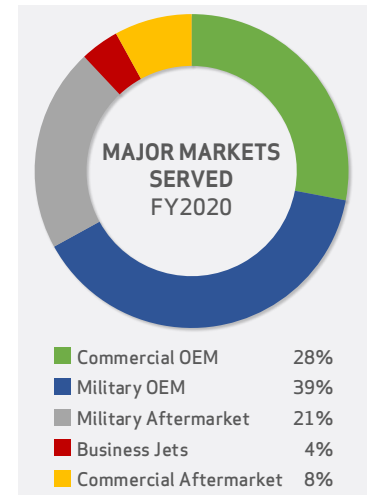


WORLD LEADER IN FLIGHT CONTROL SYSTEMS AND CRITICAL CONTROL PRODUCTS

Moog is the world's premier designer, manufacturer, and integrator of flight control systems for military and commercial aircraft. We are positioned today on virtually every aircraft in the marketplace.

COMPETITIVE ADVANTAGES:

- 2020 sales over \$1.2B
- 5,000 employees worldwide
- Unparalleled expertise in flight control system design and integration
- Leading edge technology in flight controls, engine controls and active vibration control
- Primary and secondary flight control systems using hydraulic, mechanical, electromechanical and electrohydrostatic actuators
- World-class manufacturing facilities staffed with a skilled, experienced and team-based workforce
- Focused, highly-responsive global aftermarket support organization



REPRESENTATIVE PROGRAMS

COMMERCIAL AIRCRAFT AND BUSINESS JETS

Boeing 737, 747, 767, 777, 787, Airbus A320, A330, A340, A350, A380, COMAC C919, Embraer E-Jets E-2, Bombardier Q400, Bombardier Challenger 300, 350, 604, 605, 650 and Global Express, Cessna Citation X, Gulfstream G280, G350, G400, G450, G500, G550, G600, G650, Hawker 4000, Learjet

REPRESENTATIVE PROGRAMS

MILITARY AIRCRAFT AND HELICOPTERS

F-35, F-15, F/A-18E/F, F-16, F/A-22, A400M, Japan F-2, Korea T-50, C-27J, C-295, Tornado, Eurofighter-Typhoon, Taiwan IDF, India LCA, Japan CX/PX, X-47 UCAS-D, B-1B, B-2, B-52, C-5, C-130, C-141, KC-10, KC-46, KC-135, M-346, H-60/S-70, H-53, EH-101, S-76, S-92, V-22, V-280, AH-64, A109, AB139, AW129, AW159, BA609, B525, CH-46, CH-47, MQ-25

FACILITIES

AMERICAS

- East Aurora, New York
- Torrance, California
- Oklahoma City, Oklahoma
- Ogden, Utah
- Salt Lake City, Utah
- Seattle, Washington

EUROPE

- Wolverhampton, UK
- Tewkesbury, UK
- Luton, UK
- Toulouse, France

ASIA/PACIFIC

- Baguio City, Philippines
- Bengaluru, India
- Singapore

CRITICAL CONTROL APPLICATIONS AND PRODUCTS

- Engine and cockpit controls
- Active vibration control
- Weapon bay door drives
- Specialty control and wing fold actuation
- Flight control computers
- Navigations aids

SYSTEM INTEGRATION

- Hardware/software integration
- Verification and validation
- Sub-system qualification
- Iron bird testing

SERVICES

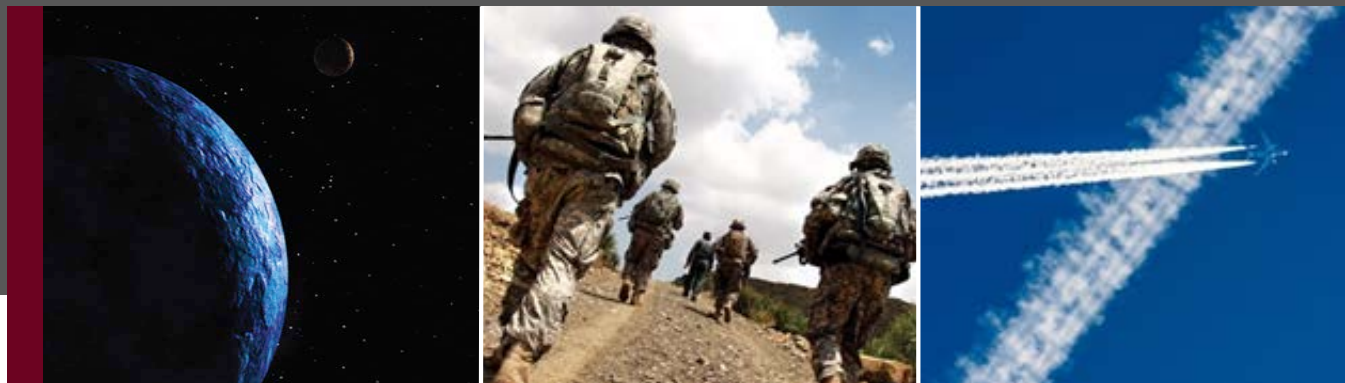
- Commercial and Military Aftermarket
 - Maintenance, repair and overhaul
 - Power by hour
 - Technical support
 - Extensive repair development
- Advanced Manufacturing and Repair
 - Traditional
 - 3D Additive Manufacturing
 - » Design, production, inspection and post processing
- Sustaining Engineering
 - Lab testing, analysis, fabrication/manufacturing, environmental and assembly testing, etc.
- Integrated Logistics Services
 - Turnkey MRO, supply chain management, warehousing and inventory management
 - Import/export control and compliance

MOOG

AIRCRAFT GROUP

Moog Inc.
East Aurora, New York
716.652.5000
www.moog.com/aircraft



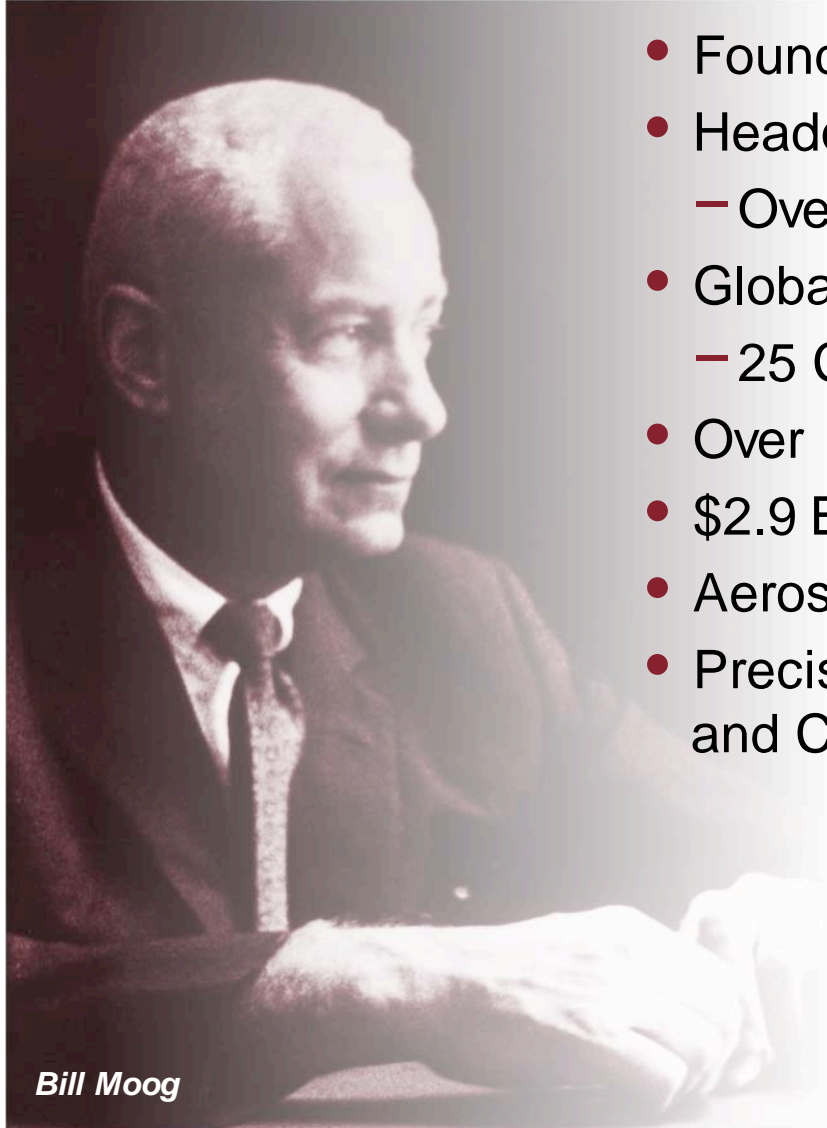


SPACE AND DEFENSE GROUP OVERVIEW

EXECUTIVE SUMMARY

MOOG

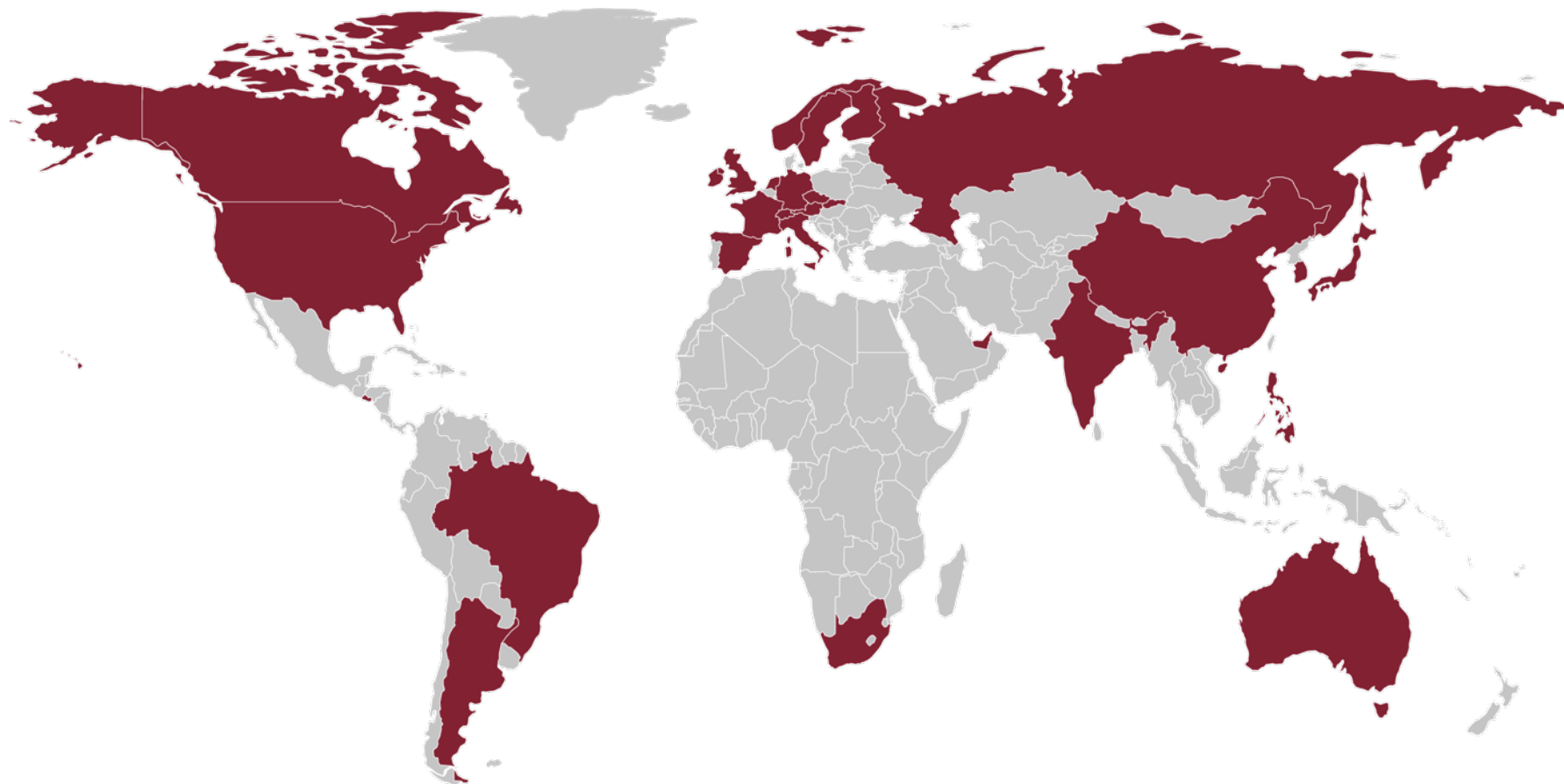
Corporate Snapshot



Bill Moog

- Founded in 1951 by Bill Moog
- Headquarters in East Aurora, NY
 - Over 300 Acre Facility
- Global Company
 - 25 Countries
- Over 11,800 Employees Worldwide
- \$2.9 Billion in Revenue (FY 2019)
- Aerospace, Defense, Industrial
- Precision Control Systems Solutions and Component Provider

Worldwide Presence

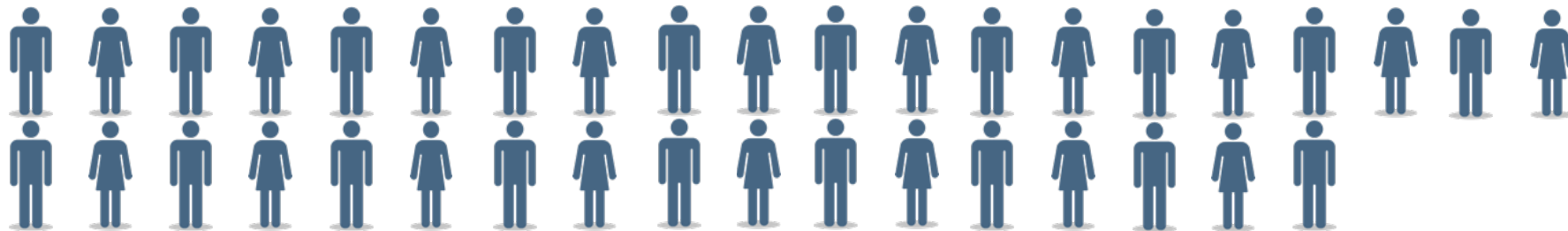


Competent Workforce

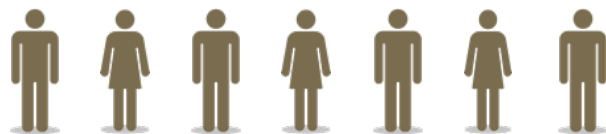
MANUFACTURING: 43%



ENGINEERING: 37%



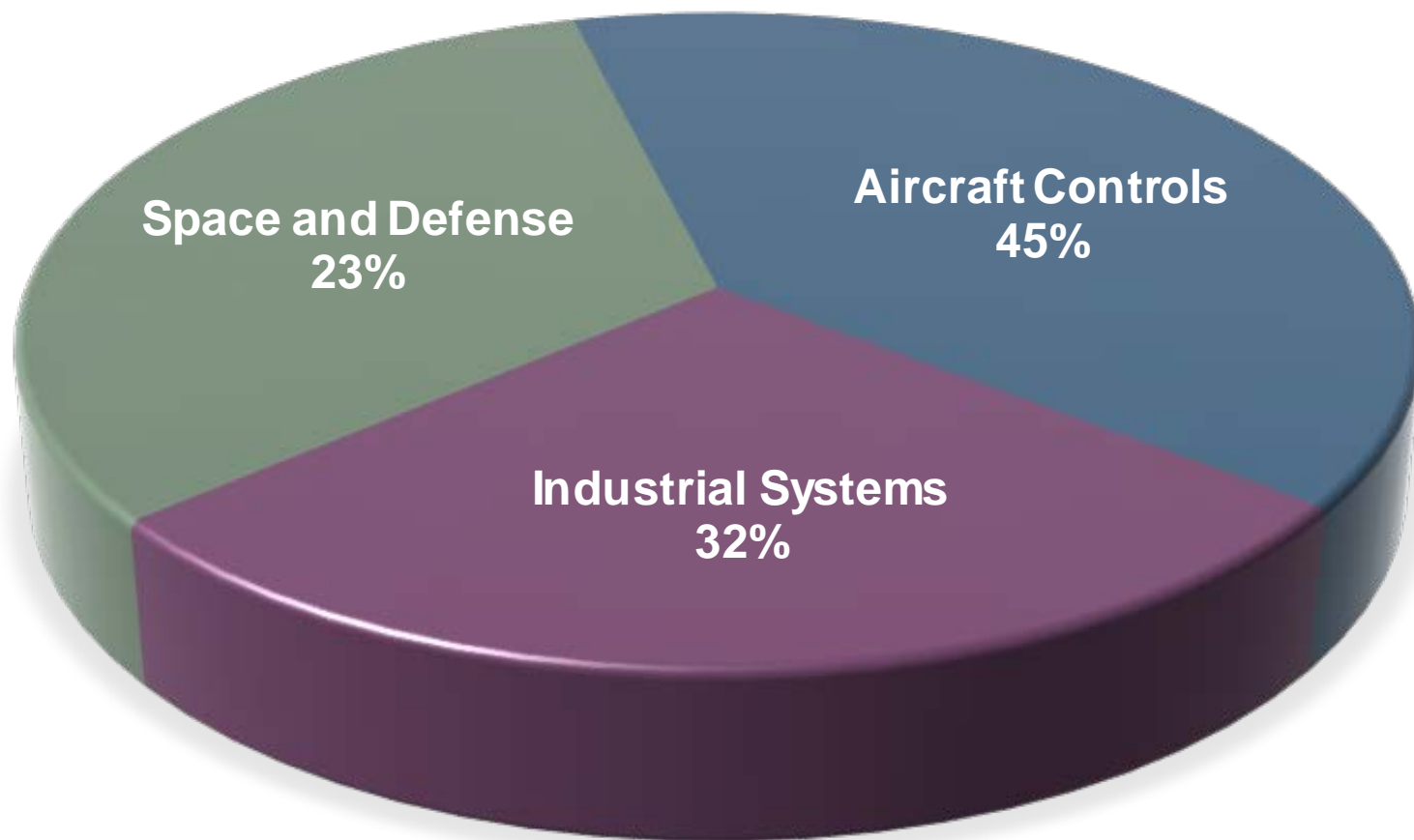
SALES / MARKETING / PROGRAM MANAGEMENT: 7%



ADMINISTRATIVE AND CORPORATE SERVICES: 13%



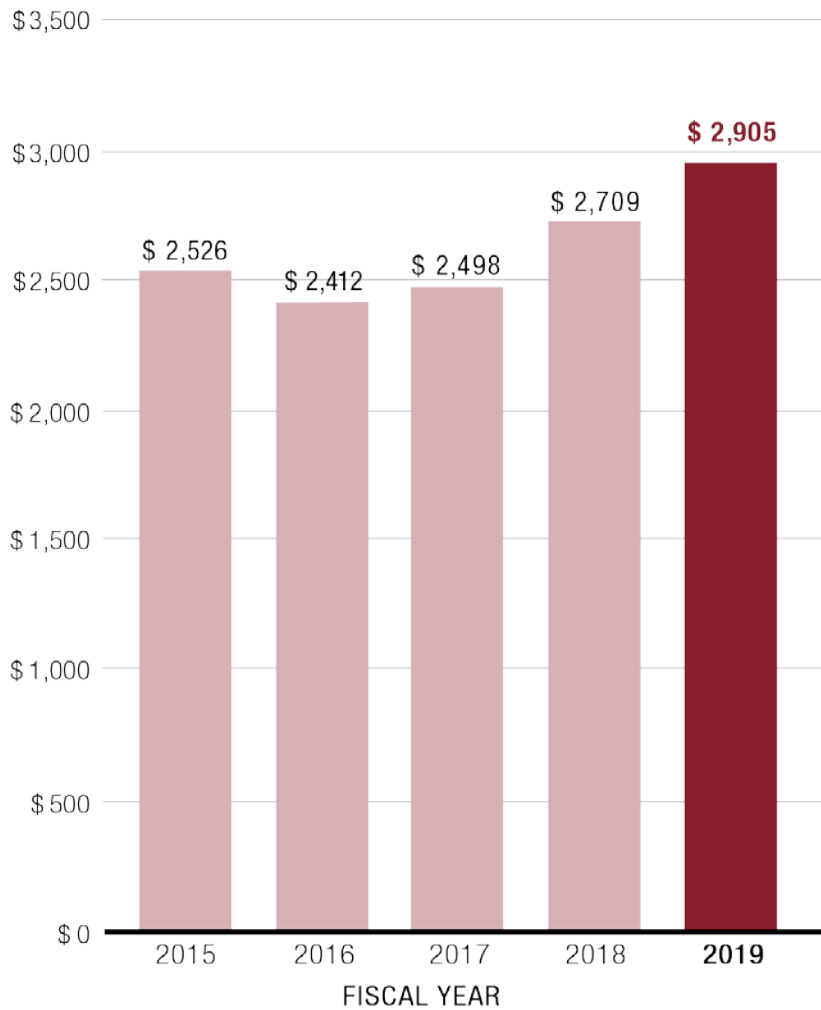
Balanced Revenue Stream by Segment



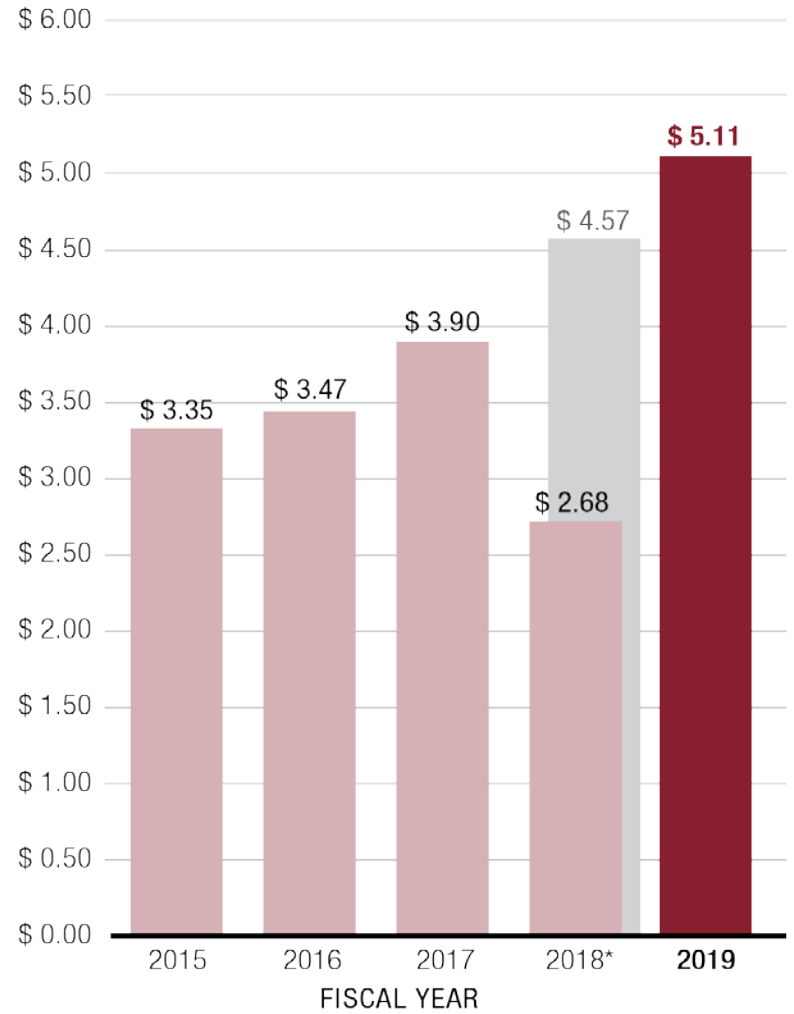
As of 11/02/2019

Financial Performance

REVENUE (Dollars in Millions)



EARNINGS PER SHARE



*2018 adjusted EPS of \$4.57 excludes the impact of charges associated with exiting the wind pitch control business and special impacts from the U.S. Tax Act.

As of 11/02/2019

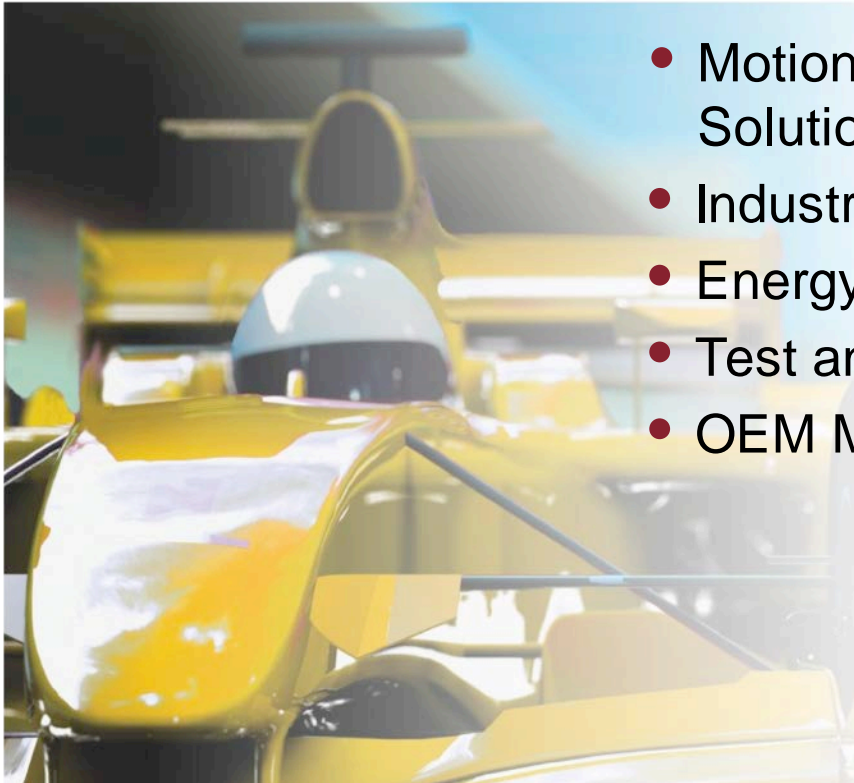
Aircraft Group

- Integrated Flight Control Systems
- Critical Control Applications
- Aftermarket Services & Support



Industrial Group

- Motion Control Slip Ring & Marine, Products, Solutions and Services
- Industrial Machinery
- Energy
- Test and Simulation
- OEM Medical Device Components



Space and Defense Group

- Precision Motion Control for Military Ground Vehicles, Naval Ships and Missiles
- Weaponization of Air, Land and Sea Platforms
- Motion and Fluid Control Solutions for Launch Vehicles and Spacecraft
- Spacecraft Avionics and Payload Electronics
- Surveillance and Video Tracking Systems for Military and other Markets



Moog Inc. Executive Organization



JOHN SCANNELL
CEO



JENNIFER WALTER
VP and Chief
Financial Officer



PAUL WILKINSON
VP and
Chief HR Officer



MARK TRABERT
VP and President
Aircraft Group



MAUREEN ATHOE
VP and President
Space and Defense Group



PAT ROCHE
VP and President
Industrial Group

Space and Defense Group Leadership



MAUREEN ATHOE
President



JANET BYRNE-SAFIER
Power and Data Products



TIM PAWLAK
Space Sector



JIM RIEDEL
Defense Sector



RON BENCKOWSKI
Engineering



PAUL DEASY
Business Process
Management

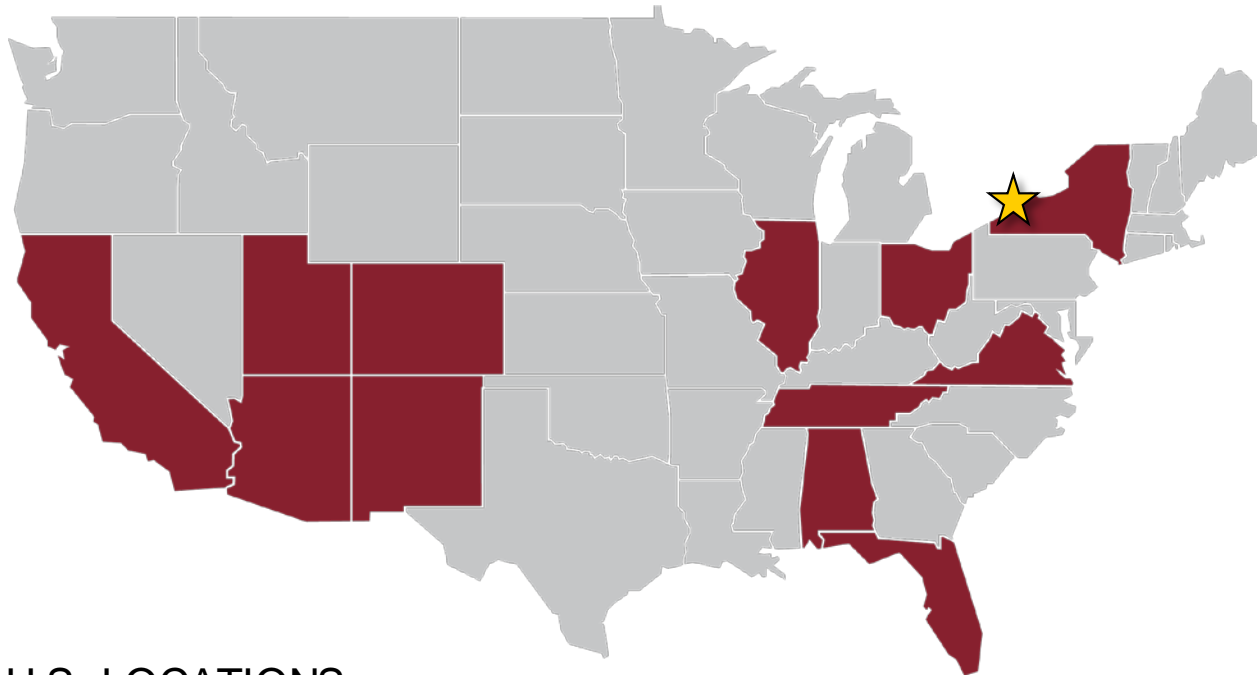


JERRY IRVING
Human Resources



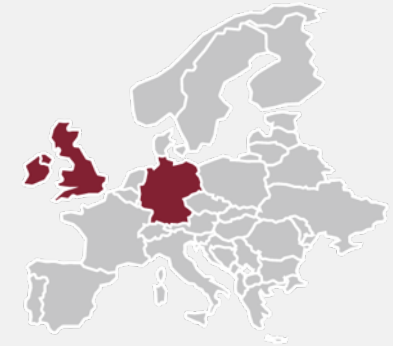
MICHAEL SCHAFF
Finance

Space and Defense Locations



U.S. LOCATIONS

- Huntsville, AL
- Gilbert, AZ
- Chatsworth, CA
- Mountain View, CA
- Santa Barbara, CA
- Golden, CO
- Melbourne, FL
- Orlando, FL
- Northbrook, IL
- Albuquerque, NM
- East Aurora, NY (HQ)
- Niagara Falls, NY
- Orrville, OH
- Johnson City, TN
- Salt Lake City, UT
- Blacksburg, VA
- Galax, VA



EUROPE LOCATIONS

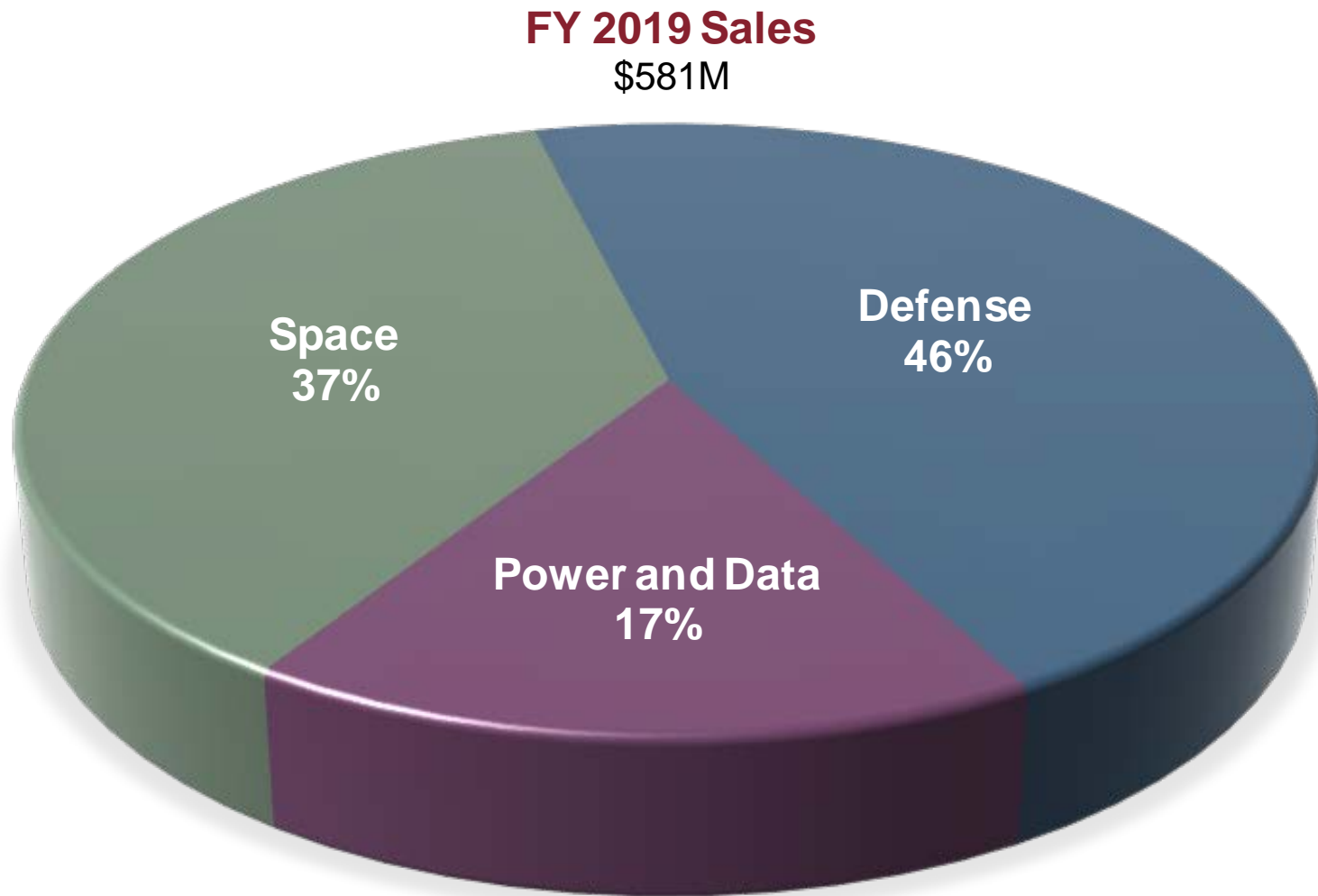
- Böblingen, Germany
- Cork, Ireland
- Reading, UK



AUSTRALIA LOCATION

- Melbourne, Australia

Space and Defense Revenue

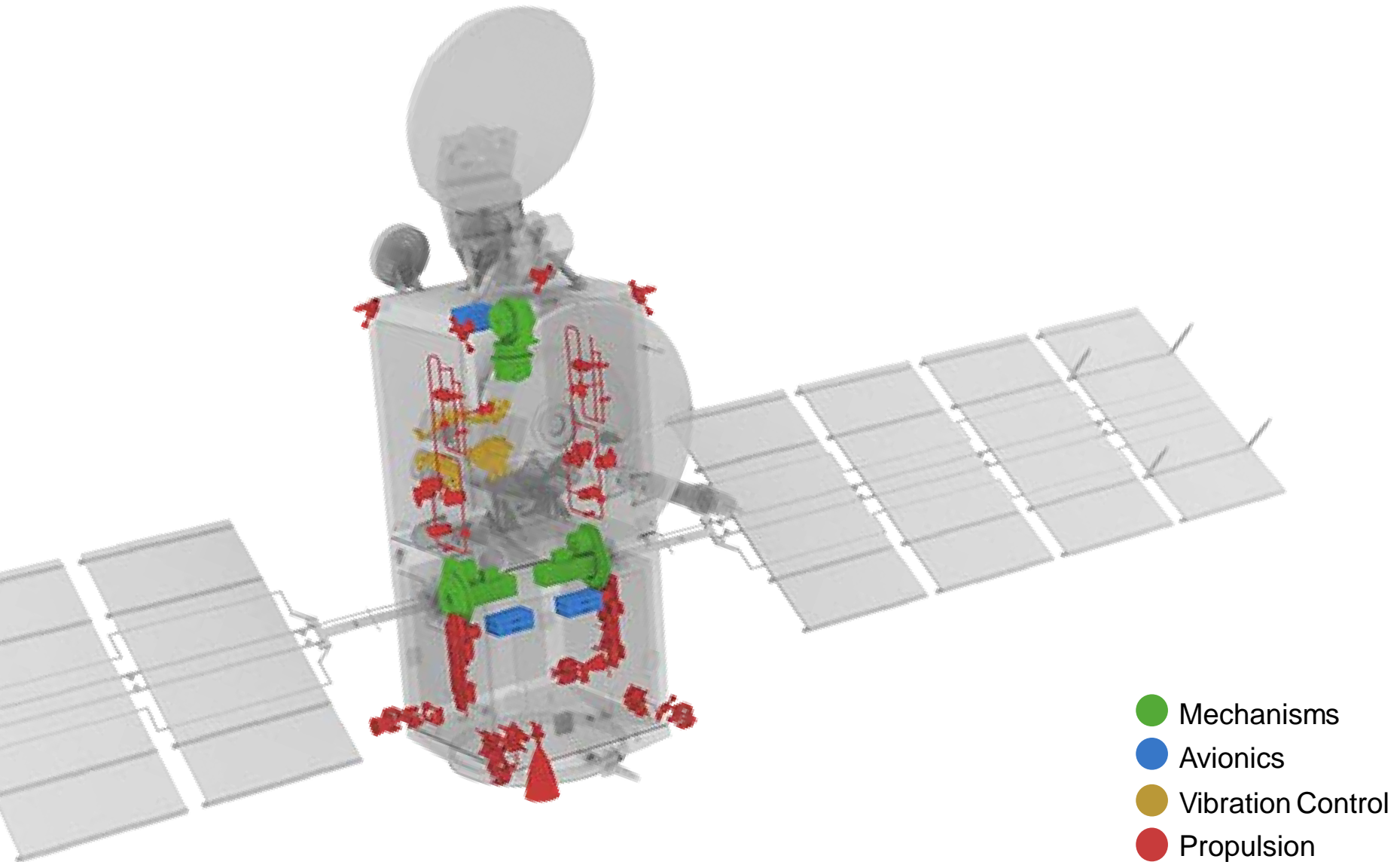


As of 11/02/2018

A space-themed background featuring a large, detailed Earth in the foreground on the left, a smaller Moon in the upper center, and a bright Sun in the upper right. The scene is filled with numerous small white stars against a dark, gradient background.

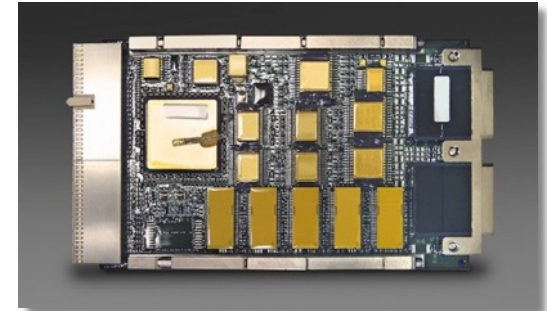
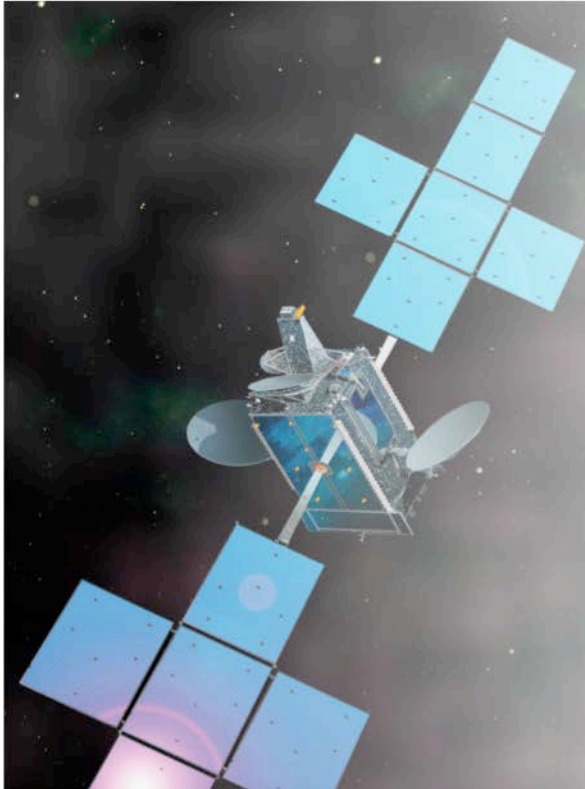
Space

Satellite Controls

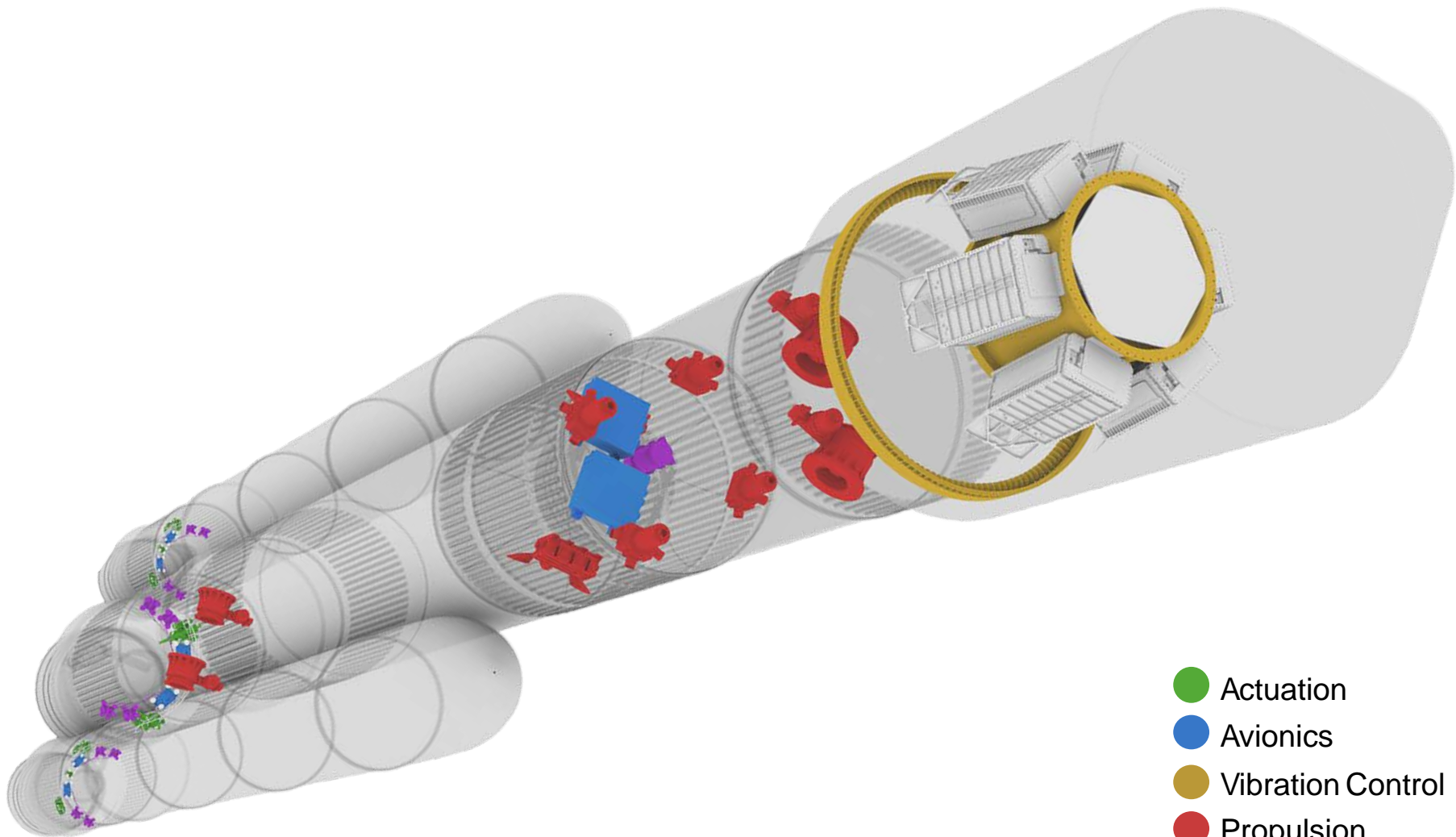


Spacecraft Controls

- Chemical and Electric Propulsion
 - Chemical Rocket Engines
 - Valves, Regulators and Flow Controllers
- Avionics
 - Command and Data Handling
 - Power Management
 - Motor Controllers
 - GPS Receivers
- Positioning Mechanisms
 - Rotary and Linear Actuators
 - Gimbals for Antenna and EP Thrusters
 - Solar Array Drive Assemblies



Launchers



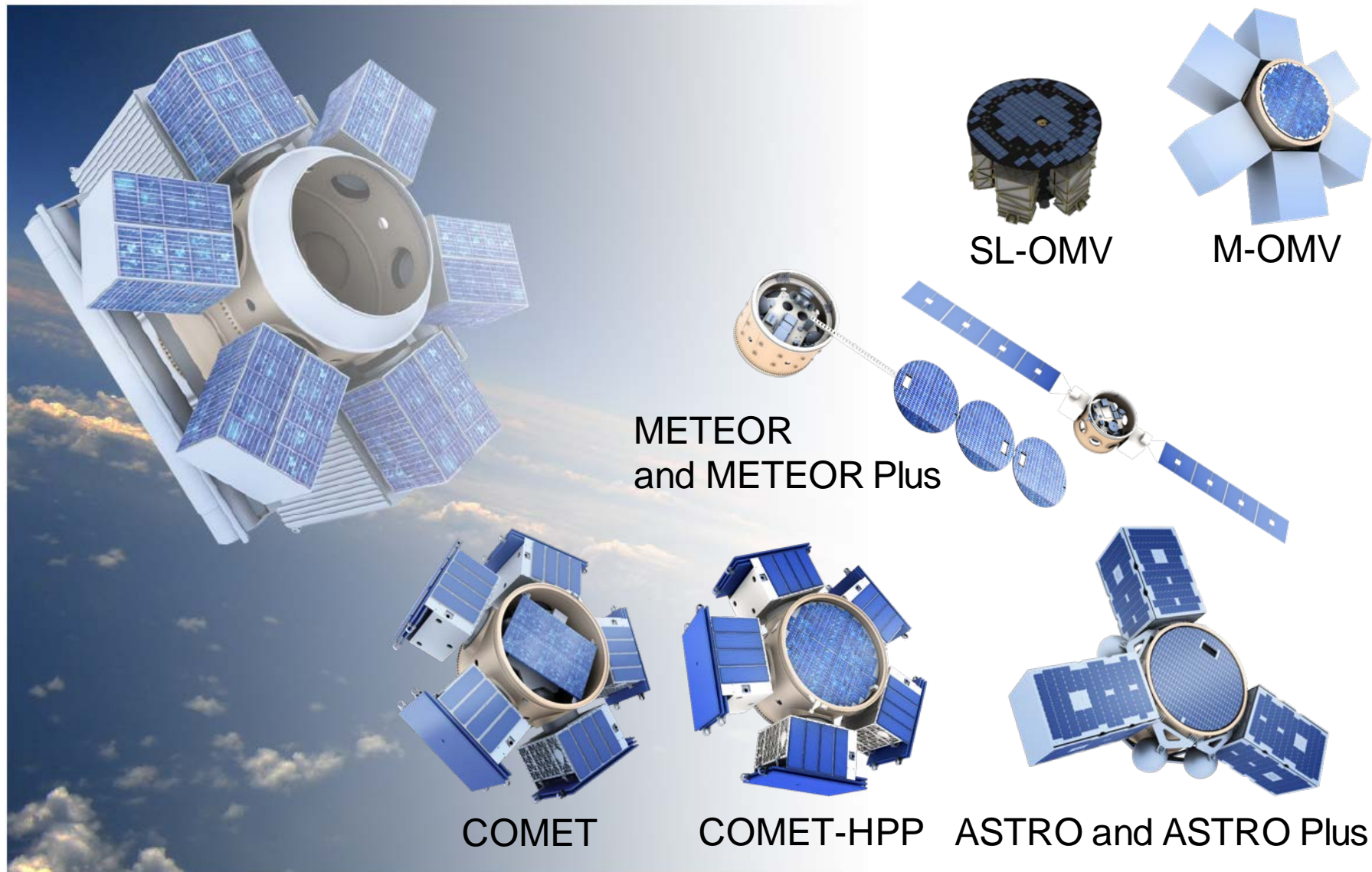
- Actuation
- Avionics
- Vibration Control
- Propulsion
- Power

Launchers

- Structures and Payload Accommodation
- Avionics, Power and GNC
- Actuation Systems
- Propulsion
- Environmental Control



Moog OMV Family – Solutions for Any Mission





Defense

Defense – Air

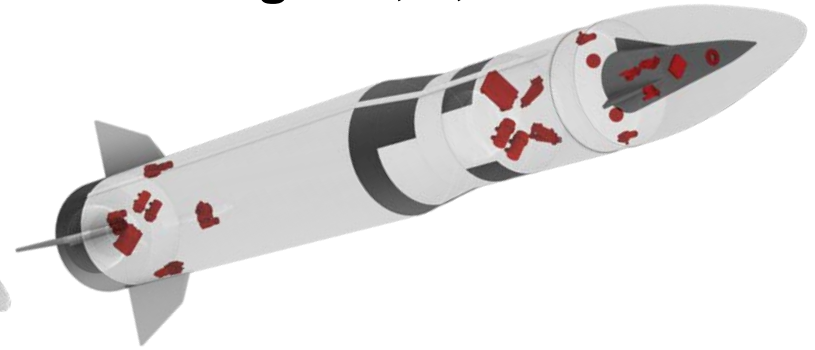
- Precision Missile Steering and Seeker Motors
- Divert and Attitude Control
- Gun Turret Control Systems
- Weapon Stores Management Systems
- Helicopter De-Ice System Slip Rings
- EO/IR Target Acquisition Components



Air Defense Systems



- **Missile Steering and Seeker Controls**
- **Offensive and Defensive Hypersonic Solutions across Stages 1, 2, and 3**



- **SMS for Guns, Rockets and Precision Guided Munitions**
- **EO/IR and De-ice Slip Rings**

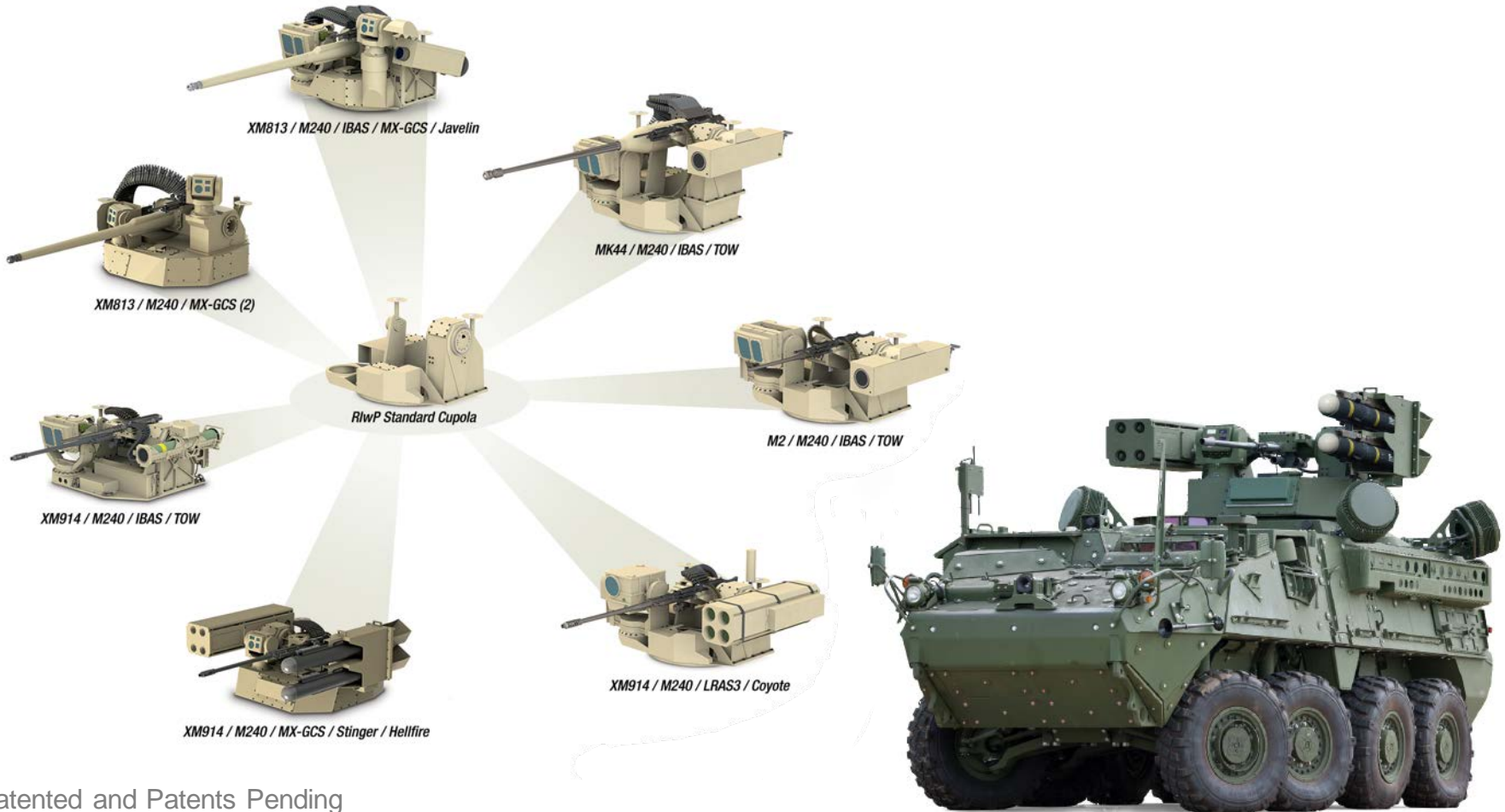
Defense – Land

- **Turreted Weapon Systems and Integration**
- **Stabilized Motion Control for Turrets, Launchers, Expeditionary Radar and Sighting Systems**
- **Remote Weapon Operation and Fire Control**
- **Conversions and Upgrades**
- **Turret, Radar and Gimbal Components**
- **Counter-UAS Solutions**



Land Defense Systems

RIP RIwP (Reconfigurable Integrated-weapons Platform)



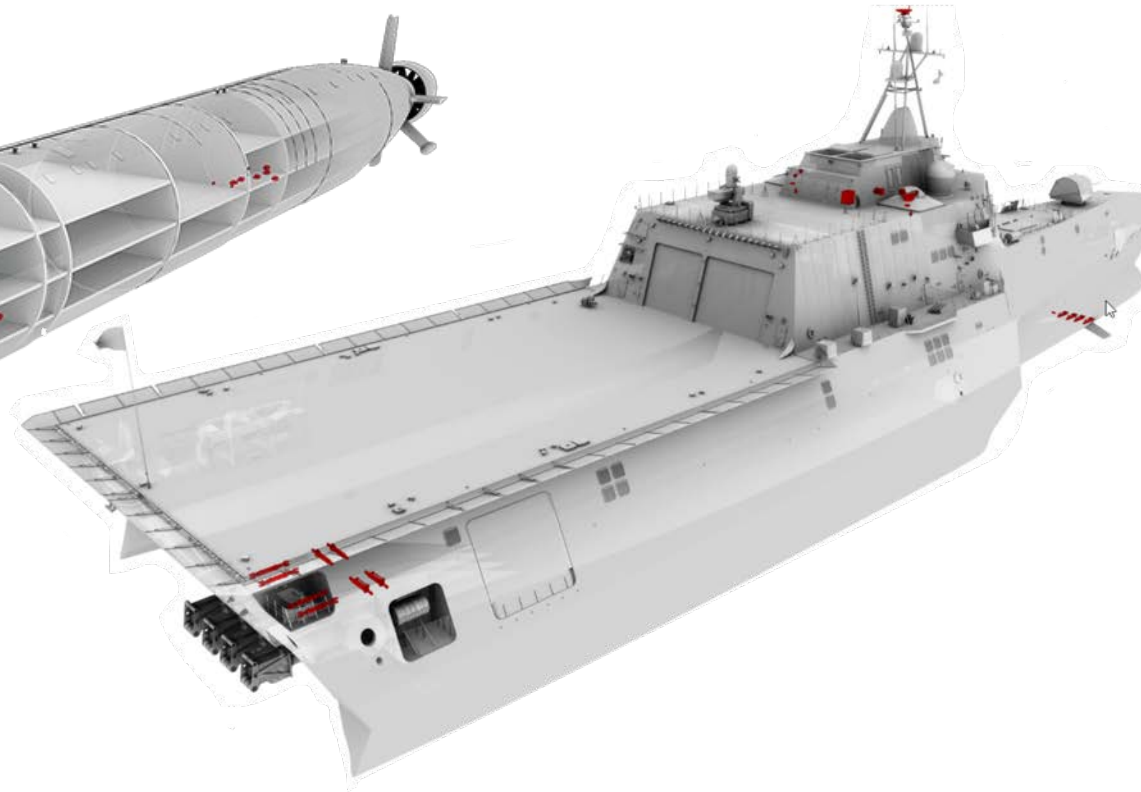
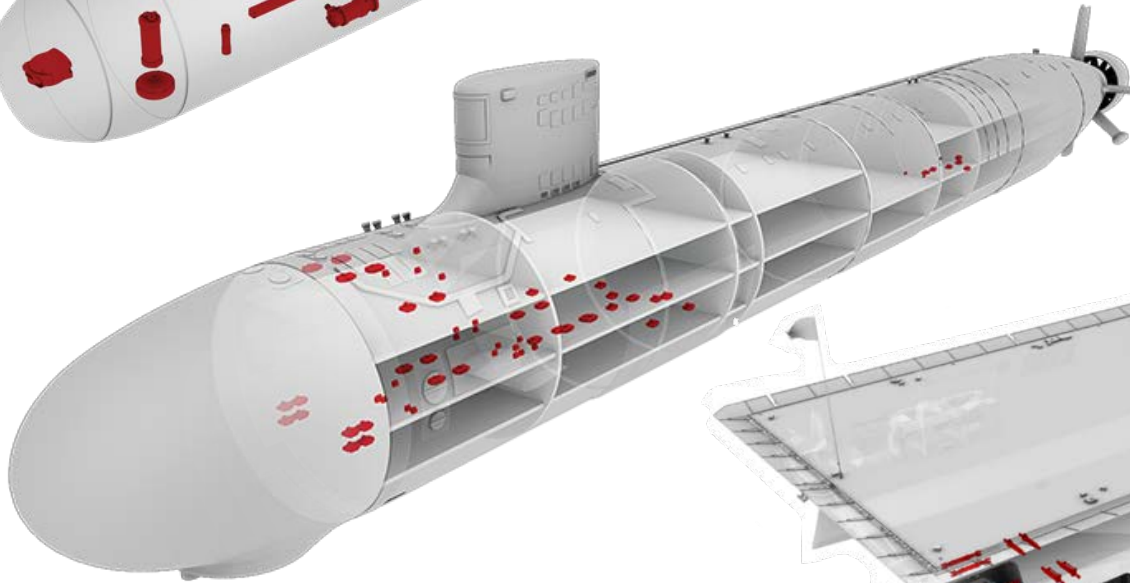
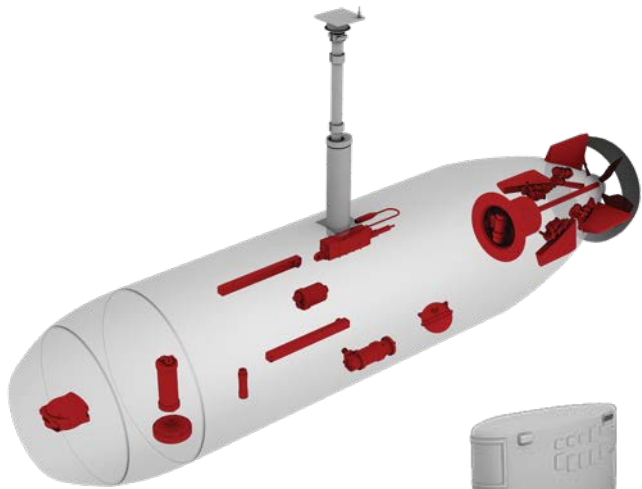
Defense – Sea

- **Submarine Quiet Actuation Control**
- **Unmanned Undersea Vehicle (UUV) Quiet Propulsion and Actuation**
- **Torpedo Steering Control**
- **Turret Motion Control and Stabilization**
- **Weapon Stores Management Systems**
- **EO/IR, Radar and Turret System Components**



Naval Defense Systems

- Propulsion and Controls for UUV
- Subsea Quiet Actuation for Nuclear Submarines
- Surface Ship Weapons and Stabilization
- Sonar

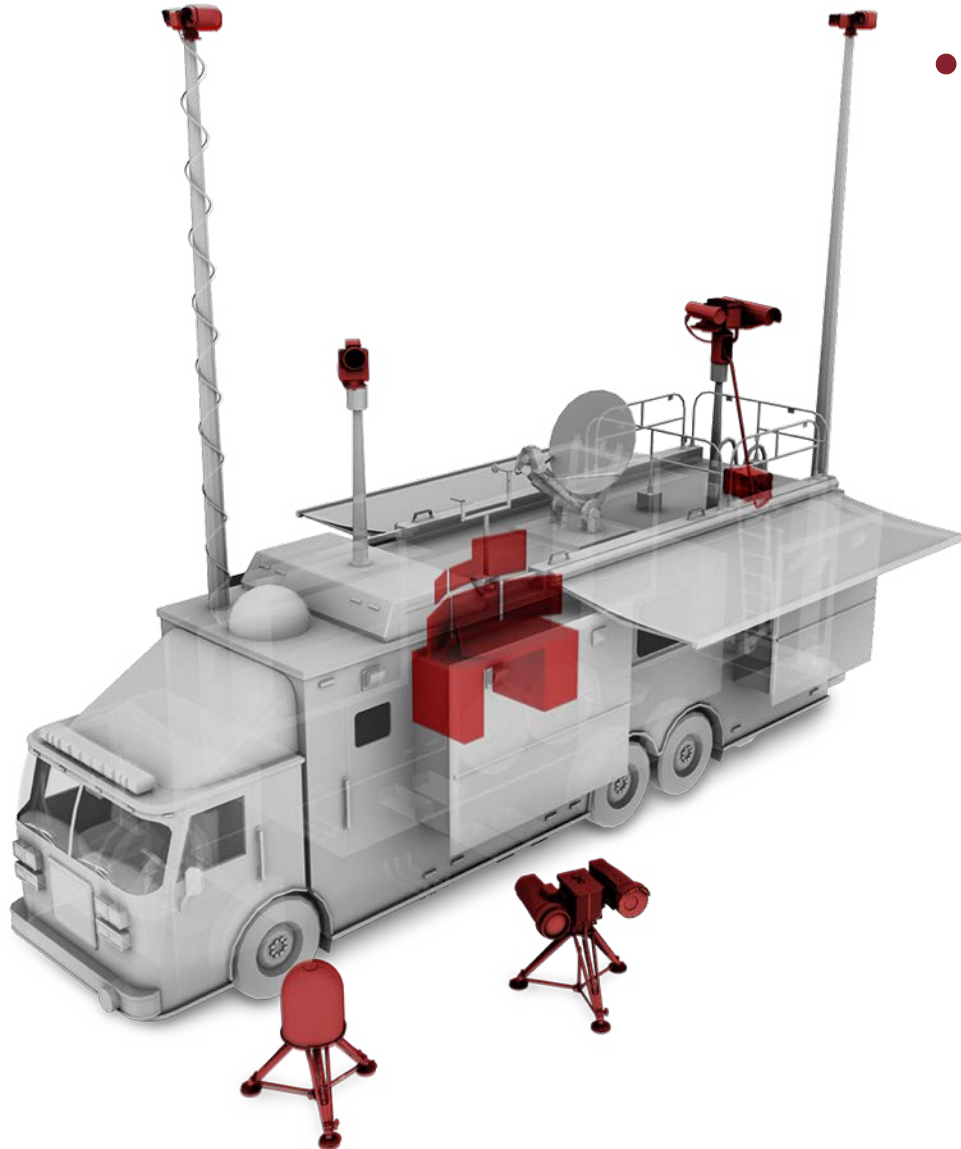


Surveillance and Sensor Integration

- **System Integration for Military, and Commercial Applications**
- **Camera Systems and Enclosures**
 - Short, Mid and Long Range
 - Thermal and Custom Solutions
- **Pan and Tilt Positioners and Components**
- **Tripods and Poles**
- **Video Tracking Cards and Systems**
- **Counter-UAS Solutions**



Security Systems



- **Fully Integrated Solutions Including:**
 - Cameras, Tripods, Positioners, Video Trackers and More



Power and Data

Power and Data, Motion Control Components

- **Multi-Component and System Level Solutions for Electro-Optics/Infrared Sensors**
- **Aircraft Servos and Utility Actuators for UAVs**
- **Communication Networking Ethernet Switches, Media Converters, Optical Transceivers**
- **Motors, Resolvers, Slip Rings for Solar Array Drive Assemblies, Armored Vehicle and Remote Weapon Station Turrets**



Summary



- **Critical Applications When Performance Really Matters**
- **Worldwide Manufacturer**
- **Dedicated, Talented, Ambitious People Across All Disciplines**
- **60+ Years of Heritage in the Aerospace and Defense Markets**

Commitment to our customers, partners and employees