

Project Lead - Integration



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Project Lead

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PL Integration Mission

- **Technology integration in support of the PEO CS&CSS portfolio, linking PM's with industry and the S&T community across the Department of Defense.**

- **In support of Platform PMs**

- **Focus Areas:**

- **Electrification**

- **Arctic**

- Predictive Log

- Industry Engagements

- Army / PEO Strategies and Implementation: Climate, Arctic, Operational Energy

- S&T Planning and Scouting

- Technology Roadmaps, Integration, and Transition Agreements

- Communicate and support platform PM and User 1-n tech needs across Enterprise and other agencies

- Interface and partner with Defense Innovation Unit (DIU) and Rapid Capabilities and Critical Technologies Office (RCCTO).



Challenge Areas!

Army Strategies Influence Portfolio



U.S. Department of Defense

2022
National Defense Strategy
of
The United States of America

Including the 2022 Nuclear Posture Review and the 2022 Missile Defense Review

National Defense Strategy

- Security of the American People
- Expand economic prosperity and opportunity
- Realize and defend American way of Life

ARMY FUTURES COMMAND
POWER & BATTERY
MODERNIZATION FRAMEWORK

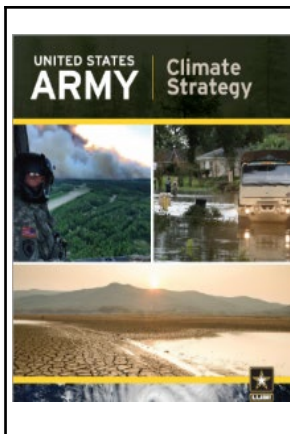
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Power & Battery Modernization

- Integrate Horizontally across Army Priorities
- Power Generation
- Power Distribution
- Energy Storage

- Adaptation
- Mitigation
- Resilience



LOE 2 – Acquisition and Sustainment

- Field Hybrids by 2035, Full Electric 2050
- Develop Charging capability
- Revised Energy KPP
- Analyze Supply Chain for CC risk and vulnerabilities by 2025
- Develop Predictative Logistics

The Army Cloud Plan
2020

"The Army cannot maintain its readiness/mission strategy without the cloud, which is the backbone for without intelligence"

— HON. PETER O. MURPHY, Director, Office of the Inspector General, Department of Defense

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Army Data Strategy

- Accelerate data driven decisions
- Decrease time to field software
- Design Software to adapt to an unpredictable world

UNITED STATES ARMY

REGAINING ARCTIC DOMINANCE

Army Arctic Strategy

- Contested space filled with economic resources
- Regain dominance to project power & deter conflict
- 2-Star MDO TF to train and operate in this environment

DoD Operational Energy Strategy – In staffing
 Army Operational Energy Strategy – Currently in draft, led by AFC

Climate Change Strategy – Focus Areas



Efforts: Planned/Potential Future

LOE 2.1

- Anti-Idle (HMMWV, JLTV, HTV, MTV)
- HEVs (RCCTO) (HMMWV and JLTV)
- MTV OBVP (TIG) / MTV OBVP Hybrid (Advanced Propulsion)
- HTV OBVP (TIG) / HTV OBVP Hybrid (Advanced Propulsion)

LOE 2.2

- eLRV
- Electric M915
- Electric Yard Tractor

LOE 2.3

- eLRV Charging
- MTV and HTV OBVP (TIG)
- Forward Area Charging
- Novel Engine APUs (RCCTO)

LOE 2.4

- Predictive Logistics (PL) – JLTV/MTV/PLS/HEMTT
- JLTV A2 NGVA

LOE 2.6

- JLTV A2 OTM fuel Reduction
- Fuel Sense 2.0 (JLTV/FMTV/HTV)

LOE 2.10

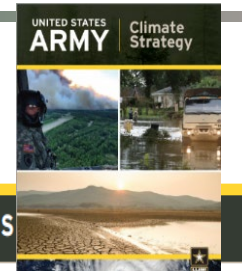
- Improved refrigerants

LOE 2.11

- SCRM (JPO)

Mission Capability Driven!

LINE OF EFFORT 2: ACQUISITION & LOGISTICS



STRATEGIC OUTCOME:

Increase operational capability while reducing sustainment demand and strengthening climate resilience

INTERMEDIATE OBJECTIVES:

2.1	Modernize existing Army platforms by adding mature electrification technologies
2.2	Field purpose-built hybrid-drive tactical vehicles by 2035 and fully electric tactical vehicles by 2050
2.3	Develop the charging capability to meet the needs of fully electric tactical vehicles by 2050
2.4	Develop predictive logistics that drive more precise and faster decisions
2.5	Establish policies that standardize contingency basing to increase resilience and reduce fuel requirements
2.6	Significantly reduce operational energy and water use by 2035
2.7	Achieve carbon-pollution free contingency basing by 2050
2.8	Adopt a Buy Clean policy for procurement of construction materials with lower embodied carbon emissions
2.9	Implement a revised energy key performance parameter
2.10	Attain net-zero GHG emissions from all Army procurements by 2050
2.11	Analyze all Army supply chain Tier 1 sources and contracts for climate change risks and vulnerabilities by 2025
2.12	Develop plans, policies, and contracts to ensure Army supply chain resilience by 2028

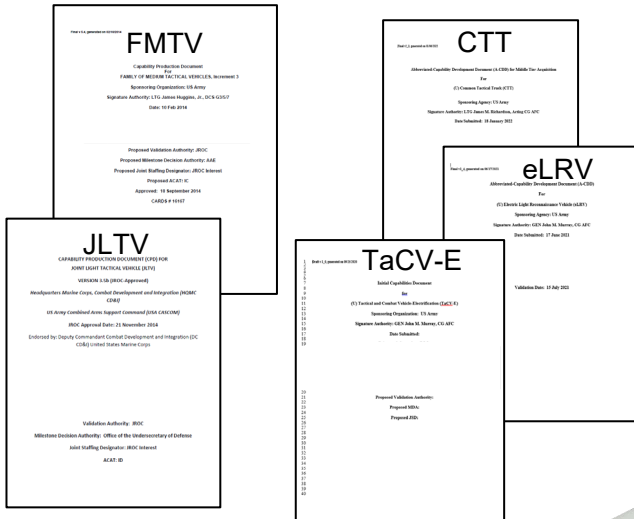


Tactical Vehicles – Path to Electrification

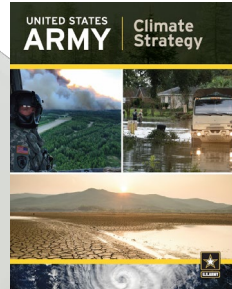


Current Requirements

Emerging Requirements



• Current requirements support mild-hybrids (e.g. anti-idle)
 • Emerging requirements enable greater freedom in meeting climate change/demand reduction initiatives



Long-Term:

Full Electrification (FY31-35)

- Electric Platform Identification
- Charging system deployment

Mid-Term:

Hybrid Applications (FY27-FY31)

- CTT CDD and Production Contract
- Legacy Platform Hybridization
- JLTV Hybrid Program
- Microgrid
- eLRV Production Decision
- Commercial truck application
- Export Power

Near-Term initiatives within PEO CS&CSS will be used to mitigate hybrid and electric technological barriers to entry and inform future requirements.

Near-Term:

Kits and Commercial (FY23-26)

- Anti-Idle kits
- JLTV/HMMWV HEV Demonstrators
- Transmission Optimization
- eLRV A-CDD and Prototyping
- **HEV Decision Point for Tactical Vehicles**
- JLTV A2 Fuel Efficiency

Legend

- FE – Fuel Efficiency
- CTT- Common Tactical Truck
- JLTV – Joint Light Tactical Vehicle
- eLRV- Electric Light Reconnaissance Vehicle
- TaCV-E = Tactical and Combat Vehicle Electrification
- FMTV – Family of Medium Tactical Vehicles
- HTV- Heavy Tactical Vehicles
- HMMWV – High-Mobility Multipurpose Wheeled Vehicle
- HEV – Hybrid Electric Vehicle



Opportunities

- **Multiple Opportunities to gain non-traditional funding**
- **Small Business Innovation Research (SBIR)**
- **Operational Energy Prototype Funds/Capability Improvement Funds (OEPF/OECIF)**
- **Contested Logistics**
 - Demand Reduction
 - Thunderstorm Technology Events (Discovery / Demonstration and Experimentation)
- **Manufacturing Technology (ManTech)**
- **Technology Maturation Initiatives (TMI)**
- **Rapid Capability and Critical Technologies Office (RCCTO)**
- **Defense Innovation Unit (DIU)**