



2025 Company Overview

Impossible Ends **Here** 

About Us

Enabling The Nation's Most Essential Missions
Responsive. Agile. Integrated.



50+ Years
In the Industry



1,100+
Skilled
Team Members



180+ Engineers
Mechanical/Structural,
Electrical, Ordnance, etc.



+ 875,000 Sqft
Production Space



Secured Production
Facilities and Personnel

Supporting

80+
Prime Contractor
Customers

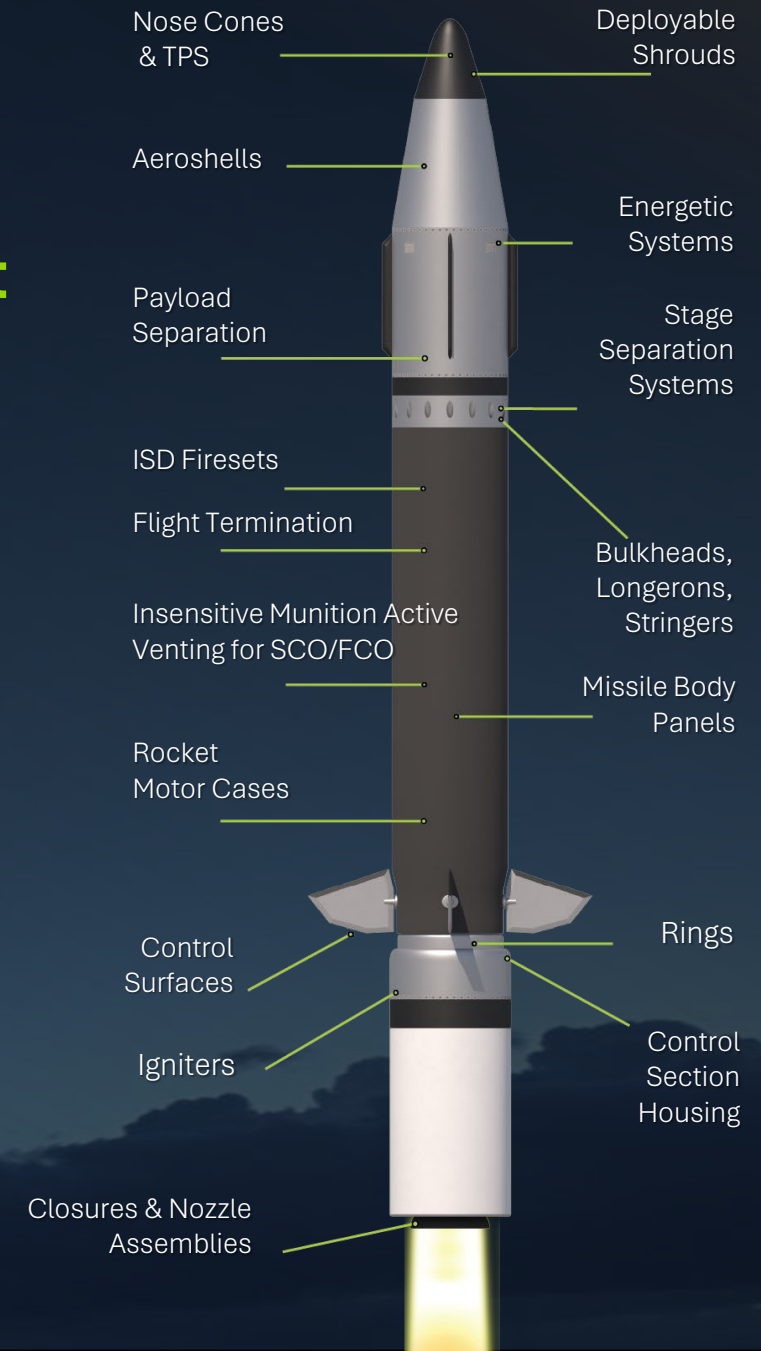
130+
Programs
Across Full Lifecycle

Who We Are

Karman is a leader in the **rapid design, development and production** of critical, next-generation system solutions for customers operating across:

- Launch Vehicles
- Satellites
- Spacecraft
- Missile Defense
- Hypersonics
- Unmanned Aerial Vehicles (UAVs)

Integrated Systems & Sub-Systems Solutions Provider



Growing Footprint Aligned With Major Industry Centers

Meeting mission-critical demands with **speed, agility, and seamless execution**

Unique Manufacturing Capabilities

- Bonding
- Bump Forming
- Carbon-Carbon Production
- Composite Layup
- Compression Molding
- Electron Beam Welding
- Energetic / Propellant Formulation
- Filament Winding
- Five-Axis Precision Machining
- Forging
- Laser Welding
- Refractory Metal Forming
- Roll Forming
- Spin Forming



Why Karman

50+ Years of Trusted Technologies

We leverage a wide range of flight-proven and qualified technologies that enable us to deliver tailored solutions.

Customer Collaboration

We prioritize cost, performance, and schedule to meet your needs.

Design Optimization

Early design and final design are optimized for high-rate production.

Field-Ready, Reliable Systems

High TRL / MRL with proven production on several missile and space systems across DoD missions

Integrated System and Subsystem Solutions

Increased efficiency

Our Values

Inspire
Trust



Think
Unconventionally



Solve
Strategically



Demonstrate
Collaboration



Deliver
Excellence

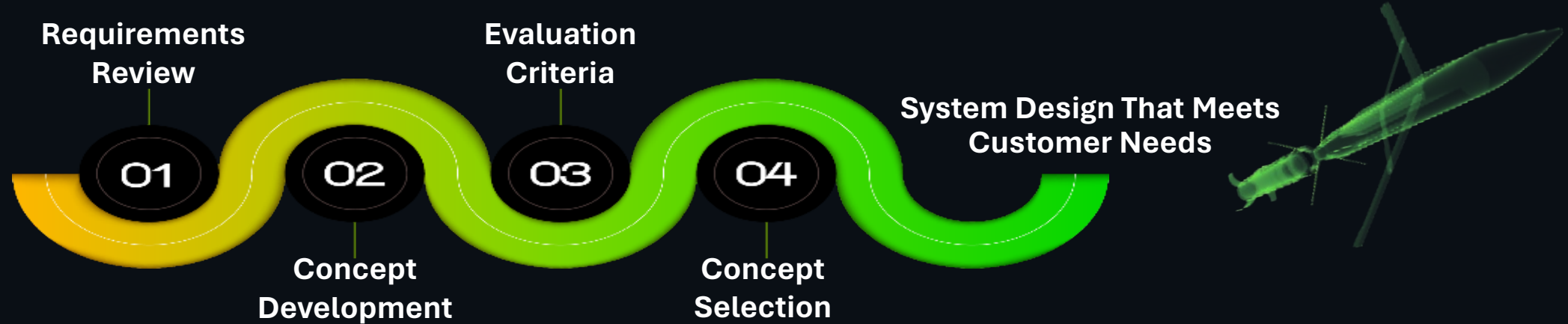


BE
RELENTLESS



From Concept to Qualification, All In-House

Faster Delivery. Greater Control. Fewer Vendors



In-House Design & Analysis

- Performance Modeling
- Proprietary Flow Dynamic Models
- Computational Fluid Dynamics (CFD)
- Ballistic Models for Energetics
- Aerothermal and Ablation Analysis
- Ballistic/Kinematic Analysis for Deployment
- Multi-physics Models for System Analysis
- LS-DYNA
- Femap with NX Nastran
- SimWise 4D
- Star CCM CFD

Qualification & Testing

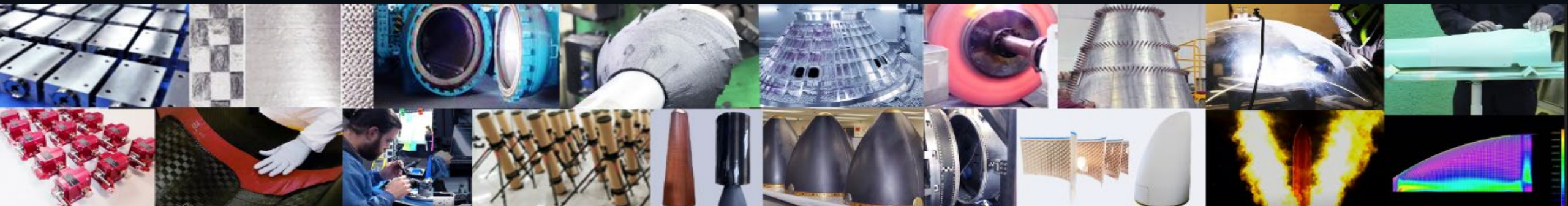
- Energetic System Testing
- 1.1, 1.3, 1.4 Hazard Class Systems
- Non-Destructive Testing (NDT)
- Environment Testing
- Material Property Characterization
- Thermal & Structural Testing
- Dynamic System Testing
- Hot-Fire Testing
- Flight Testing

In-House Production & Manufacturing

- Final System Assembly (Next Slide)
- Manufacturing ERP System
- High-Rate Production Cells
- AS9100-2016D, AS9100D, ISO 9001:2015
- Approved by: NASA, MDA, DoD, + more
- DOD 4145 and BATF Explosive Licenses
- NADCAP Merit Status – Heat Treating
- Model Based Definition (MBD)
- Digital Product Definition (DPD)

Vertically Integrated Manufacturing Capabilities

Scalable Production and Complete Supply Chain Control



Energetic System Production

- Propellant Formulation
- Propulsion/Launch Systems
- Separation & Deployment Systems
- Dynamic System Testing
- System Performance & Hot-Fire Testing
- Initiation

Safe & Arm Systems
Ignition Safety Devices
Firesets

Advanced Composites & Materials

- Composite Systems
 - Ply-Layup, AFP, Filament Winding (Wet & Tow-Preg), VARTM, RTM, Infusion,
- Compression Molding, Tape Wrapping
- Metal-Ablative Systems, Rocket Motor Nozzles + more
- Class 100k Clean Room Space
- Materials (Slide 11) Including Carbon-Carbon & Ablatives
- Small & Large Systems
 - Filament Winders up to 62"Ø x 22'L
 - Autoclaves/Hydroclaves up to 10'Ø x 30'L

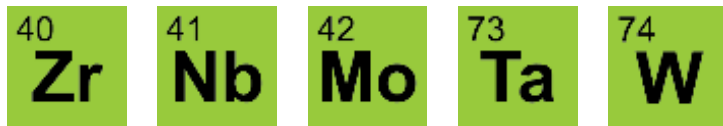
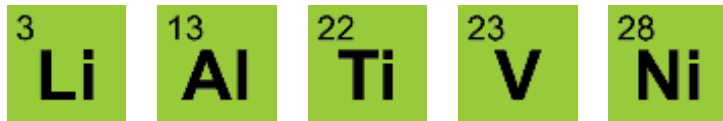
Precision Metallic Assemblies

- Spin Forming
- Brake/ Roll / Bump Forming
- Refractory Metal Forming
- Complex Metal - TPS Assemblies: bonding, corking, vulcanizing, coating
- Certified Weld Fabrication: Electron Beam, Laser, Spot Welding
- Small & Large Systems
 - Spin Forming (84" Diamer, L= 70")
 - Over >150 Machines for Metal System Production.
 - Large Diameter Turning (220") Milling (130').

Karman works with a comprehensive range of **metallics and composites**, ensuring high-performance solutions for mission-critical aerospace and defense applications.

Metallics

- Aluminum
- Aluminum-Lithium
- Tantalum
- Titanium
- Stainless & Alloy Steels
- Nickel superalloys (Inconel, Hastelloy)
- Molybdenum, TZM, Tungsten
- Other difficult-to-machine alloys



COMPLETE PARTS & SUB-SYSTEMS

Combining metallics, composites and energetic systems to deliver a finished product



Ultra-High Temp Missile & Space System Composites



Missile & Space Systems Shrouds



Missile & Space System Heat Shields



Transition from Metallic to Composite and Vice Versa

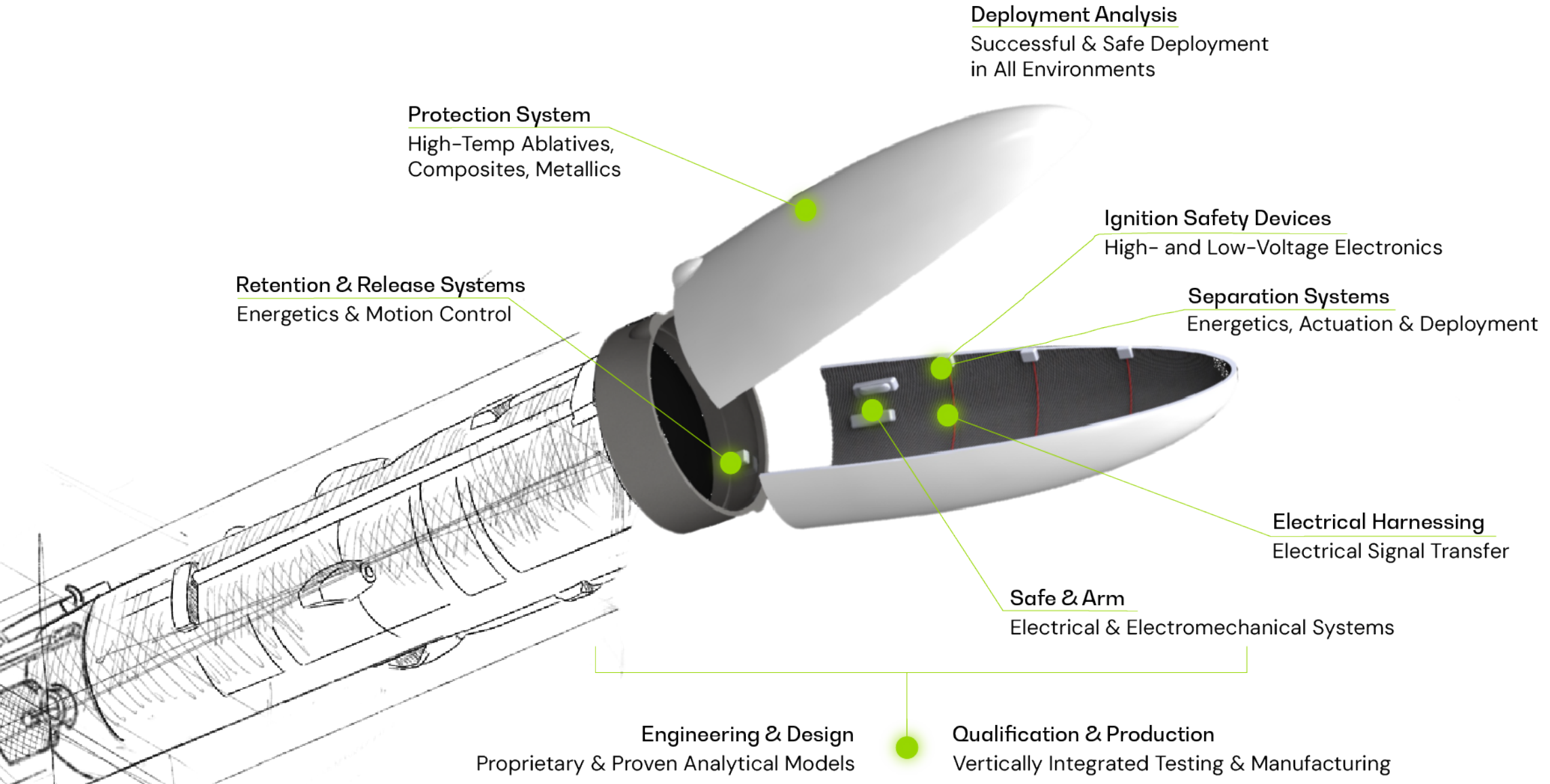
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Composites

- Carbon-Carbon Composites
- Ceramic Matrix Composites
- Polymer Matrix Composites
- Structural Composites
 - Epoxy, BMI
- Ablative Composites
 - Phenolic, MG, PN
- Fibers: Carbon, Glass, Silica, Kevlar, Quartz
- High Char Yield Resin systems



Payload Protection & Deployment Shroud Systems



Aerodynamic Interstage Systems

Design and Production: From Electrical Signal to Deployment



Ignition Safety Devices

High- and Low-Voltage Electronics

Safe & Arms

Electrical & Electromechanical Systems

Separation Systems

Energetics, Actuation & Deployment

Actuation & Motion Control

Solid Propellant Gas Generators, Energetics, Electromechanical Systems

Qualification & Production

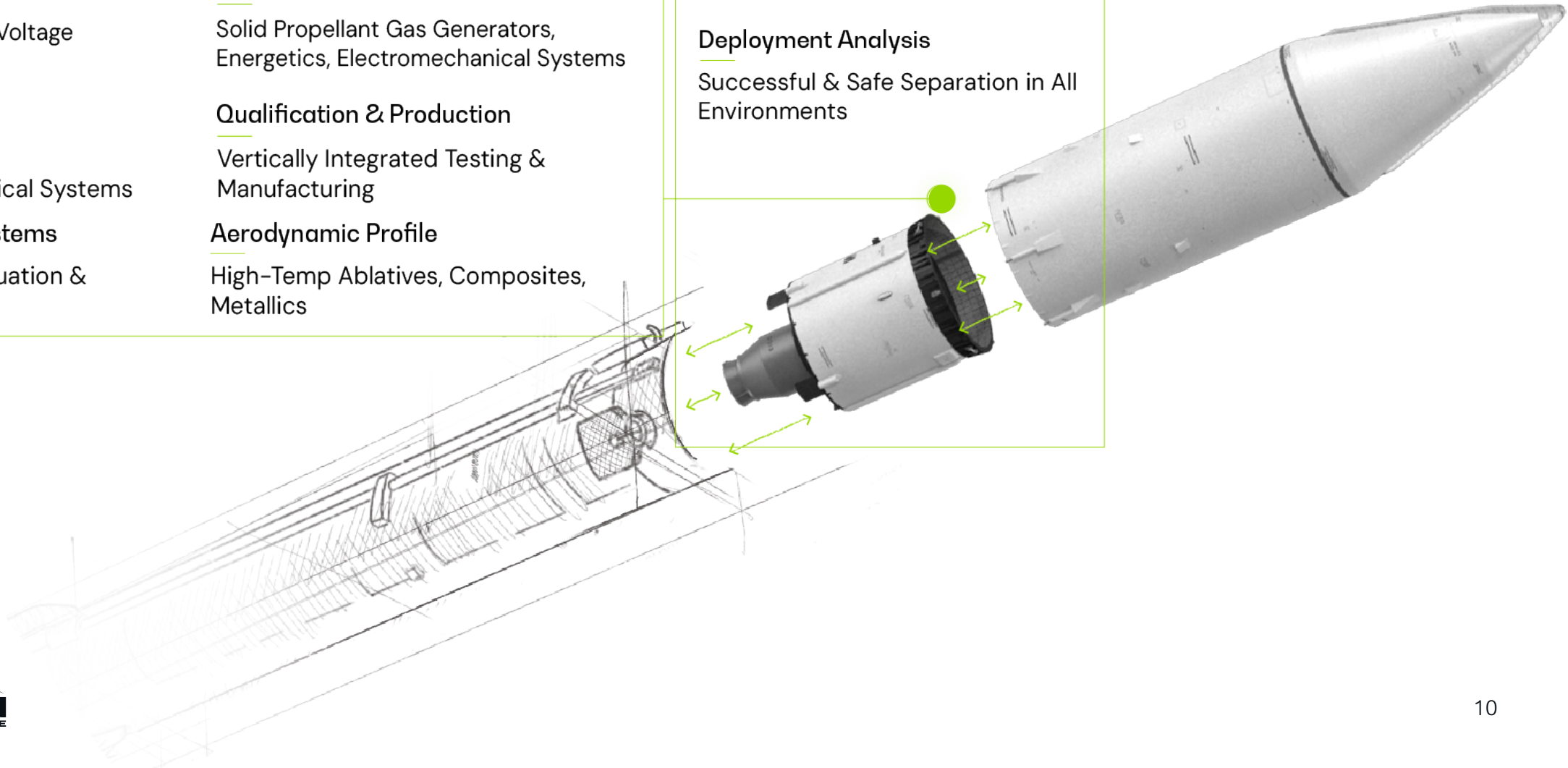
Vertically Integrated Testing & Manufacturing

Aerodynamic Profile

High-Temp Ablatives, Composites, Metallics

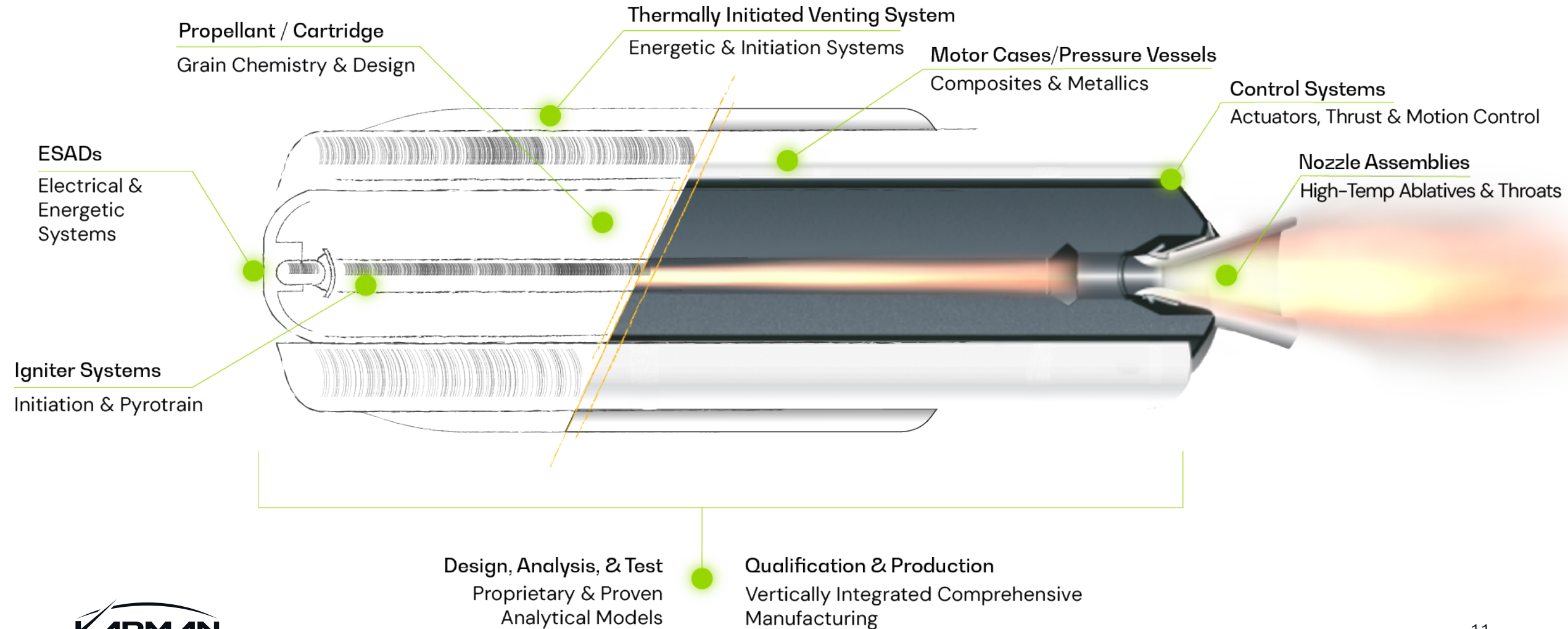
Deployment Analysis

Successful & Safe Separation in All Environments



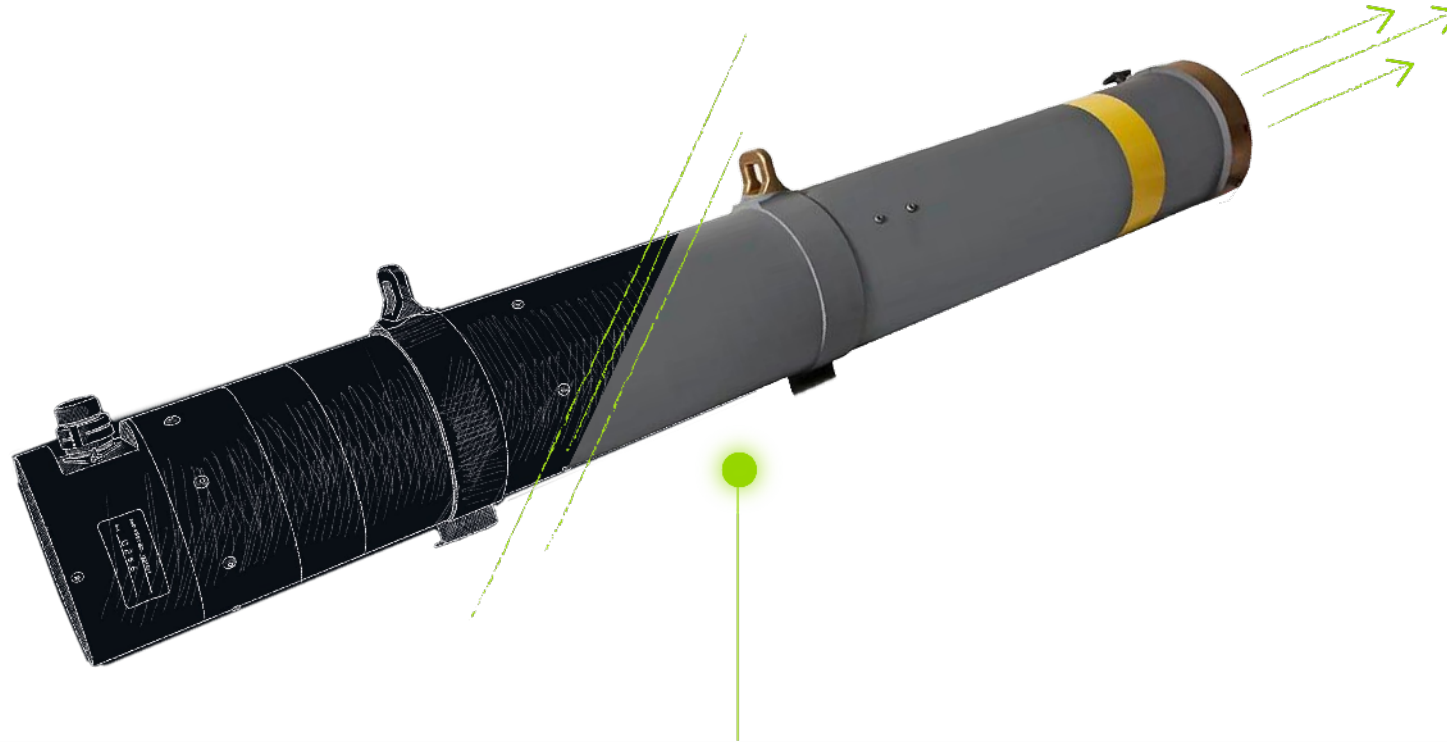
Propulsion Systems

20,000+ Qualified Solid-Propellant Systems



Propulsion Systems

Launch Canisters: Composite and Metallic



Design & Analysis

Proprietary & Proven Analytical Models

Safe & Arms

Electrical & Electromechanical Systems

Payload Deployment

Solid Propellant Propulsive Systems

Flight & Ground Testing

Performance Model Validation

Launchers

Metallic & Composite Assemblies

Qualification & Production

Vertically Integrated Testing & Manufacturing

Ignition Safety Devices

High- and Low-Voltage Electronics

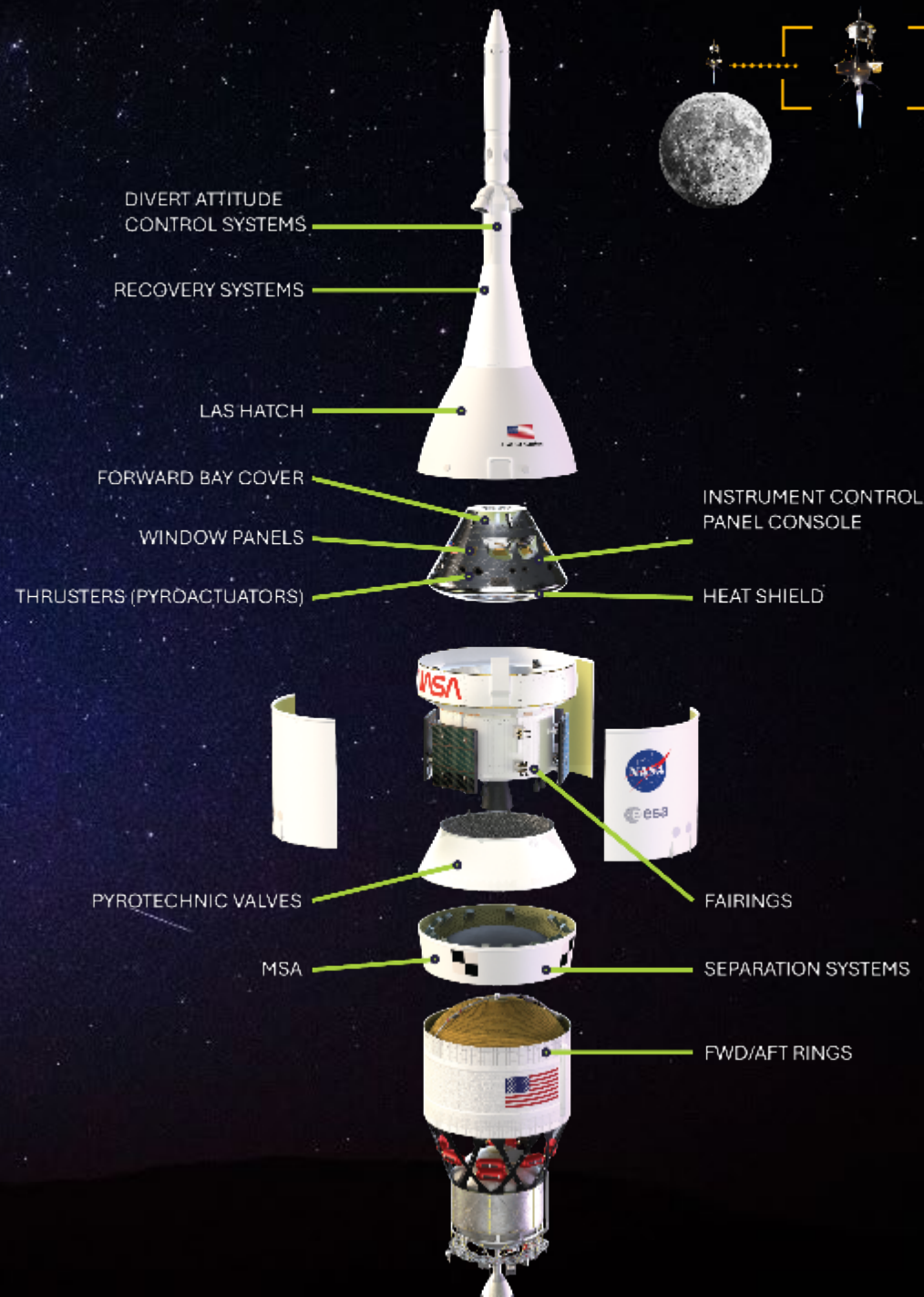
Actuation & Control

Pyroactuators & Release Systems

Space & Launch

Flight-Proven TRL 9 Systems Supporting
DoD, Commercial, and Civil Space Missions

Spacecraft
Launch Systems
Lunar Landers
Ground Stations



SPACE & LAUNCH GALLERY

DYNAMIC & ENERGETIC SYSTEMS

- Recovery Systems
- Hatch Release Mechanisms, Pin-Puller Pusher Mechanisms
- Separation Systems
- Pyrotechnic Valves
- Thrusters, Pyro actuators
- Separation Systems
- Solid Booster Separation
- Safe & Arm
- Explosive Devices:
- Cutters, Pin Pullers, Pin Pushers, Pyro valves

ADVANCED COMPOSITES, ABLATIVES, HIGH TEMP MATERIALS

- Thermal Protection System Heat Shields
- Composite Rocket Motor Cases & Nozzle Assemblies
- SRM Section & Composite Case
- Nosecones & Fairings
- Intertank
- Tunnel & Raceway Covers

METALLICS

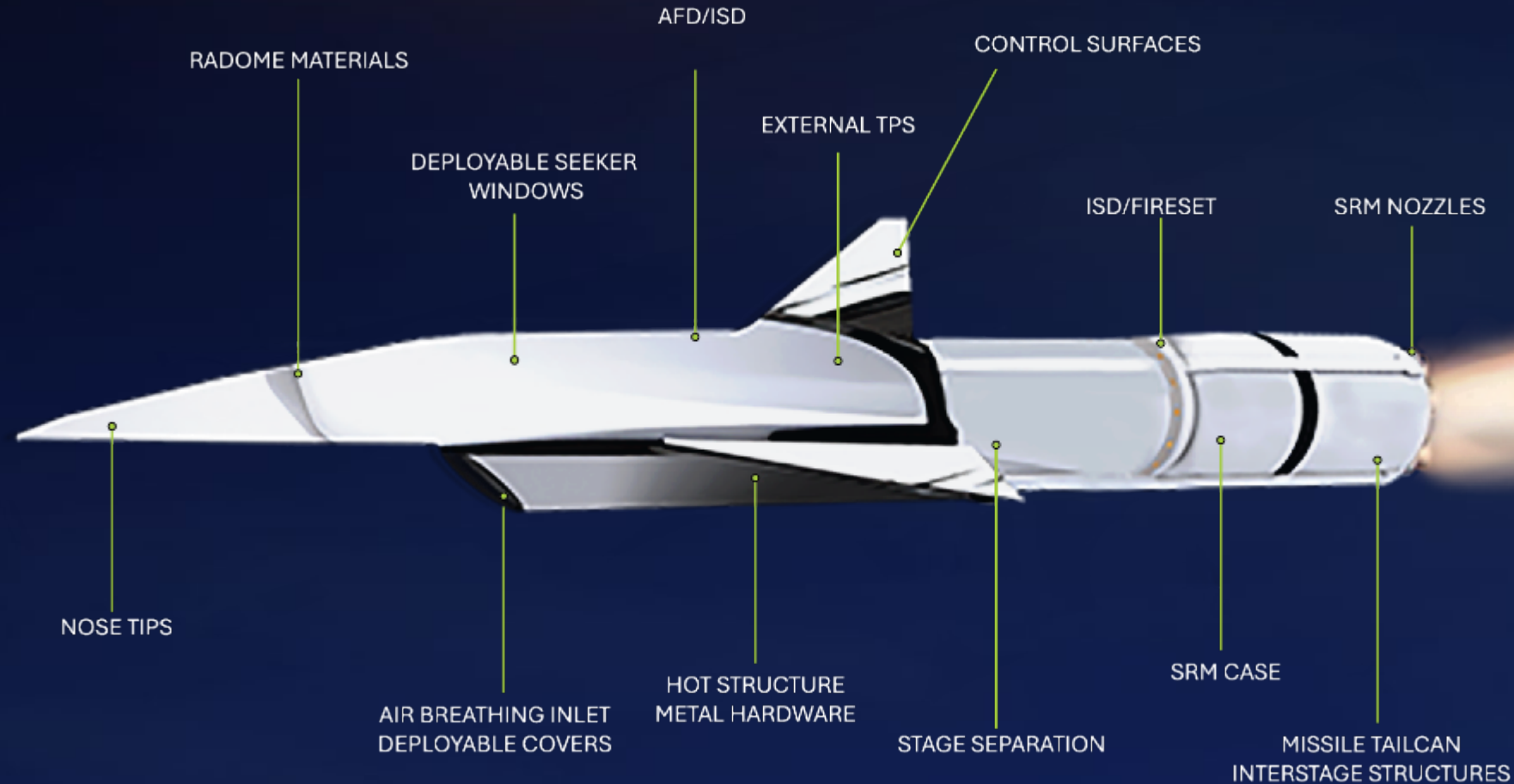
ADVANCED MANUFACTURING & ASSEMBLIES

- Divert Attitude Control Assemblies, Nozzles
- Large Diameter Precision Machined Rings, FWD/AFT Rings, Manifolds, Thruster Housing
- Insulated Metallic Rocket Motor
- Launch Abort System (LAS) Hatch
- Multi-Stage Adapter (MSA)
- Large Diameter Structures, Isogrid/Orthogrid Panels, Window Panels
- Instrument Control Console
- Equipment Shelf
- Stage Adapters, LVSA
- Forward Skirt / AFT Skirts
- Booster Attachment Hardware
- Engine Section Closeout Door
- Liquid Hydrogen Tank / Liquid Oxygen Tank



Hypersonic & Strategic Missile Defense

Trusted, Fielded Solutions Supporting DoD Missions and Our Warfighters



Air-Breathing Hypersonic | Ballistic and Cruise Missiles
Boost-Glide Vehicles | Intercept Systems

Integrated Defense Systems

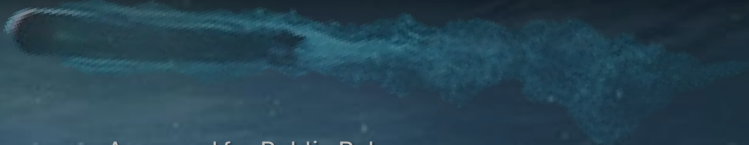
Flight-Proven and Fielded

Air
Ground
Maritime

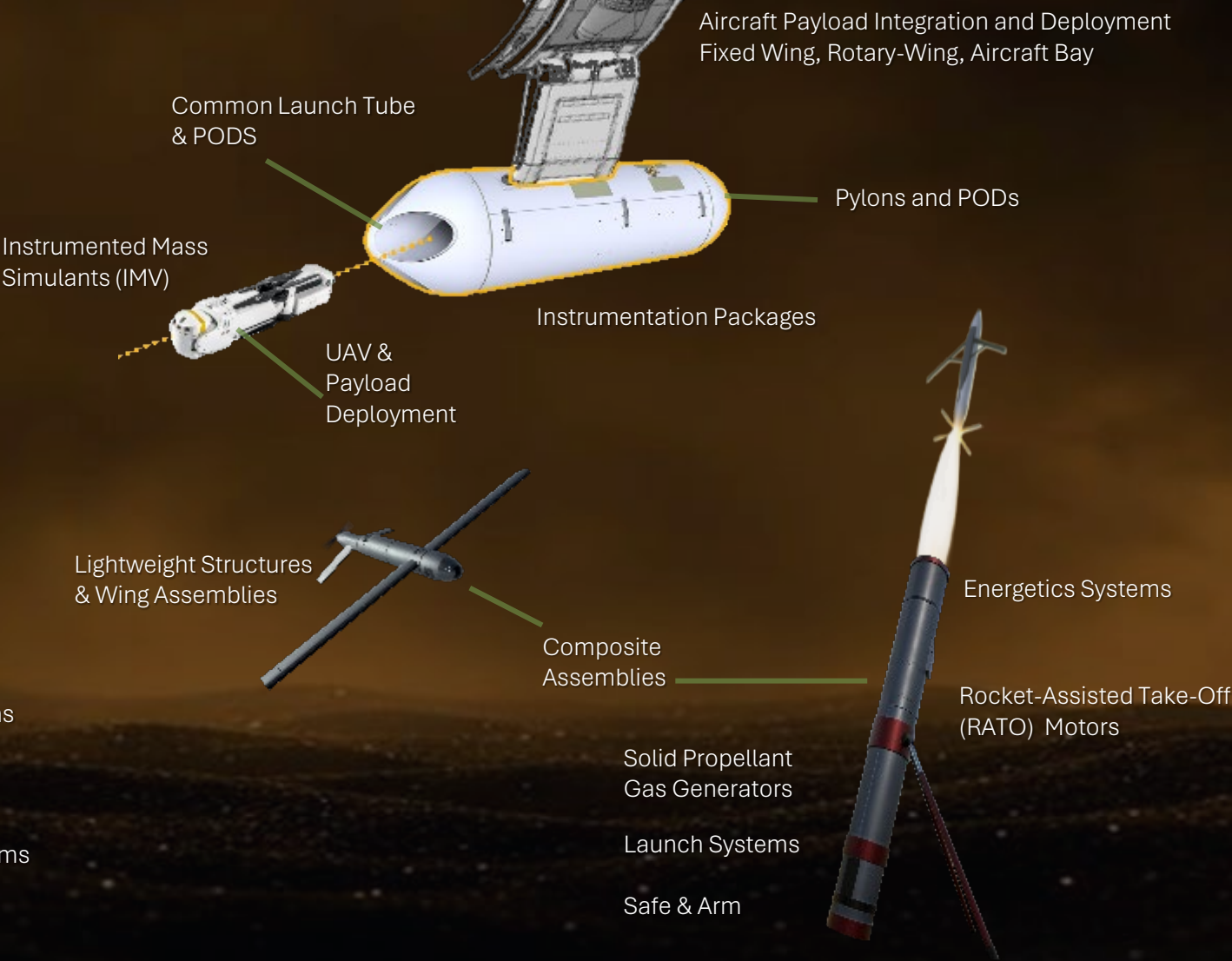


Autonomous Underwater Vehicle (AUV)
Assemblies & Pressure Vessels

Metallic Structures /
Bulkheads & Hulls



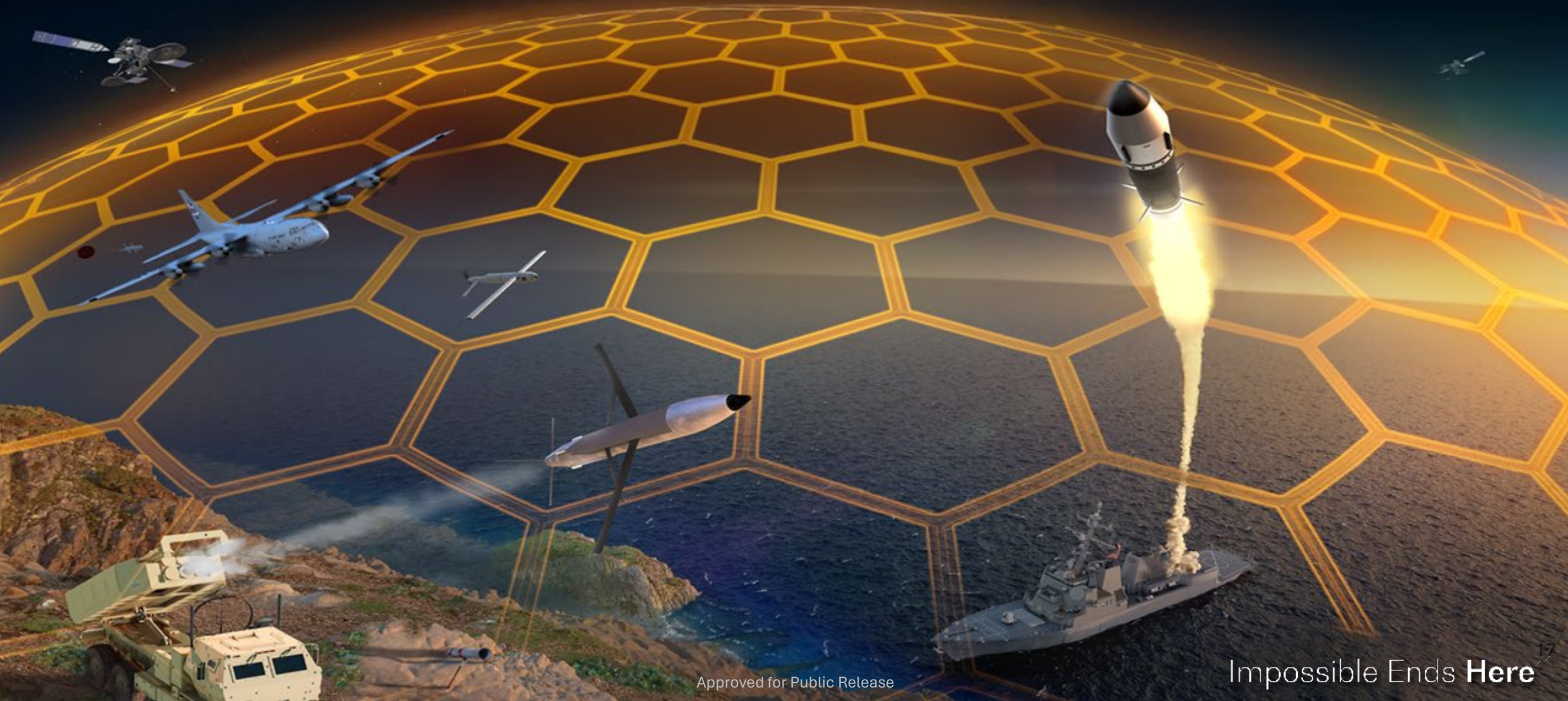
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Inflatable Systems

Torpedo Recovery Systems

Space | Air | Land | Sea
Integrated Systems and Sub-Systems Solutions



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Thank You

