities
Nuclear Modernization	135%	\$6.7	ICBM systems engineering, submarine missile tubes
Combat Vehicles	102%	\$6.8	Combat vehicles for Army, Marine Corps, partners
Long Range Strike	83%	\$4.9	B-21 bomber
Long Range / Precision Fires	53%	\$11.7	Missiles and precision-guided munitions, extended range artillery, railgun
Space	38%	\$7.3	Threat detection, secure communications, ground-based C2/battle management
Navy Ship Depot Maintenance	11%	\$9.8	Non-nuclear ship repair
Fighters	10%*	\$16.1	Electronic warfare suites for F-35, F-15

* FY17 to F18 growth is 25% due to Congressional plus-ups

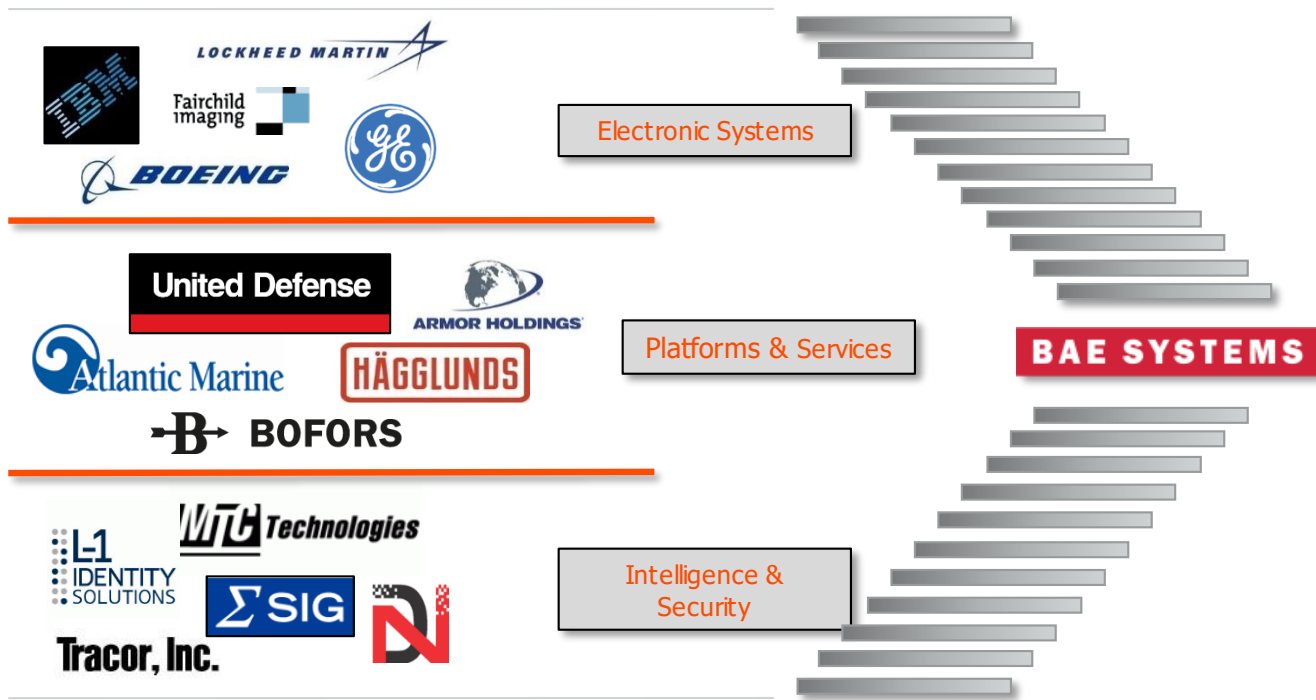
One of the world's largest defense companies

BAE Systems, Inc.

- Operates under a Special Security Agreement for over 25 years
- A U.S. company chartered in Delaware
- Top 6 US defense contractor
- Over 32,000 employees worldwide
- Locations in 35 states and 27 countries



BAE Systems, Inc. Rich Heritage

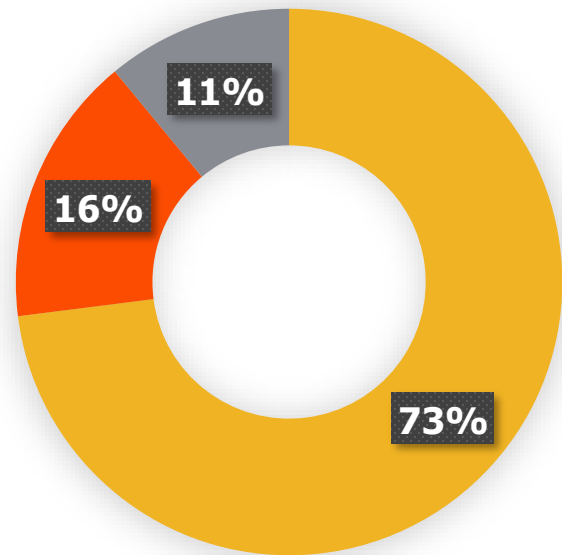


BAE Systems Inc. **US** major site locations



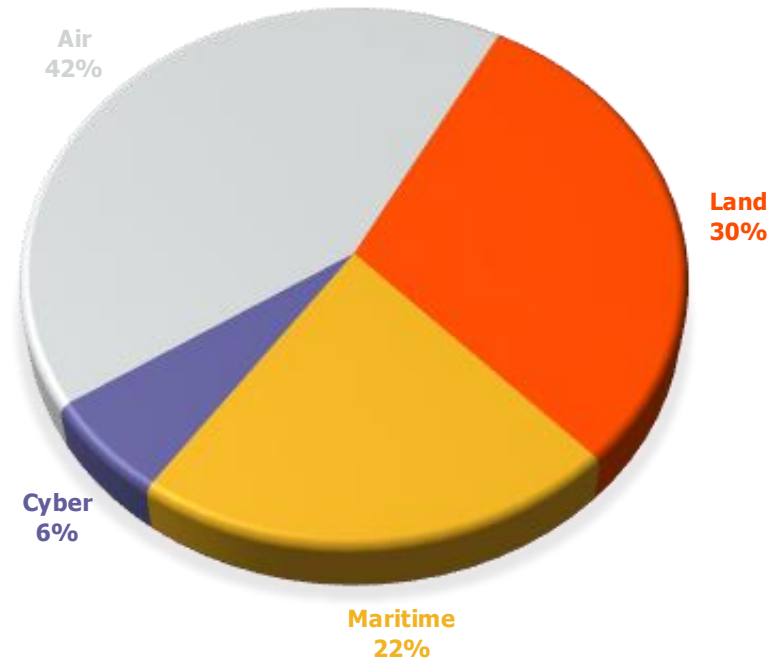
Served Markets

2017 Sales – Market Breakdown



- US Defense, Intel & Civilian Agencies
- International Defense
- Commercial

2017 Sales – Domains



BAE Systems, Inc. Sectors





BAE Systems Inc. Portfolio

Tom Arseneault
Chief Operating Officer
BAE Systems Inc.



From the depths of the ocean...

An impressive and diverse portfolio of products and technologies

■ ...to the far reaches of space

• An impressive and diverse portfolio of products and technologies

NASA image

BAE Systems, Inc. Sectors

Electronic Systems



Intelligence & Security

Platforms & Services

On land, at sea, on target



Platforms & Services



Combat Vehicles



M109A7 Self-propelled Howitzer

- Modernized legacy artillery platform for the U.S. Army
- Over 500+ sets needed for force modernization



Modernized indirect fire platform with increased survivability and capabilities

Armored Multi-Purpose Vehicle (AMPV)

- Multi-variant replacement for legacy M113 armored personnel carrier family
- Over 2900 vehicles required to support modernization demands



Transitioning to low rate production in 2018

Amphibious Combat Vehicle 1.1

- Wheeled amphibious vehicle for U.S. Marine Corps
- Requirements for 700 vehicles to meet sea and land combat conditions for the Marines



Competitive award announcement anticipated in June 2018 timeframe

Mobile Protected Firepower (MPF)

- Light tank supporting the U.S. Army's Infantry Brigades
- Potential initial demand for over 500 vehicles



Competitive down-select anticipated in late 2018

Robotic Combat Vehicle – Black Knight

- Semi-autonomous combat vehicle
- Demonstrates our commitment to investing in future technologies

Helping shape the future of unmanned combat vehicles

Weapon Systems and Technologies



Precision-Guided Munitions, Weapons and Technology



U.S. Navy Ship Repair - Norfolk

- Lead east coast surface modernization capability

- Located with the fleet

Supporting the U.S. Navy's maintenance requirements to meet operational needs

U.S. Navy Ship Repair – San Diego



- Lead west coast surface modernization capability
- Investments in dry-dock capacity a discriminator for critical naval maintenance and modernization

Meeting the Navy's maintenance needs to support the pivot the Pacific

Intelligence & Security

Air Force Solutions

Integrated Defense Solutions

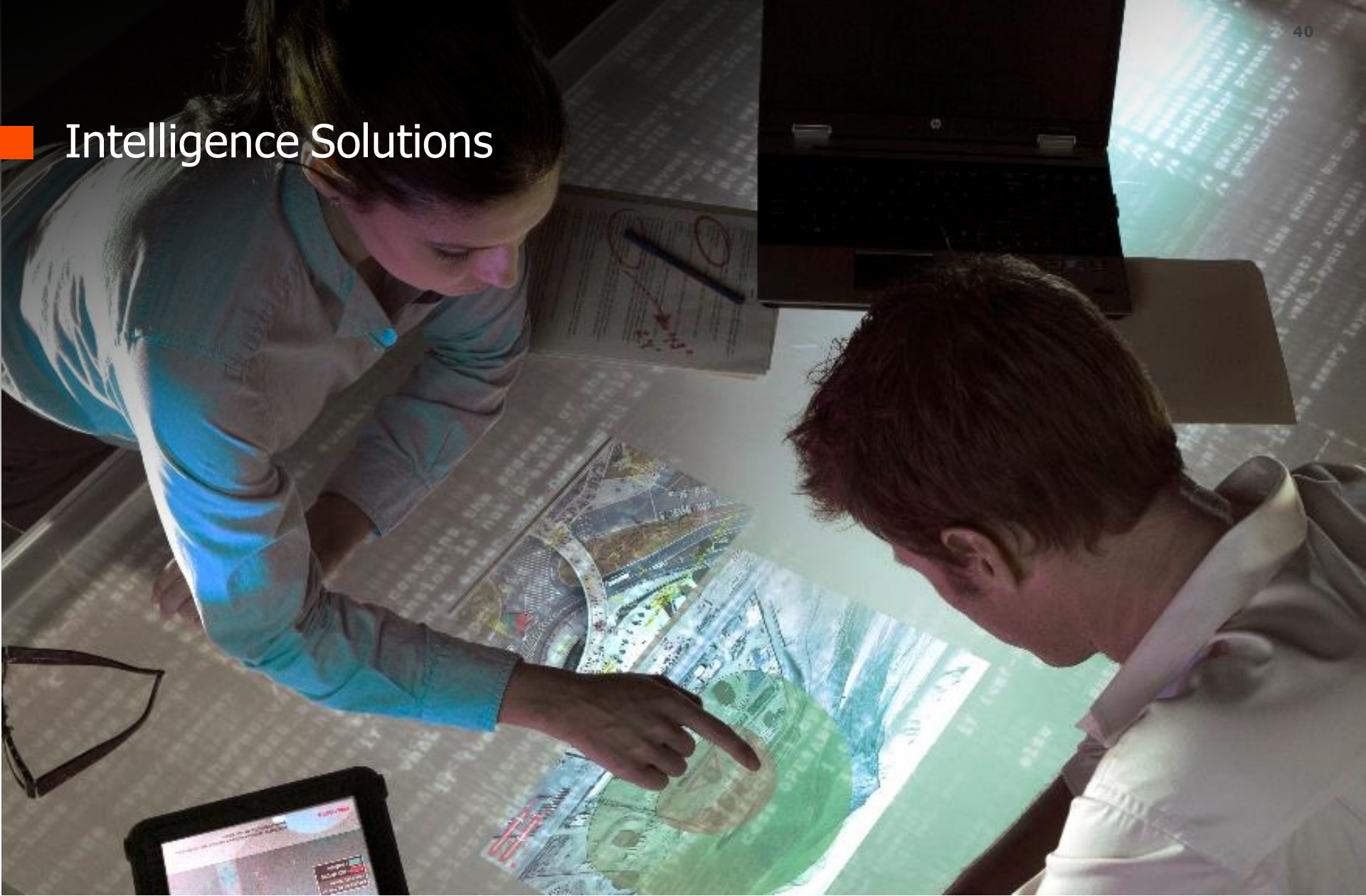
Intelligence Solutions

Employees
6,900
HQ
McLean, VA
2017 Revenue
\$1.6B

Air Force Solutions



Intelligence Solutions



Integrated Defense Solutions



US Navy image

Electronic Systems



Electronic Systems Overview

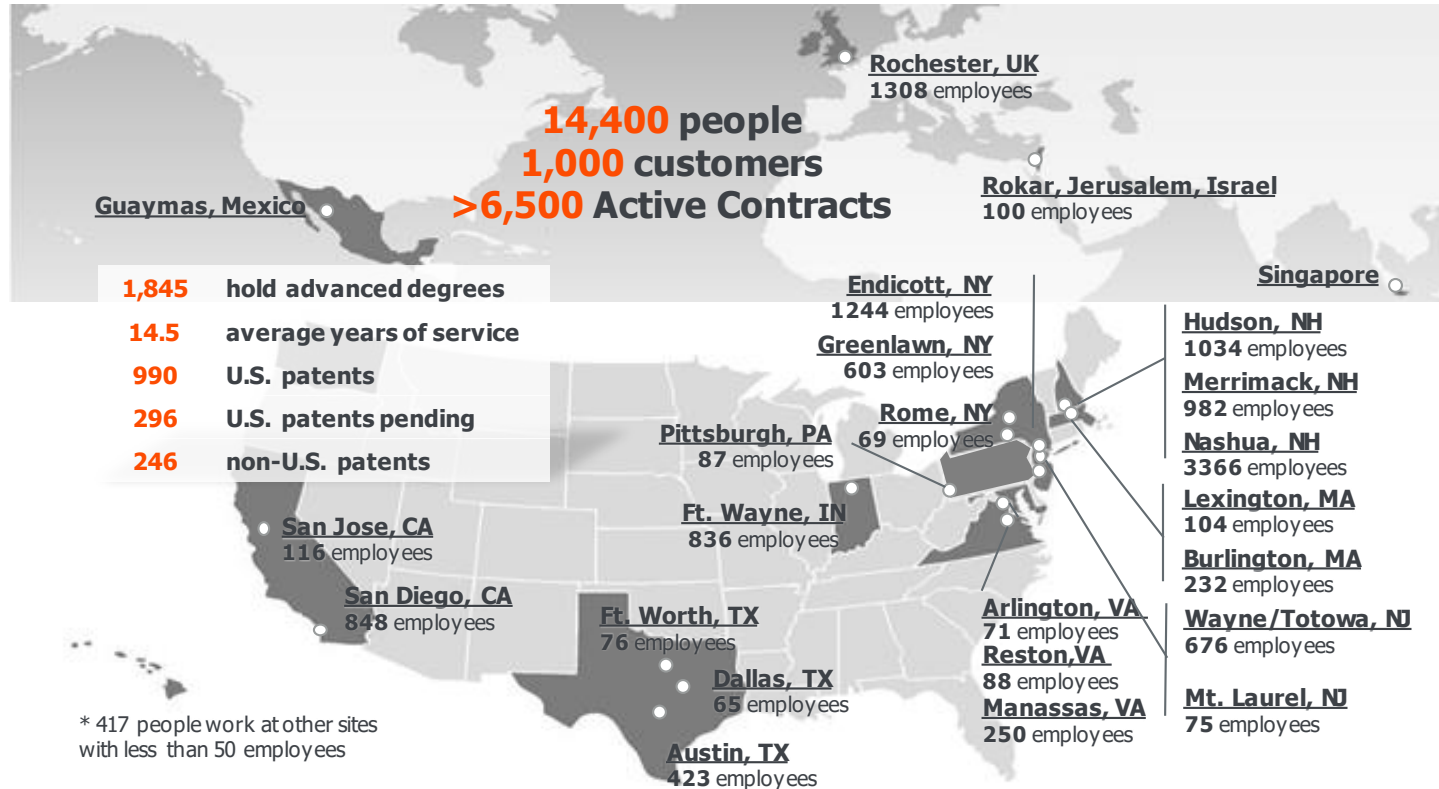
Terry Crimmins
President, Electronic Systems



Agenda

- Overview
- Business performance
- Our portfolio and markets
- Moving forward

Electronic Systems – Our footprint and our people



Our portfolio

Diverse product/program portfolio

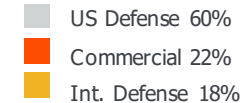
Over 6,500 active contracts

- Ranging in size from \$10k to \$1.7B
- 70% firm fixed price contracts
- 30% cost reimbursable

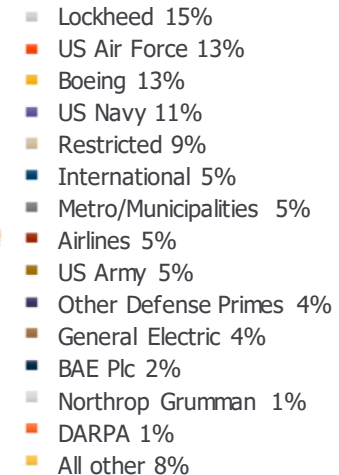
Key franchises

- Electronic Warfare
- Engine/Flight Controls
- APKWS & THAAD
- HybriDrive® Systems
- IFF & Datalinks

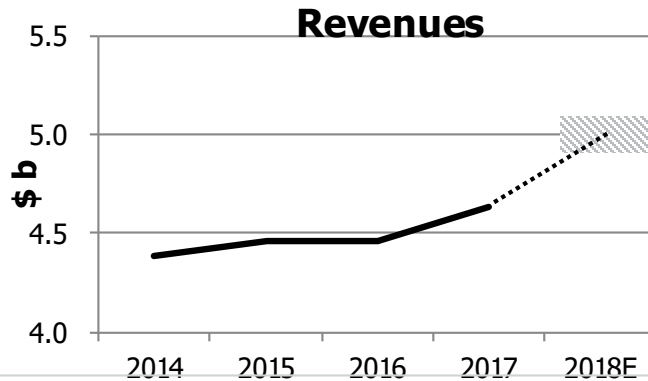
Business Mix



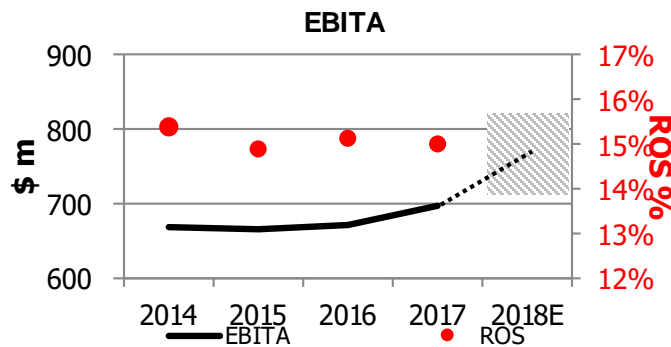
Our Customers



How the business **has performed**



- Top-line growth across the period driven by the diversity and resiliency of portfolio
- Closed 2017 with record order backlog (> \$7b)



- Track record of consistent ROS delivery
- Performance driven by strong program execution
- R&D investment capacity increasing while delivering bottom line

Electronic Systems – Our structure



We maintain 5 business areas aligned to distinct market streams, with a sixth business – FAST Labs™ – serving as an innovation engine for the entire enterprise

Competitive Landscape



US Defense

- **Key Competitors:** Northrop Grumman, Raytheon, Harris
- **Activities / Trends:**
 - Standing up new (or strengthening existing) business units focused on advanced technology
 - Partnering with small, innovative commercial



International Defense

- **Key Competitors:** Raytheon, Northrop Grumman
- **Activities / Trends:**
 - Standing up wholly-owned subsidiaries in-country
 - Leveraging franchise positions developed for U.S. markets to address international force



Commercial Avionics

- **Key Competitors:** UTAS / Rockwell Collins, Honeywell, GE Aviation Systems
- **Activities / Trends:**
 - Consolidating to address OEM demands for price reductions
 - Investing in emerging trend for more aircraft electrification
 - Ramping up production rates



Hybrid Power

- **Key Competitors:** Cummins, Allison, many other players; highly fragmented competitive landscape
- **Activities / Trends:**
 - Hybrid power growth continues, all electric emerging
 - Battery tech players driving market shifts

Electronic Combat Solutions

2017 Sales: \$1.3b

Electronic Support

- Rapid detection, identification and tracking
- Precision direction finding and geolocation
- Passive targeting support

Electronic attack

- Electronic attack of military and commercial communications, navigation and radar systems
- Threat analysis and response

Self Protection

- Multispectral (RF/IR) Countermeasures
- On Board & Off-Board technique generators



RF and Optical Electronic Warfare

The market is strong and growing

- Increasing sophistication of adversaries
- Growing demand for smaller systems

Our capabilities address market drivers

- Threat detection, tracking, & situational awareness
- Broad-band electronic attack
- Self-protection countermeasures

We win by differentiation

- Threat knowledge & exploitation
- Discriminating lasers

Major programs

- F-35 (AN/ASQ-239 EW/CM system)
- Eagle Passive/Active Warning Survivability System
- Digital Electronic Warfare System (AN/ALQ-239)
- EC-130H Compass Call Weapon System
- Long Range Anti-Ship Missile
- Advanced Threat Infrared Countermeasures
- Common Missile Warning System



- World leading EW market position
- Our systems are on 80% of U.S. military fixed-wing aircraft



Overview of **Electronic Warfare**



C4ISR Systems

2017 Sales: \$1.2b

Actionable intelligence for our warfighters through electronic products and innovative technical solutions from the depths of the ocean to outer space and everywhere in between

- SIGINT sensors
- IFF systems
- Mission Workstations
- Space Processing
- Acoustics
- Geospatial exploitation and analytics tools
- Mission planning for aircraft, manned and UAVs
- Datalink Networks



Space

Robust market demand

- Growing **threat** to U.S. space assets
- **Significant funding** directed at 'space security'

Our **capabilities** are market disruptors

- World-class Digital/RF/IR/Optical technologies
- **Platform protection** domain expertise

We **win** with differentiators

- Industry leading RH45[®] semiconductor technologies
- Moore's Law enabling '**air breathing**' capabilities to migrate to higher altitudes

Major programs/**products**

- Radiation-hardened computers & components
- Space sensors & digital receivers
- **Hallmark** program (DARPA)



Space Security



■ Controls & Avionics Solutions

2017 Sales: \$0.9b

- Flight Controls: Fly-by-wire systems, Active Inceptor Systems, Vehicle Management Systems
- Engine Controls: Full Authority Digital Engine Controls (FADEC)
- Mission Avionics: Defensive Weapon Systems, Stores Management, Mission Computers
- Flight Deck Systems: Control Panels, Detection and Alerting Systems
- Aftermarket Solutions: Spares, Repair and Overhaul, Asset Management, technical support



Portfolio of major commercial avionic equipment



737 NG / MAX
FC, Cabin/Cockpit Systems, FADEC ★



747-8 / 747-400
FC, Cabin/Cockpit Systems, FADEC (exclusive on 747-8)



767
FC, Cabin/Cockpit Systems, FADEC



777
FC, Cabin/Cockpit Systems, FADEC (exclusive on -F, -300LR, -200ER)



777X
FC, FADEC ★



787
FADEC



Airbus A320 CEO / A320 NEO
FADEC



Embraer Legacy 450 / 500
FC



Bombardier C-Series CS-100 / CS-300
FC



Bombardier Global 7000 / 8000
FC, FADEC ★

★ Denotes where an engine that has our controls (GE, CFM) is the sole powerplant for the platform

FC – Flight Controls
FADEC – Full-Authority Digital Engine Controls

Portfolio of military avionics equipment



FBW



FBW / ACS



FBW



FBW



GCAS/FBW



FBW / ACS



AFCS



GCAS & DFLCC



FBW



Integrated Flight & Fire Control



AFCS



FBW



FBW



FBW



AFCS



FBW



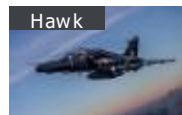
FBW



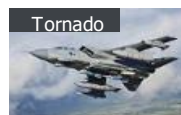
FBW



FBW



FBW



FBW

ACS – Active Control Sidesticks
 AFCS – Autopilot Flight Control System
 GCAS – Ground Collision Avoidance System
 FBW – Fly by Wire – Controls all primary & secondary surfaces

Survivability, Targeting & Sensing Solutions

2017 Sales: \$0.8b

Exploiting the Electro Optical/Infrared spectrum to provide unmatched infrared countermeasures, precision guidance and seeker solutions, advanced targeting solutions, and state-of-the-art tactical imaging systems

- Missile threat warning (CMWS, LIMWS)
- Infrared countermeasures
- Precision munitions guidance systems
- Strategic missile seekers
- Thermal targeting systems
- Helmet and Head Up display solutions



Precision Munitions

Immediate and long-term market pull

- Restoring **depleted stockpiles** – key US priority
- Robust **international demand** (esp. Middle East)
- Need for **low cost solutions** for precision strike
- Growing **ballistic missile threat**

We are driving next generation **capabilities**

- Accelerating development of discriminating tech
- \$35M+ in relevant CRAD to supplement IRAD

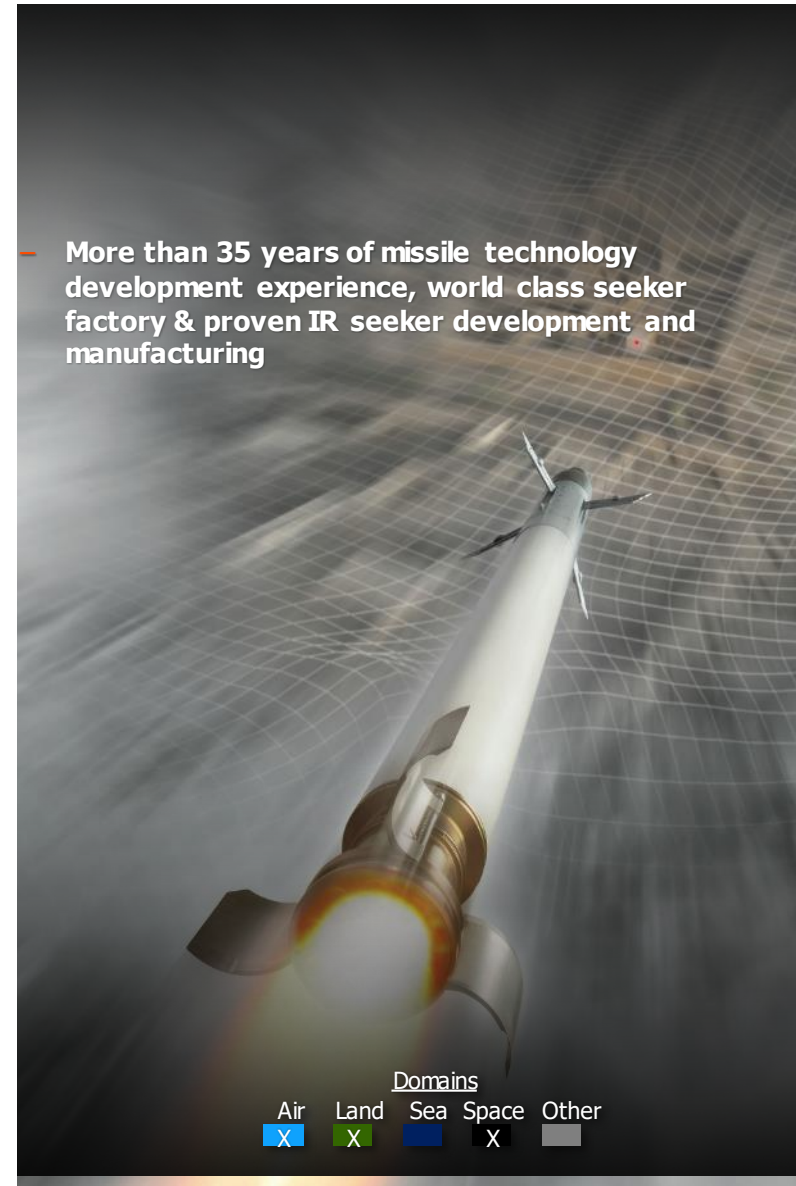
We **win** on technology and best value

- World class seeker manufacturing
- Advanced seekers at affordable price
- Innovative DASALS® technology
- AJ-GPS navigation

Major **programs**

- **APKWS®** – four military branches, 24+ LOR
- **Missile Seekers** – USG & FMS

- More than 35 years of missile technology development experience, world class seeker factory & proven IR seeker development and manufacturing



■ APKWS[®] Laser-guided Rocket



Power & Propulsion Solutions

2017 Sales: \$0.3b

- Delivers propulsion and power management performance with innovative electric products and solutions
- Serves a diversified market footprint: Advancing vehicle mobility, efficiency, and capability in markets such as; transit, marine, military and truck
- Holds a significant IP portfolio; patents world-wide; using technology evolved from over 20 years of investment in aircraft controls and power systems
- More than 8,000 electric drive systems deployed worldwide



FAST Labs™

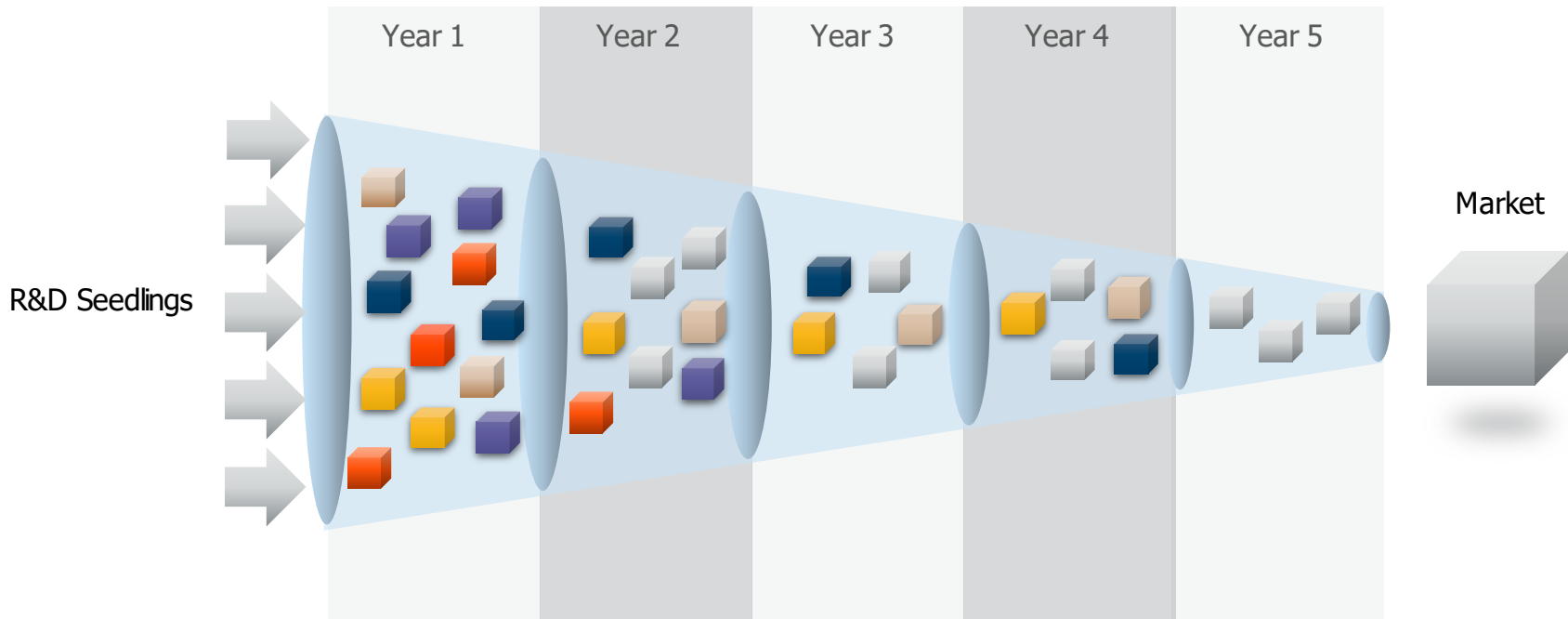
2017 Sales: \$0.2b

Researching, developing, and integrating advanced electronic technologies that provide discriminating capabilities to BAE Systems' products and services.

- Advanced Electronics
- Autonomy
- Cyber
- Electronic warfare
- Sensors and processing



Our technology pipeline sustains our growth trajectory



■ We leverage our customer base to drive technology forward



Our customers supplement our shareholders R&D investment 18 to 1

■ Electronic Systems – **Moving Forward**



Summary

- Electronics portfolio is well-aligned with The U.S. National Defense Strategy and will prosper in the near term budget surge
- Our defense products have broad international appeal
- Commercial markets provide profitable adjacencies, and fold back capabilities into our defense base
- Success in all these growth markets create resilient franchises in long cycle businesses
- Ensuring future market leadership
 - Investing in emerging technologies
 - Leveraging customer S&T funding
 - Capitalizing business to drive operational excellence and sustain profit margins

Continuing to create significant shareholder value



 Thank you

 **Break**



Q&A Session

Closing Remarks

Jerry DeMuro
President and CEO
BAE Systems, Inc

Closing Remarks

BAE Systems Inc. holds a strong position in the Defense and Security Market

- ES and P&S US very well placed for mid term growth and I&S is stable
- Continued investment in the business
- Strong profit to cash conversion



Lunch

Thank you

Acronyms

- AJ-GPS: Anti-jam Global Positioning System
- APKWS: Advanced Precision Kill Weapon System
- CRAD: Contract Research and Development
- CMWS: Common Missile Warning System
- DARPA: Defense Advanced Research Projects Agency
- DASALS: Distributed Aperture Semi-active Laser Seeker
- FMS: Foreign Military Sales
- IFF: Identification Friend or Foe
- IR: Infrared
- IRAD: Internal Research & Development
- LIMWS: Limited Interim Missile Warning System
- OEM: Original Equipment Manufacturer
- RF: Radio Frequency
- S&T: Science & Technology
- SIGINT: Signals Intelligence
- STEM: Science, Technology, Engineering and Mathematics
- UAV: Unmanned Aerial Vehicle