



Lockheed Martin Space Strategic & Missile Defense Systems Hypersonics Overview



Equip our warfighters to *DETER*, *DEFEND* against and *DEFEAT* threats to our nation, allies and way of life.

Lockheed Martin Business Areas



AERONAUTICS



- Tactical Fighters
- Tactical /Strategic Airlift
- Advanced Development
- Sustainment Operations

*Headquartered in Fort Worth, Texas

MISSILES AND FIRE CONTROL



- Air and Missile Defense
- Tactical Missiles
- Fire Control
- Combat Maneuver Systems
- Energy

*Headquartered in Grand Prairie, Texas

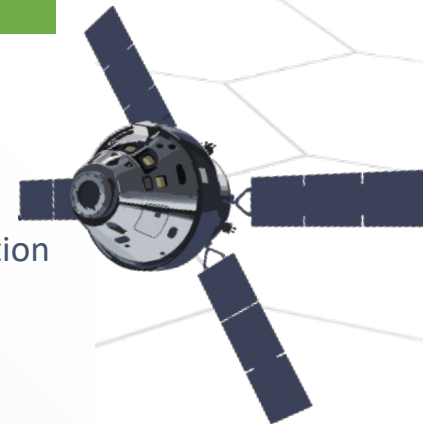
ROTARY AND MISSION SYSTEMS



- Naval Combat Systems
- Radar and Surveillance Systems
- Aviation Systems
- Training and Logistics Solutions
- DOD Cyber Security

*Headquartered in Bethesda, Maryland

SPACE



- Human Space Flight
- Robotic Exploration
- Global Communications
- Surveillance and Navigation
- Strategic and Defensive Systems
- Strategic / Operational Command & Control Systems

*Headquartered in Metro Denver, Colorado

Strategic & Missile Defense Systems

Vice President & General Manager
Strategic & Missile Defense Systems



Emerging Hypersonic Strike Landscape

DARPA



Tactical Boost Glide (TBG)

Air Force



Air-Launched Rapid Response Weapon (ARRW)

Army



Long-Range Hypersonic Weapon (LRHW)

Navy



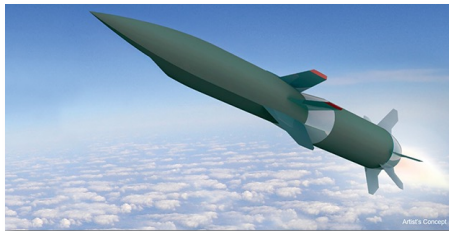
Conventional Prompt Strike (CPS)

Boost Glide



Operational Fires

Air Breather

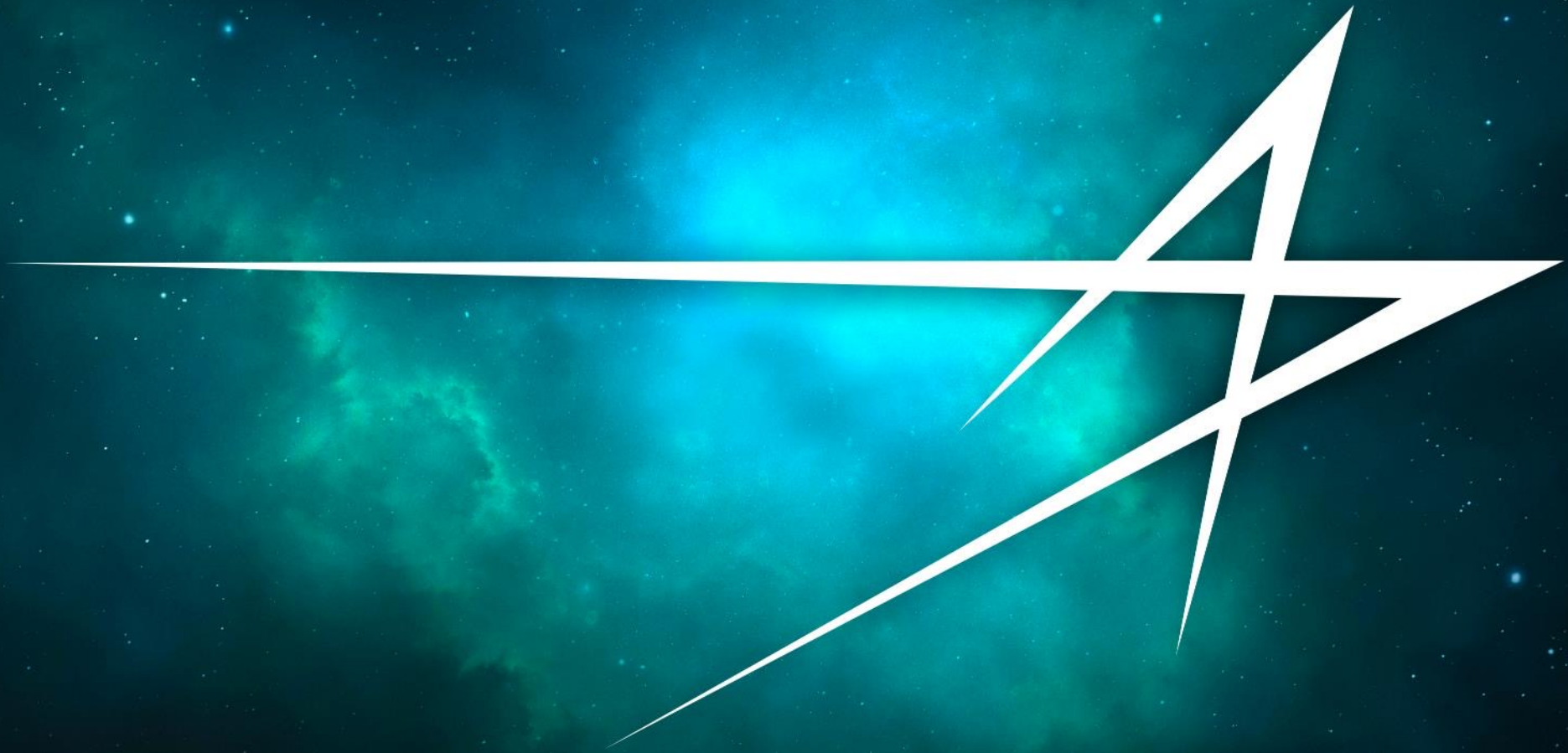


HAWC

WHAT ARE HYPERSONIC SYSTEMS?

Systems capable of high speed, sustained flight within the atmosphere, and of maneuvering to strike

- Speeds greater than Mach 5—wide range
- Air-breathing or glide bodies boosted by rocket
- Maneuvering makes approach less predictable
- Low altitude reduces time to react once observed
- Flight path doesn't look like a ballistic missile



Conventional Prompt Strike (CPS)

Mission: Develop and deploy an intermediate range hypersonic boost glide conventional weapon system to meet conventional prompt strike capability gap

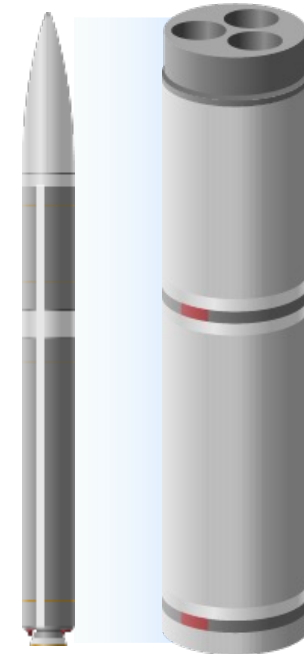
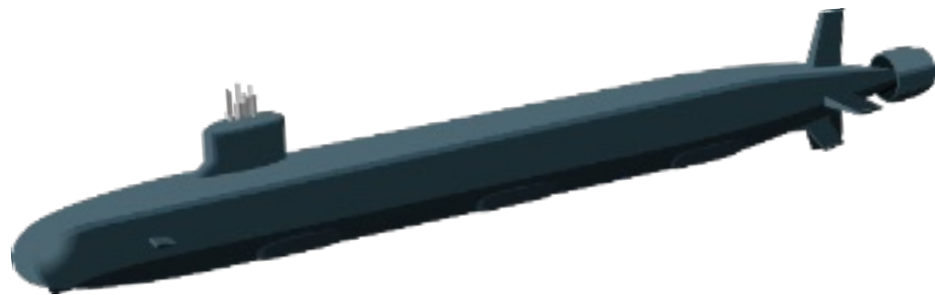
Customers: USN Strategic Systems Programs (SSP) / SP-C

Program and Scope:

- A** Trade Studies Contracts (TSC)
- B** Hypersonic Booster Technology Development (HBTD)
- C** Weapon System Development and Integration

Key Attributes:

- Mature Concept / Flight Proven IRGB
- Lethal Against Broad Range of Targets
- Short Time of Flight
- Persistent Presence
- Survivable
- Treaty Compliant Design



Long Range Hypersonic Weapon (LRHW)

Mission: Develop and deploy a transportable conventional deep-strike hypersonic weapon system targeting soft, fixed targets under one hour

Objective:

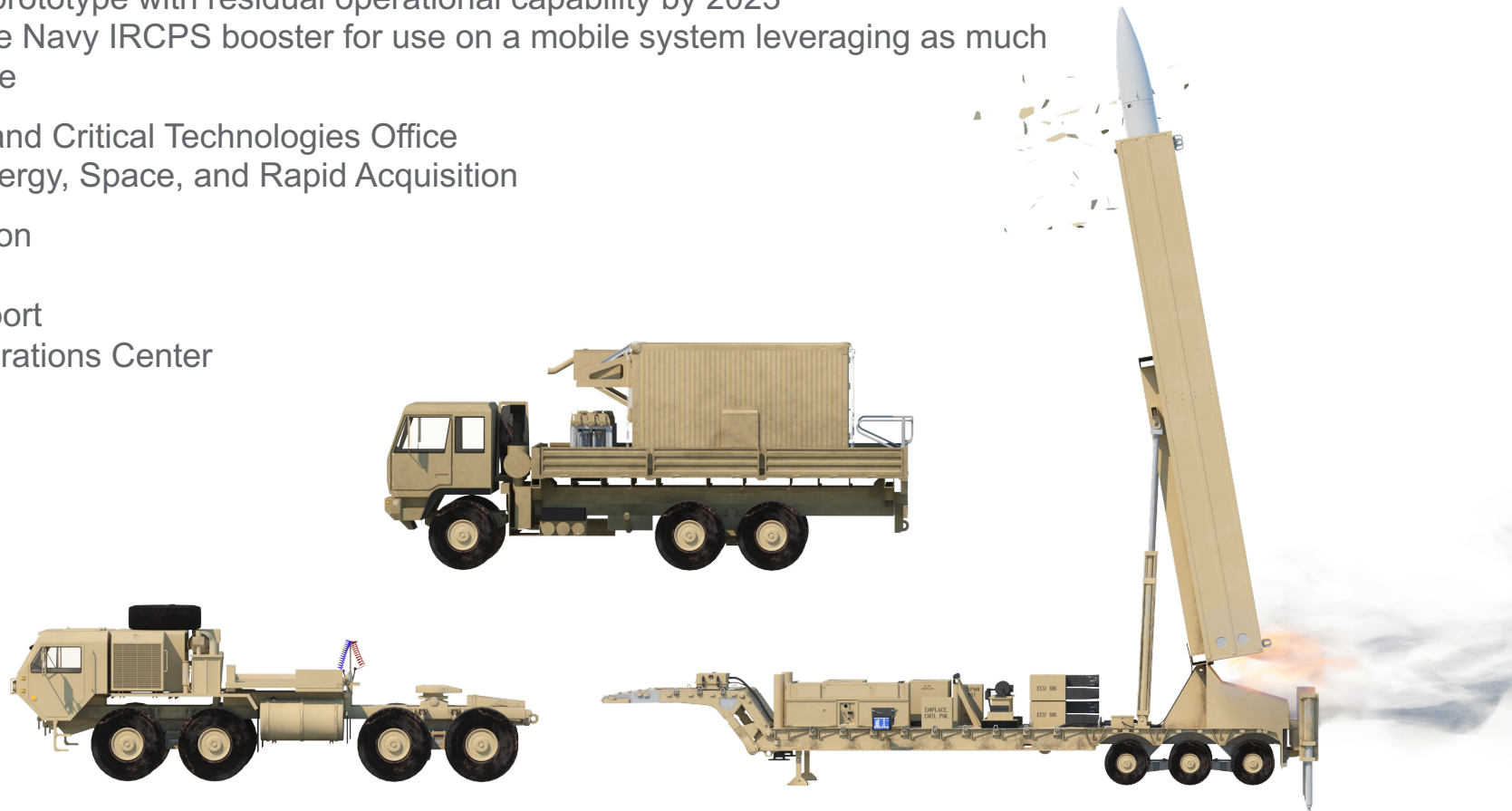
- Field a developmental prototype with residual operational capability by 2023
- Army will re-purpose the Navy IRCPS booster for use on a mobile system leveraging as much commonality as possible

Customers: USA, Rapid Capabilities and Critical Technologies Office
Hypersonics, Directed Energy, Space, and Rapid Acquisition

Program and Scope: Weapon System Integration
Launcher
Contractor Logistics Support
Fire Control / Battery Operations Center

Key Attributes:

- Flight Proven IRGB
- Short Time of Flight
- Survivable



National Defense Strategy: Strategic Environment



CHARACTERIZED BY GLOBAL DISORDER & GREAT POWER COMPETITION

- China and Russia peer nation competitors
- Rogue aggressors in North Korea and Iran
- Persistent terrorism challenge
- Complexity and volatility not seen “in recent memory”

CHALLENGED BY U.S. MILITARY ATROPHY

- Erosion of U.S. technological military advantage
- Significant dearth in readiness
- U.S. no longer enjoys uncontested or dominant superiority
- Homeland is not sanctuary

CONTESTED IN EVERY DOMAIN: AIR, LAND, SEA, SPACE, CYBERSPACE

- Rapid technological change and dispersal
- Warfare conducted at speed and reach
- New concepts of warfare and competition

New technologies include advanced computing, “big data” analytics, artificial intelligence, autonomy, robotics, directed energy, **hypersonics**, and biotechnology.”

-2018 National Defense Strategy