



# GVSC 2023 Industry Days

## GVSC One-on-One table Descriptions for Industry Days

Each One-on-One will be scheduled for 15 minutes. There will be a 5 minute break between each session to clean the tables and let everyone out of the room and back in.

Only 2 people from any company will be allowed in a One-on-One meeting at a time.

Each person is limited to 3 One-on-One meetings. Review the description of each tech area below to choose what area best fits your technology area.

- 1. Partnerships and Collaboration:** Partner with GVSC - Identify, pursue, and accelerate global and domestic business opportunities that improve resource utilization for both the Army and external partners.
- 2. Next Generation Combat Vehicle-Cross Functional Team (NGCV-CFT):** NGCV CFT owns the requirements for the development of manned and unmanned ground combat platforms. Among the NGCV CFT signature efforts in the NGCV CFT portfolio are the Optionally Manned Fighting Vehicle, the Mobile Protected Firepower and the Robotic Combat Vehicle. NGCV CFT is interested in meeting with vendors working the following areas: autonomous software development, systems integration, digital modeling, situational awareness technology, perception, data management, electronic warfare, mobility/counter-mobility payloads, battery technology, graphic user interfaces, and cyber security. We look forward to meeting with you and your teams.
- 3. Ground Vehicle Survivability & Protection (GVSP):** GVSP directorate's objective is to reduce the number of our nation's Soldiers wounded and/or killed in ground vehicles and to keep vehicles mission capable following a threat engagement. 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. GVSP is functionally aligned into four core competencies including:
  - RD&E Active Defeat Systems: Includes Active Protection Integration, Electronic Threat Defeat and Physical Threat Defeat – all of which will be enabled by Modular Active Protection Systems, or MAPS
  - RD&E Passive and Reactive Defeat Systems: Includes Hull Frame Body Cab (HFBC) Structure, Armor Technologies and Occupant Protection
  - Sub-System Evaluation: Performed component testing in 11 GVSP labs at DTA and Selfridge Air National Guard Base as well as full system assessments at Camp Grayling and Ft Polk to include live-fire APS, counter Unmanned Aerial Systems (cUAS) and SIGMAN/Obscuration.
  - Program Management, Operations and System Integration: Ensures excellence in program execution through strong systems engineering and program management tools and processes.

- GVSP is co-located with PdM Vehicle Protection Systems (VPS) to support the Army's growing emphasis on layered protection and Active Defeat Technologies. PdM VPS will transition, mature and procure common components and work with platform PMs to integrate them; and GVSP will assist PdM VPS with identifying "leap ahead" S&T programs that provide increased protection and survivability and counter emerging threats in support of the VPS requirement.

4. **Vehicle Electronics and Architectures (VEA):** VEA office was established to address emerging military ground vehicle electrical and electronics architecture needs. VEA develops, integrates, and sustains vehicle electronics technology solutions for all military ground vehicle systems to improve current force effectiveness and provide superior capabilities for the future force.

Key VEA technology areas include: intra-vehicular data and video/sensor distribution networks, computers and components, and data network development and specification. VEA focuses on developing these technologies via a Modular Open Systems Approach (MOSA) to help maximize capability for the Soldier and PEO Customers.

5. **GVPM (Ground Vehicle Power & Mobility):** Technology Areas: Powertrain & Mobility (Combat & Tactical Powertrain Technologies, Hybrid Architecture, Thermal Systems & Powertrain Control Systems)
6. **GVPM (Ground Vehicle Power & Mobility):** Technology Areas: Powertrain & Mobility (Tires, Track, & Suspension)
7. **GVPM (Ground Vehicle Power & Mobility):** Technology Areas: Fuel Cell Technology and Energy Storage (Fuel Cells, Batteries including High Voltage)
8. **GVPM & VEA:** Technology Areas: Vehicle Electrification (Integrated Starter Generators, Power Electronics/Inverters, Electric Drive Motors, Power Distribution, and High Voltage cabling)
9. **Ground Systems Cyber Engineering (GSCE):** GSCE team 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.
10. **Software Engineering Center (SEC):** The Software Engineering Center mission is to provide full 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.

- 11. 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
- 12. Modeling and Simulation (M&S)** - Develop, integrate, and assess ground vehicle systems accurately, efficiently, and cost effectively to inform DoD decisions for all manned and unmanned DoD ground vehicle platforms for both the Current and Future Forces. We provide the following capabilities and services to DoD Ground Systems across their life cycles: (1) generates novel industrial and full vehicle concept designs for both current fleet modifications and future force conceptual vehicles that define the system level implications of their requirements and component technologies; (2) generate multiple types of ground vehicle physics based analyses as well perform full system trade space analysis looking at how vehicle designs impact automotive performance, survivability, mobility, cost and risk factors; (3) robotics and autonomy modeling and simulations focused on immersing intelligent robotic systems within a virtual environment for performance or testing evaluation; crew station performance modeling and simulation to make the vehicle-robot-Soldier system as effective as possible using future scenarios with full-crew motion-based system simulators; first-person video game technology integrated with a cohesive unit of Soldiers, each represented by an avatar, performing an assigned mission as they would in a real operation with future technology within the game.
- 13. Detroit Arsenal Prototype Integration Facility (DTA-PIF)** - Provides robust, innovative solutions to our customer requirements for our shared military mission. DTA-PIF internal to GVSC is the Army's rapid response center established to engineer, fabricate & integrate technology, and develop experimental prototypes for Army watercraft, DoD ground combat & combat support systems.
- 14. Materials Engineering Technology Areas:** Light-weighting, Joining (welding, adhesives, mechanical fastening), Additive Manufacturing, Composites, Metallurgy, Elastomers, Coatings/Plating, and Hazardous Materials Management

