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TARDEC's Vehicle Electronics & Architecture Group

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VEA Vision and Mission

. VEA Vision Statement:

- ***VEA will be the first choice to technology and engineering expertise for vehicle electronics integration, research and application – today and tomorrow.***

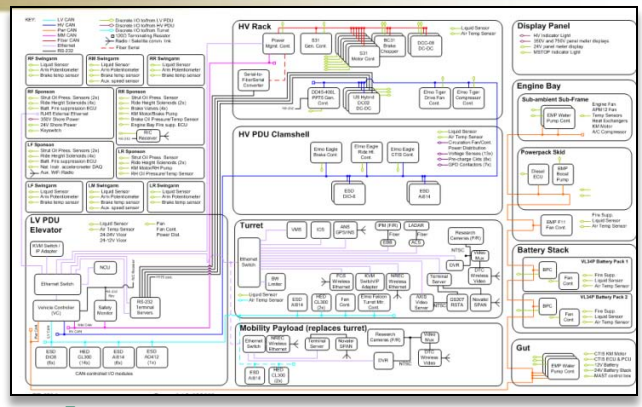
VEA Mission Statement:

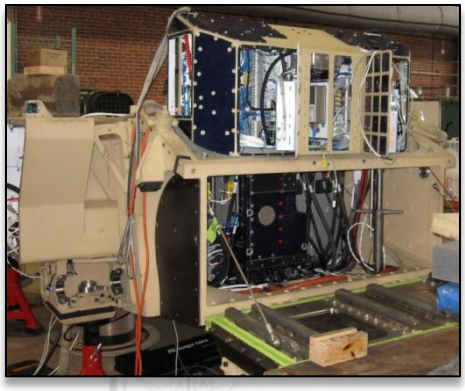
- ***VEA develops, integrates, and sustains the right vehicle electronics technology solutions for all manned and unmanned ground systems and ground combat systems to improve current force effectiveness and provide superior capabilities for the future force. Key vehicle electronics technology areas include power management and distribution, controls and displays, inter-vehicular data networks, computers, software, and electronics packaging. VEA will develop and evaluate existing and emerging technologies, standards, vehicle specifications, and vehicle systems.***

Key Focus Areas

- Power Architecture & Standards
- High and Low Temp Power Electronics
- Onboard Vehicle Management, Microgrid, and Hybrization
- Common and Open Vehicle Electronic Architectures & Frameworks
- Plug and Play Architectures
- Deterministic High Speed Data Bus
- Embedded Computing Resources in Electronic Components
- Advanced On-board Computing Technologies
- Condition Based Maintenance

Autonomous Platform Demonstrator (APD)





- **Multiple CAN Busses & Gigabit Ethernet** (GbE)
- **COTS Data Radios – 802.11 Based**
- **Extensive COTS Components**
- **Max Speed -** 50 mph
- **Generator Output -** 197 hp
- **Battery Energy -** 21.8 kW-hr
- **Battery Max Power -** 282 hp
- **Power/Weight Ratio -** 112 hp/ton
- **Peak Torque -** 41,368 ft-lb
- **Vertical Obstacle -** 39 in
- **Trench -** 39 in
- **Fording -** 20 in
- **Gross Vehicle Weight -** 9.3 ton
- **Overall Length -** 182 in
- **Overall Width -** 98 in

Multiple CAN busses & Gigabit Ethernet as vehicle backbone

Vehicle Intelligence Areas of Interest

- **Vehicle Networks**: Ad-hoc, Inter-vehicular, Modular
  - Network Management: vehicles joining/leaving the group
  - System and Electrical Architectures
  - Security
  - Operating Environments
- **Wireless Technologies**
  - Sensor information sharing between vehicles and vehicle to Infrastructure
  - Digital Short Range Wireless Communications Integration
  - Wireless Security and Anonymity