U.S. ARMY

DEVCOM GROUND VEHICLE SYSTEMS CENTER

U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT COMMAND GROUND VEHICLE SYSTEMS CENTER

Industry Technology Exchange

Alfred Grein, Executive Director, Research and Technology Integration, Ground Vehicle Systems Center

9 APRIL 2025

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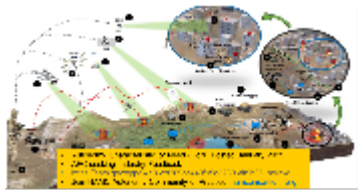
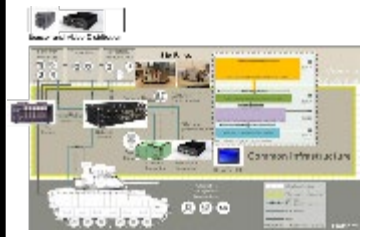
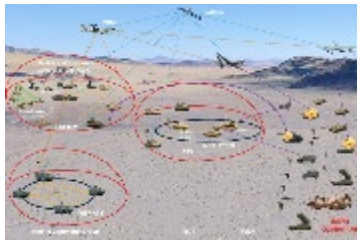
COLLABORATIVE



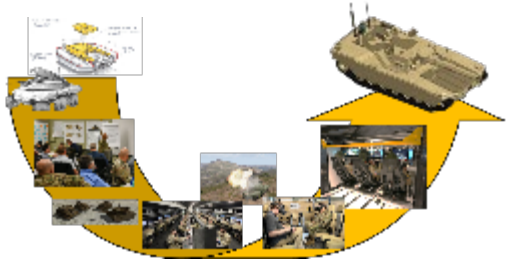
MODULAR OPEN SYSTEM ARCHITECTURES



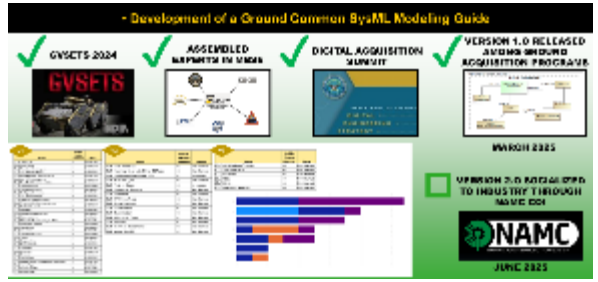
CONCEPT DRIVEN



ACCELERATED PROTOTYPING & EXPERIMENTATION



MODEL BASED SYSTEM ENGINEERING



ENSURING OVERMATCH FOR OUR WARFIGHTERS

DEVCOM GROUND VEHICLE SYSTEMS CENTER

THE ARMY OF 2030 WILL BE ACCELERATED WITH ADVANCED PROTOTYPING AND EXPERIMENTATION

PLATFORM & FORMATION TRADES

COGNITIVE LOAD

VIRTUAL EXPERIMENTATION

ANALYTICS

THE ARMY OF 2030 WILL BE DELIVERED WITH MODEL-BASED SYSTEMS ENGINEERING (MBSE)

DEVCOM GROUND VEHICLE SYSTEMS CENTER

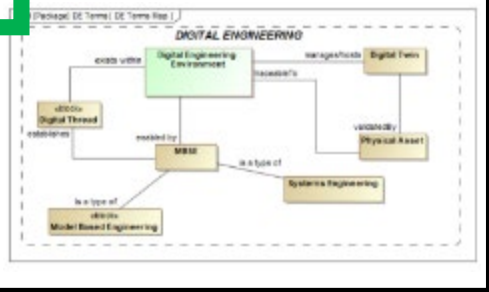
DEVELOPMENT OF A GROUND COMMON SYSML MODELING GUIDE

GVSETS 2024

ASSEMBLED EXPERTS IN MBSE

DIGITAL ACQUISITION SUMMIT

VESION 1.0 RELEASED



MARCH 2025

V1

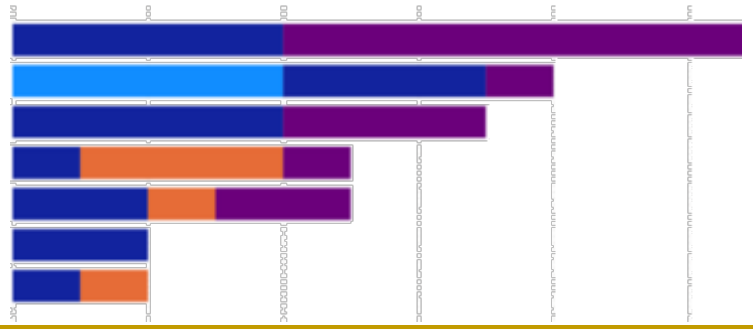
Name	Guide Version Number	Status
CM in TWC	v1	In-process
Model Map	v1	In-process
Provided Stereotypes	v1	In-process
Use Of Stereotypes	v1	In-process
Reqs Element Types and Use	v1	In-process
Use of Reqs diagrams	v1	In-process
Reqs Relationships and Use	v1	In-process
Decomposition	v1	Not Started
Product Structure	v1	Not Started
Configuration Items	v1	Not Started
Use of Stereotypes	v1	In-process
Package Structure Effects	v1	Not Started
Relationships Between Levels	v1	In-process
Applicable Levels	v1	In-process
Activities	v1	In-process
Allocations to Structure	v1	Not Started
State machines	v1	Not Started
Allowable functionality in states	v1	Not Started
States and Modes	v1	Not Started
Transitions	v1	Not Started
Use Cases	v1	Not Started
General Interface	v1	Not Started
Frame	v1	Not Started
Diagram Info	v1	Not Started
Requirements	v1	In-process
Diagrams	v1	In-process
Structure	v1	In-process
Behavior	v1	In-process
Stereotypes	v1	In-process
Measurements/Properties/Attributes	v1	In-process
Home Page	v1	Not Started
Minimum Info	v1	Not Started
Return Links	v1	Not Started

V2

Name	Guide Version Number	Status
Local model CM	v2	Not Started
Synching Reqs with Other DE Tools	v2	Not Started
Verification/Validation Info	v2	In-process
H/W and S/W	v2	Not Started
Parts vs Blocks	v2	In-process
Functional Decomp	v2	Not Started
Sequence	v2	Not Started
H/W Interfaces	v2	Not Started
Reuse Methods	v2	Not Started
Organization	v2	Not Started
Organization	v2	Not Started
Sub-Home Pages	v2	Not Started
Min Info	v2	Not Started
Common Dictionaries	v2	Not Started
Model Specific	v2	Not Started

V3

Name	Guide Version Number	Status
CM Methods/Process	v3	Not Started
S/W Interfaces	v3	Not Started
Libraries	v3	Not Started
IBDs	v3	Not Started
BDDs	v3	Not Started
Common Legends	v3	Not Started



VESION 2.0

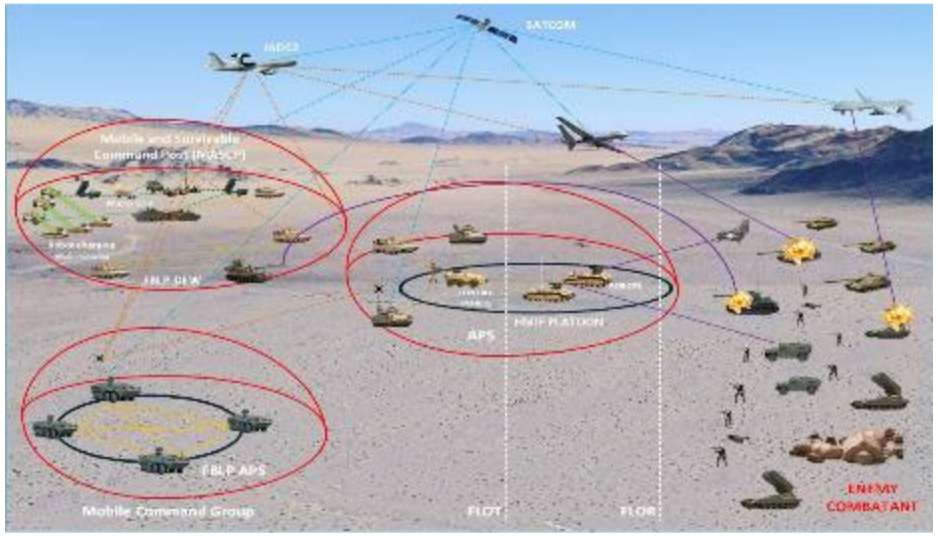
TO BE SOCIALIZED WITH INDUSTRY THROUGH NAMC COI – JUNE 2025

ENABLING DIGITAL ENGINEERING THROUGH COMMON PRACTICES WITH INDUSTRY

THE ARMY OF 2040 WILL BE DIGITAL

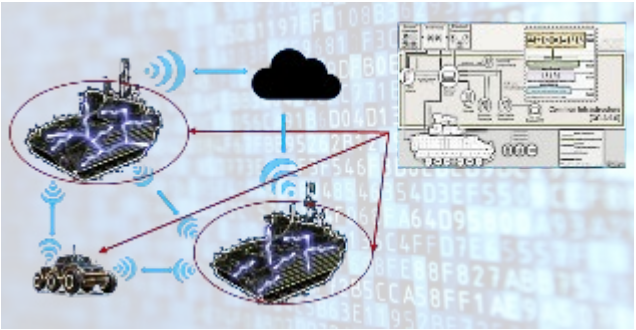
- Ground vehicles will be data nodes on the maneuver battlefield in 2040
- We are ensuring that those vehicles collect, digest, request, transmit and transport the data required to win
- We are ensuring that those vehicles have the power to support all the equipment required to be digital
- We must be rapid, agile, and digital in both the technology we develop & the business practices we use

NEXT GENERATION COMMAND AND CONTROL



FORMATION BASED LAYERED PROTECTION

VETRONICS



CONTESTED LOGISTICS

AGILE ADAPTABILITY FOR THE LEGACY FLEET

HUMAN MACHINE INTEGRATED FORMATIONS

VETRONICS & POWER ARE AN UNDERLYING CRITICAL ENABLER FOR GROUND VEHICLES

THE ARMY OF 2040 WILL BE POWER DRIVEN

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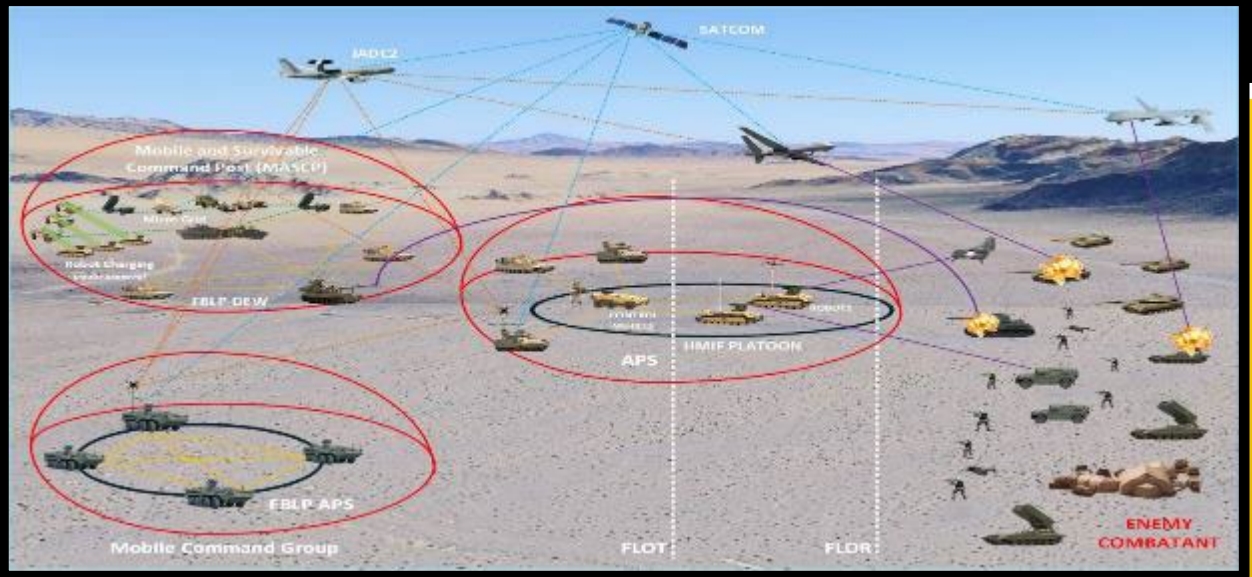
NEXT GENERATION COMMAND AND CONTROL

DIRECTED ENERGY WEAPONS



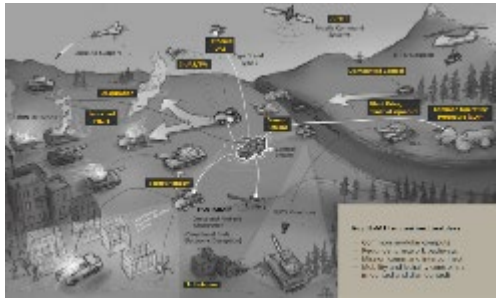
Power Needs For The 2040 Maneuver Battlefield:

- Increased and More Efficient **Power** and **Energy Storage** for Extended Mission Duration, Silent Operations and Energy-based Capabilities
- Optimized **Power Architectures Mobility** to Deliver Power
- Vehicle-to-Vehicle **Power Sharing**
- Battlefield **Power & Energy Distribution**

CONTESTED LOGISTICS

FORMATION BASED LAYERED PROTECTION

HUMAN MACHINE INTEGRATED FORMATIONS



FORMATION BASED OPERATIONAL CAPABILITIES DRIVE ONBOARD VEHICLE POWER REQUIREMENTS

Ms. Marta Tomkiw

Executive Director System Integration & Engineering

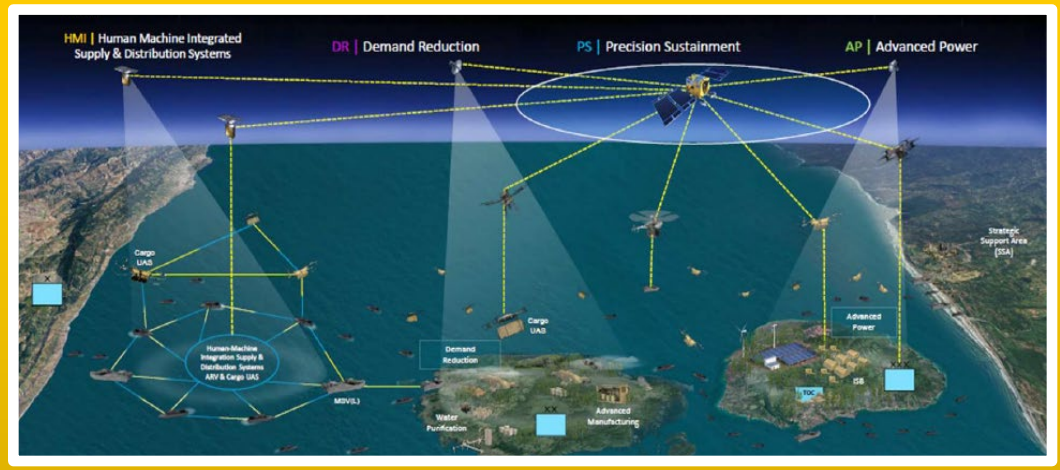
THE ARMY OF 2040 WILL BE SUSTAINED WITH PRECISION LOGISTICS

DEVCOM GROUND VEHICLE SYSTEMS CENTER

- Precision logistics revolution to enable operational reach and endurance in contested environments
- Built on cutting-edge technologies in Human-Machine Integration, Demand Reduction, Advanced Power, and Precision Sustainment
- Innovations in intelligent data processing and AI-powered analytics towards a resilient "Supply Web"
- Advanced manufacturing, including additive manufacturing, enabled by the "Supply Web"

HUMAN MACHINE INTEGRATED SUPPLY & DISTRIBUTION





ADVANCED POWER

DEMAND REDUCTION


ADVANCED MATERIALS & MANUFACTURING

PRECISION SUSTAINMENT


THE RIGHT SUPPLIES AND EQUIPMENT TO THE RIGHT LOCATION AT THE RIGHT TIME

THE ARMY OF 2030 WILL BE ACCELERATED WITH CREW OPTIMIZATION & AUGMENTATION

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PURPOSE:

Crew Optimization and Augmentation Technologies (COAT) leverages emerging tech to streamline warfighter tasks and enhance system performance Within & across ground vehicles.

OPPORTUNITY:

Industry partners can integrate their solutions into COAT Demonstrator for Soldier evaluation and feedback.

EXAMPLE TECHNOLOGIES

Mission/Route Planning

HMD C2

AiTDR/Anti-Drone Tech

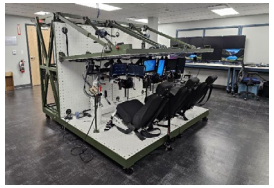
Voice Control/3D Audio

Embedded Training

Workload Monitoring

INDUSTRY TECH INTEGRATION OPPORTUNITIES

COAT SIL

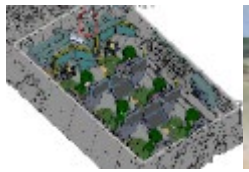


SIMULATION / VIRTUAL EXPERIMENTS

Motion Based Simulation

SOLDIER-BASED FIELD DEMONSTRATION

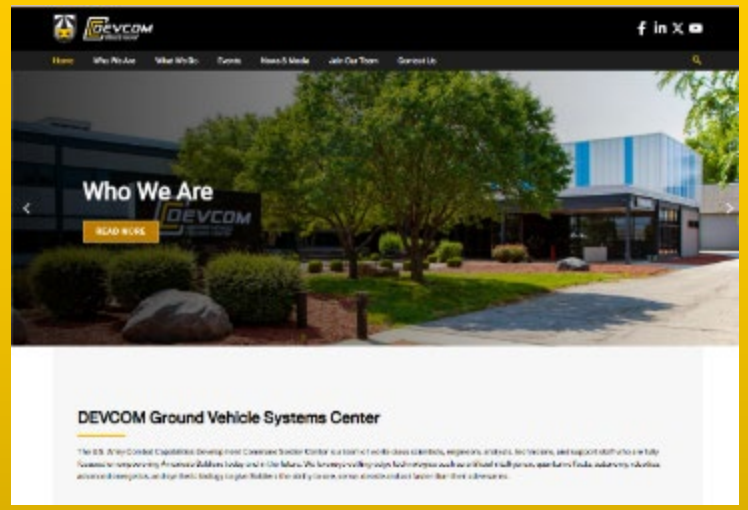
Vehicle Assessments



Mr. Tom Vern

Asst. Chief of Staff for Strategic Plans & Communications

HOW TO STAY IN TOUCH
GVSC WEBSITE



GVSC Website
https://gvsc.devcom.army.mil/

PARTNERING & COLLABORATION MECHANISMS

Cooperative Research and Development Agreement (CRADA)

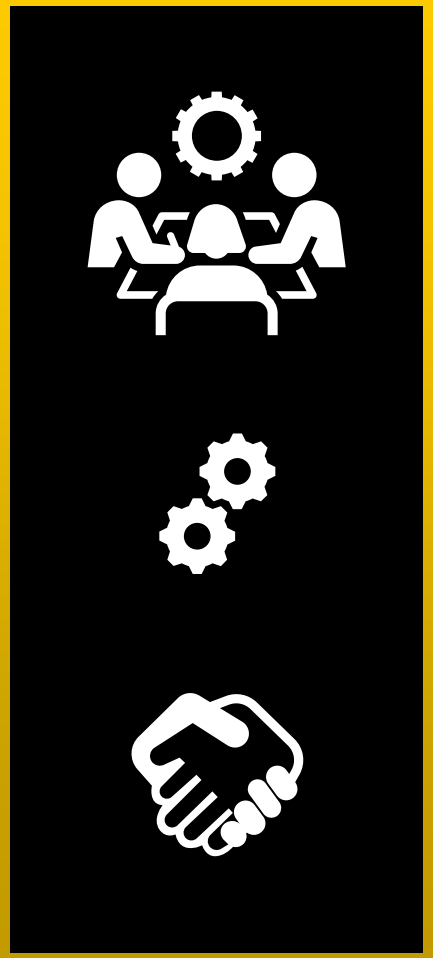
- R&D Collaborative effort to make advancements and generate new IP
- Specific duration and scope
- Enables each party access to facilities, IP, equipment, data, personnel, expertise of the other
- Contribution from each party required
- Limitations
  - No funding provided by Government

Test Service Agreements (TSA)

- Industry Access to Government Facilities, equipment, capabilities
- GVSC conducts testing for Industry
- No technical collaboration with industry partner
- Limitations
  - Charged at Government Cost
  - Cannot compete with Industry

Patent License Agreement (PLA)

- Federally funded inventions available to industry for new product development
- Enable new product development and sales
- Rights granted to manufacture invention for company products
- Negotiable financial terms
- Limitations
  - No Government funding provided for development



GVSC TECHNICAL INTERCHANGE ONE-ON-ONES

- **Review Table Descriptions and Briefing Posters:** Each poster summarizes the team's technical focus and table number for one-on-one meeting.
- Use your phone or tablet to **scan the provided QR code.** This will take you to the sign-up form
- **Select Tech Areas and Time Slots:** Choose up to three tech areas and preferred meeting times. Be mindful of any scheduling conflicts.
- **Confirm Your Sign-Up:** Double-check your selections and submit the form. You will receive a confirmation email

**If you encounter any issues with the sign-up process, locate Alycia and Beth within the Army pavilion.

Scan for 1:1 Sign-ups

THANK YOU!