

Paladin Upgrade Through Integration of NDI technology

44th Annual Gun & Missile Systems Conference & Exhibition
Kansas City, MO

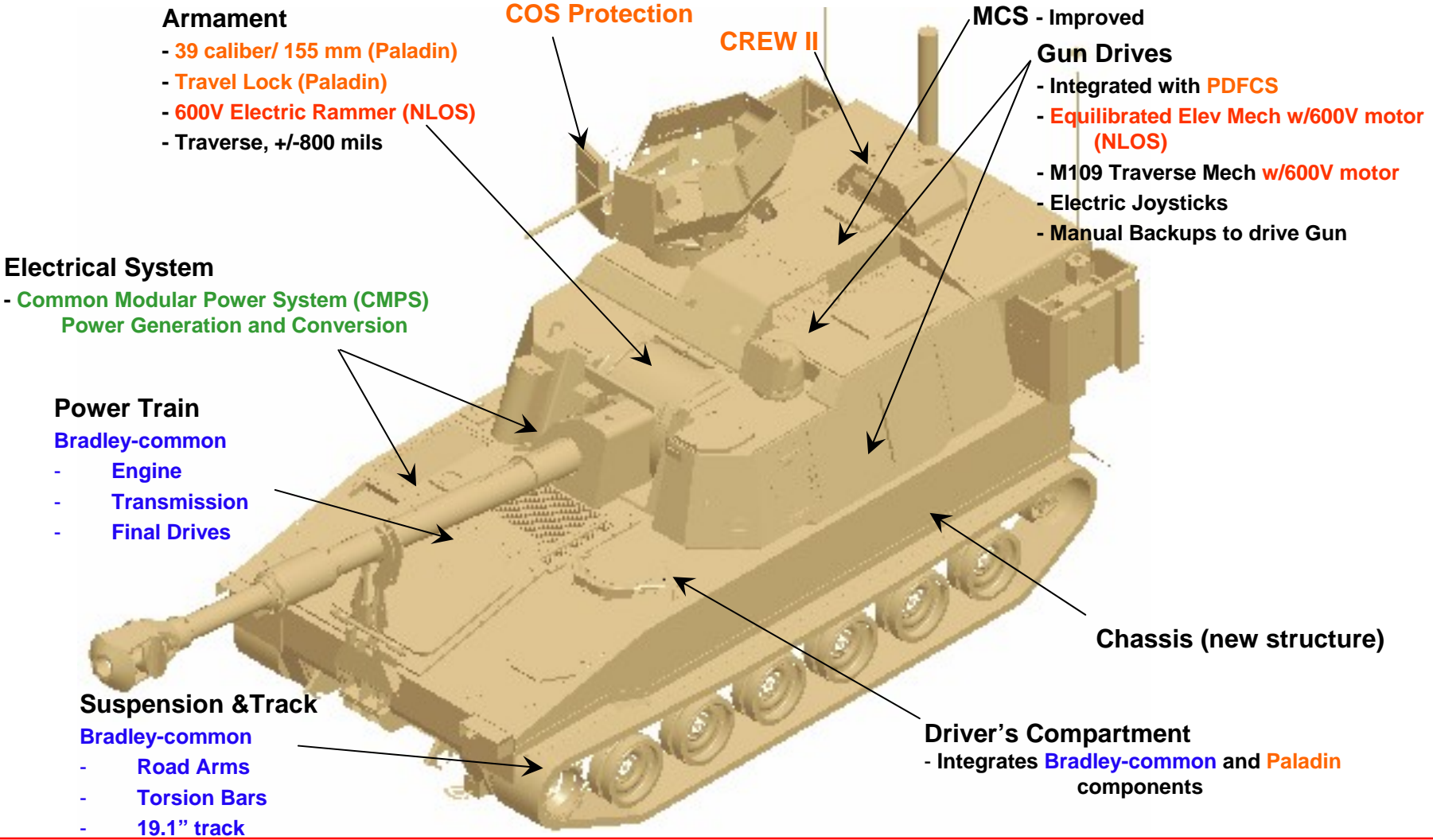
Peter D. Henry
BAE Systems Land & Armaments
pete.henry@baesystems.com



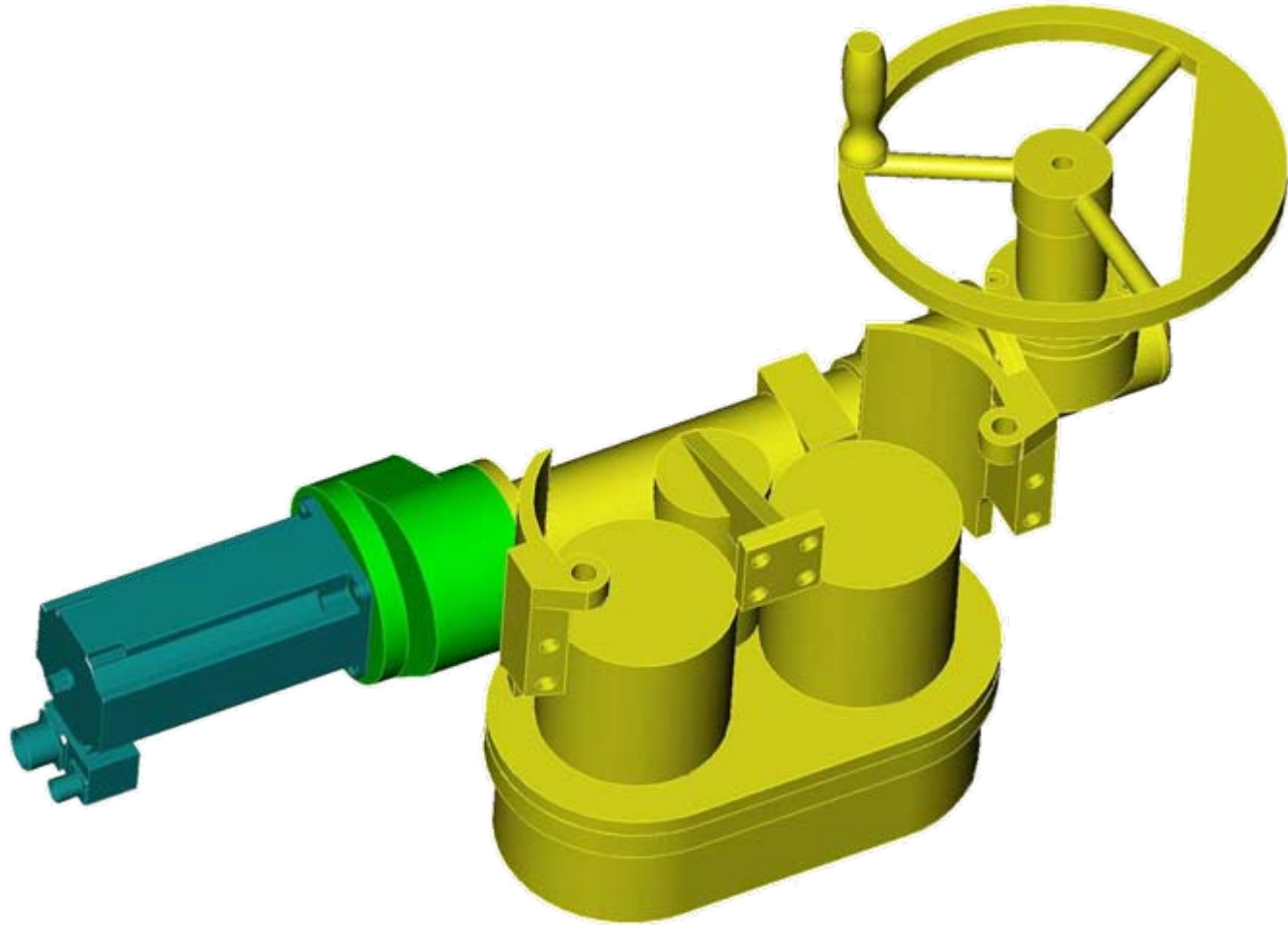
Background & Overview

- PIM program – Paladin/FAASV Integrated Management
 - An integrated effort to ensure long-term viability & sustainability of the primary indirect fire weapons platform in the Heavy Brigades
 - Maximizes commonality with supported systems; minimizes development (primarily an integration activity)
 - Provides digital “backbone” to support Army wide VHM initiatives in longer-term
- Program includes replacement of hydraulic gun drives and rammer with high-voltage electric components
 - Hydraulics are a top-10 sustainment cost driver on M109A6
 - M109A6 slip ring is also a maintenance driver

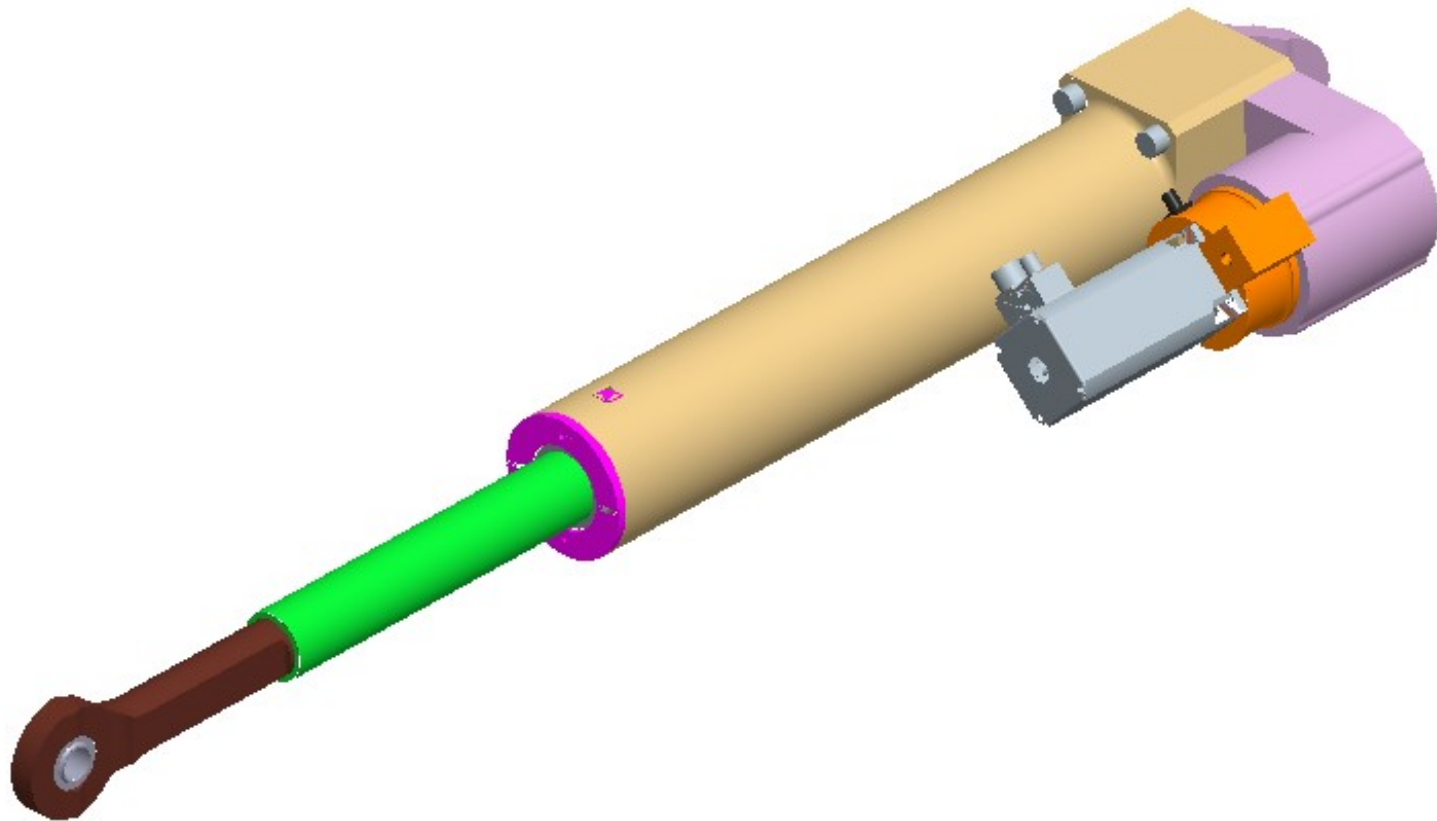
PIM-SPH Objective Configuration Overview



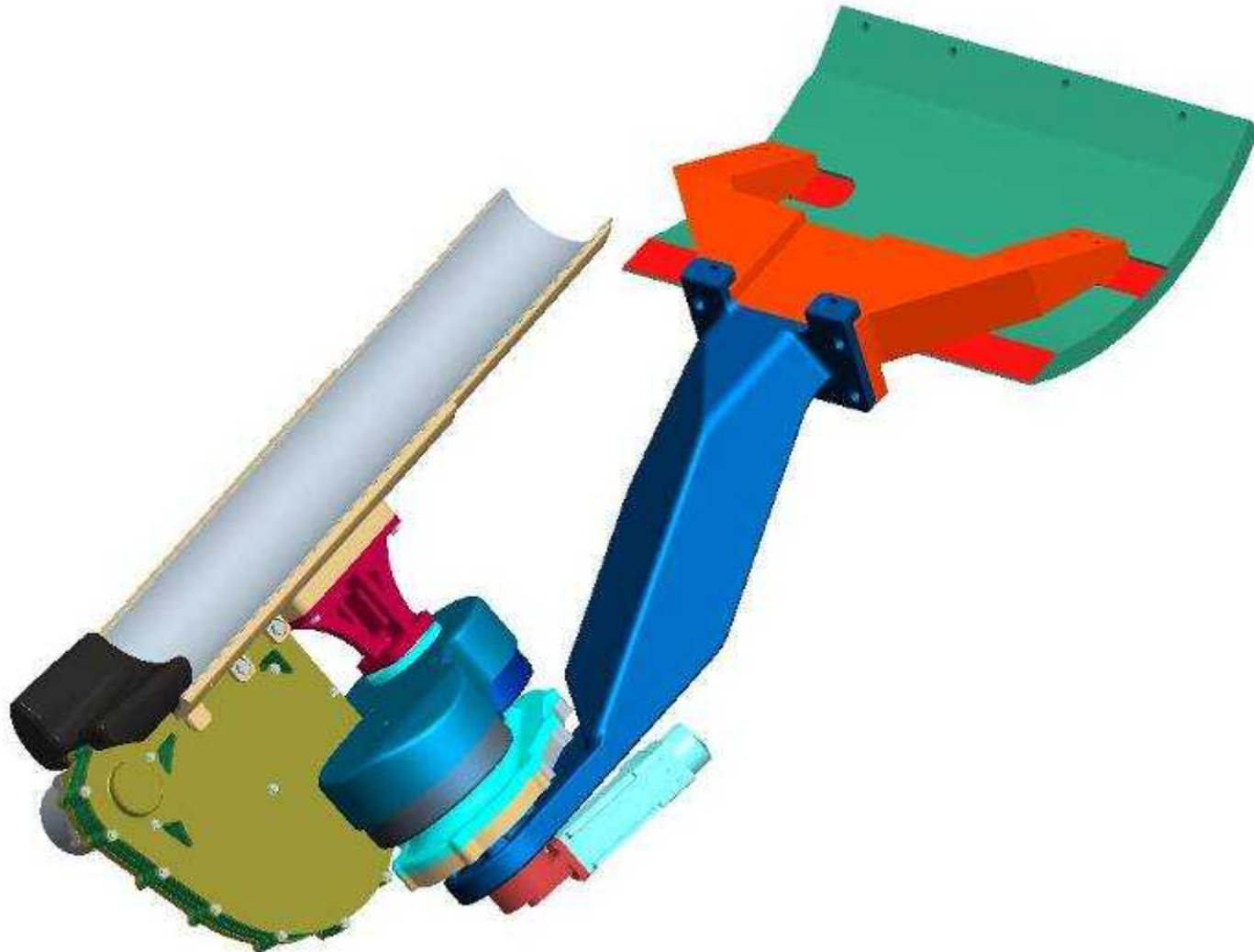
Traverse Mechanism with Electric Drive



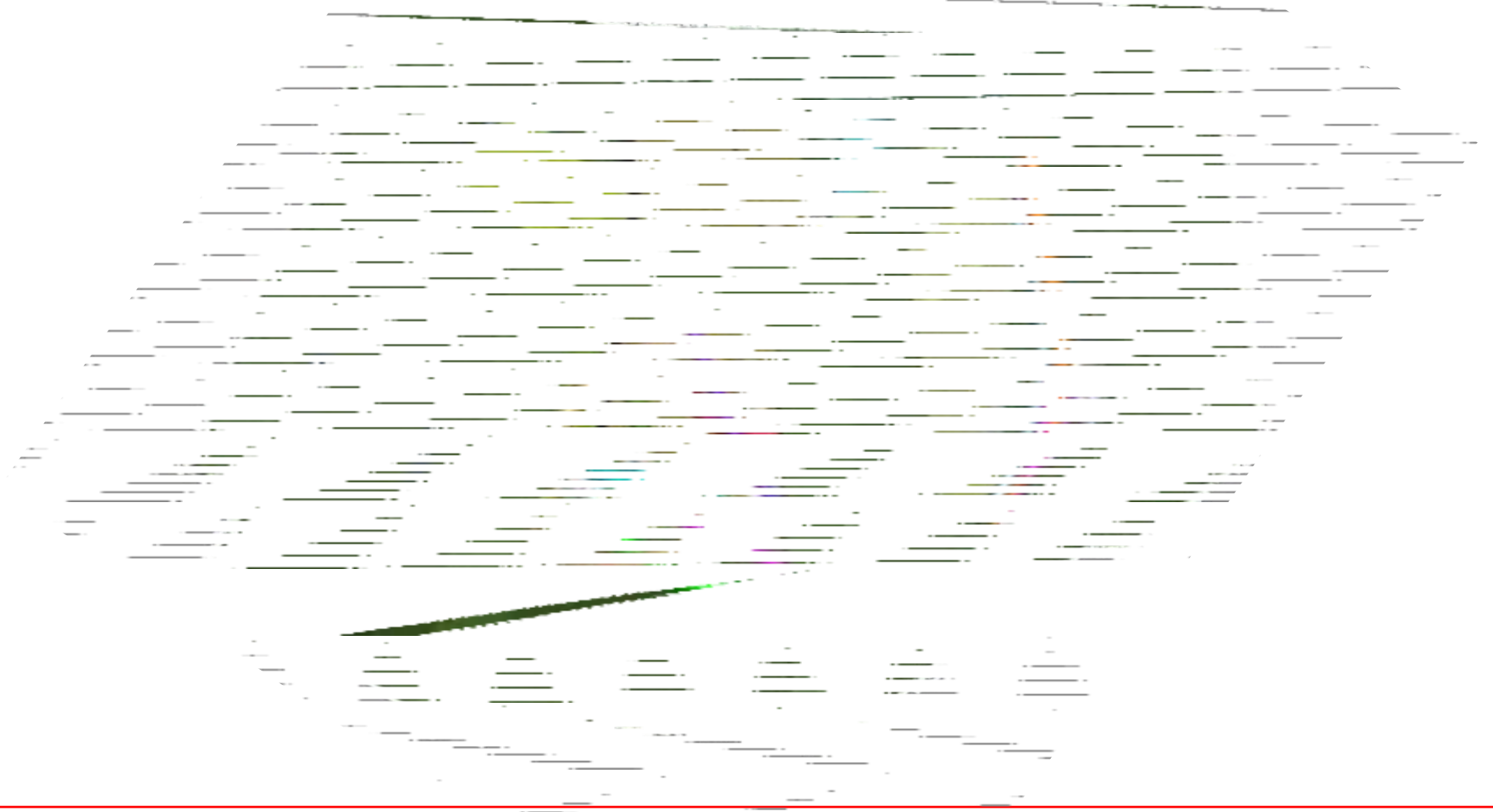
Electric Elevation Drive



Electric Projectile Rammer



Control components housed in former hydraulics compartment



Challenges

- TRL
 - What TRL is adequate for technology reuse?
 - Don't neglect the effect of integration on TRL!
- Challenges inherent in a sustainment project
 - Baseline performance characteristics may be incompletely specified in existing requirements documentation
 - User may be accustomed to or reliant on features that are not in the defined requirements baseline
 - Design baseline developed using lower-maturity processes and standards
- Despite focus on sustainability rather than new functions or improved performance, requirements creep remains a challenge

Summary

- PIM leverages components, systems and proven technologies available today to ensure that the Paladin/FAASV fleet remains sustainable beyond 2050
- Electric drive contributes to improved system reliability and sustainability
- HBCT commonality reduces development, acquisition and sustainment costs