GVSC ONE-ON-ONES

Table Descriptions

Table 01: Ground Vehicle Power & Mobility (GVPM) – Powertrain

Technology Areas: Powertrain Technologies (Combat & Tactical Powertrain Technologies, Hybrid Architecture, Thermal Systems & Powertrain Control Systems)

Table 02: Ground Vehicle Power & Mobility (GVPM) – Mobility Technologies

Tires, Track & Suspension

Table 03: Ground Vehicle Power & Mobility (GVPM) – Fuel Cell Technology & Energy Storage

Fuel Cells, Batteries including High Voltage

Table 04: Ground Vehicle Power & Mobility (GVPM) & Vehicle Electronics and Architecture (VEA)

Integrated Starter Generators, Power Electronics/Inverters, Electric Drive Motors

Table 05: Vehicle Electronics and Architecture (VEA)

Vehicle Electronics & Architecture is the trusted Authority and provider of ground vehicle power and data architectures. To improve current force effectiveness and provide superior capabilities for the future force VEA develops, integrates, and sustains vehicle electronics technology solutions for all military ground vehicle systems. VEA provides continued excellence in supporting Army priorities and PEO customers. Key VEA technology areas are: enhanced vetronics, power electronics, electromagnetic environmental effects (E3) testing and services, intra-vehicular data and video/sensor distribution networks, and data network development and specification. VEA focuses on developing these technologies via a Modular Open Systems Approach (MOSA) utilizing Digital Engineering and in alignment with PEO-GCS Common Infrastructure Architecture (GCIA).

Table 06 & Table 07: Ground Vehicle Robotics (GVR)

GVR (Ground Vehicle Robotics): GVR's mission is to develop, experiment and transition autonomy-enabled ground system capabilities and technologies to meet and shape Army requirements. Our long-term vision is to become the recognized leader for development and integration of Robotics & Autonomous System (RAS) technologies and systems on Army and Joint ground vehicle platforms. We are building on the momentum and success of prior and current research coupled with the operationally relevant near-term RAS technical needs.

Current three strategic priorities are;

- Modular, common, sustainable RAS autonomy development
- Standardized RAS autonomy software development, test, certification
- Campaign of Learning: Deliberate RAS capability experimentation and demonstration

Table 08: Modeling, Simulation and Prototyping (MSP)

The GVSC Modeling, Simulation and Prototyping Organization is composed of 4 directorates: Advanced Concepts, Analytics, Immersive Simulation and the DTA Prototype Integration Facility. These groups work together to develop cutting edge ground vehicle digital designs and physical prototype capabilities that enhance operational effectiveness, ensure soldier safety, and propel Army ground vehicle systems into the future. We provide realistic, data driven solutions that empower the military to optimize vehicle performance, get direct soldier feedback early and often, and expedite the development of state-of-the-art ground vehicle systems in support of national defense.

Table 09: Ground Vehicle Survivability & Protection (GVSP)

DEVCOM GVSC's Ground Vehicle Survivability & Protection (GVSP) directorate's objective is to keep blue vehicles on the battlefield and bring our warfighters home safe. This is accomplished by more than 150 subject matter experts who lead the Army's research, development and integration efforts for holistic survivability and protection systems for both point protection and formation-based layered protection. GVSP is functionally aligned into four core competencies:

- Program Management, Operations and System Integration
- Sub-System Evaluation
- RD&E Passive and Reactive Defeat Systems
- RD&E Active Defeat Systems

GVSP is integrated with PdM Vehicle Protection Systems (VPS) to enable the rapid transition of S&T projects into further development and integration and eventually fielding.

Table 10: Ground Vehicle Materials Engineering (GVME)

GVME provides cradle-to-grave materials technologies, engineering support to ground systems.

We are a center of excellence for materials and manufacturing technology integration.

Our Branches include Advanced Manufacturing (3D), Environmental Coatings and Corrosion, Characterization and Failure Analysis, Joining, and Materials/ Manufacturing Applications.

Table 11: Software Engineering Center (SEC)

Ground Vehicle Systems Center (GVSC) Software Engineering Center (SEC) provides full ground vehicle systems software lifecycle management to engineer, develop, integrate and field precise software solutions to improve current force effectiveness and to provide superior software capabilities for the future force.

GVSC's Software Engineering Center labs provide advanced facilities to support the entire lifecycle of ground system software. This includes research, development, design, maintenance, integration, test, production, fielding support, and transition to post-production sustainment activities.

Table 12: Ground Systems Cyber Engineering (GSCE)

GSCE develops vehicle cybersecurity capability as well as provides a variety of value-added cyber engineering services to its acquisition partners and stakeholders. By developing innovative vehicular cybersecurity technologies, GSCE ensures current and future Army ground vehicles have the ability to fight and win decisively in the Multi-Domain Battlespace. In addition, vehicle open architecture and mission critical systems are increasingly software dependent, making them desirable targets for adversaries to exploit. GSCE is pursuing techniques and approaches that enhance the cyber resiliency of open architectures and hardware and software assurance to secure the tactical edge of the modern Internet of Battlefield Things (IoBT). To this end, GSCE seeks to advance public-private partnerships for co-investment in research and development of vehicle cybersecurity technologies and continuous improvement and sharing of best practices.

Table 13: Partnerships

Identify, pursue, and accelerate global and domestic business opportunities with GVSC.