



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

Industry Days Vehicle Electronics & Architecture

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George Hamilton

Associate Director

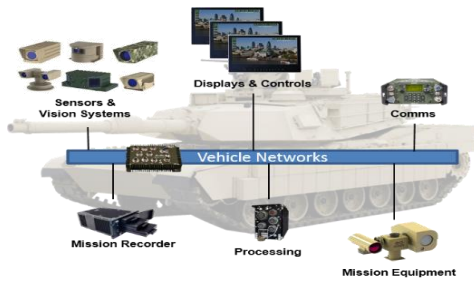
VEA



VEHICLE ELECTRONICS & ARCHITECTURES OVERVIEW



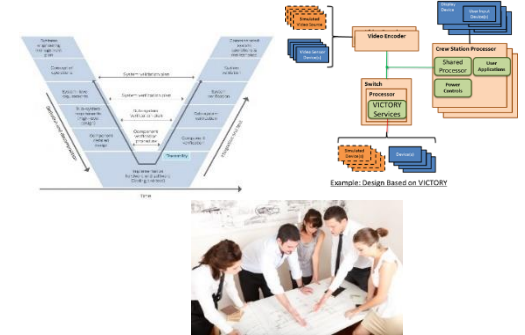
Vetronics



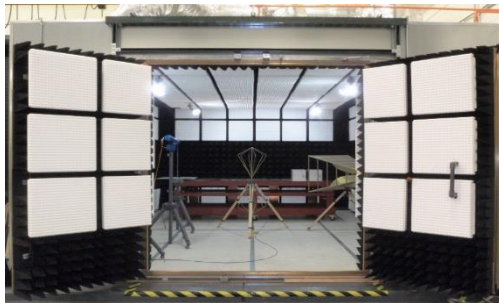
Electrical Power Distribution & Management



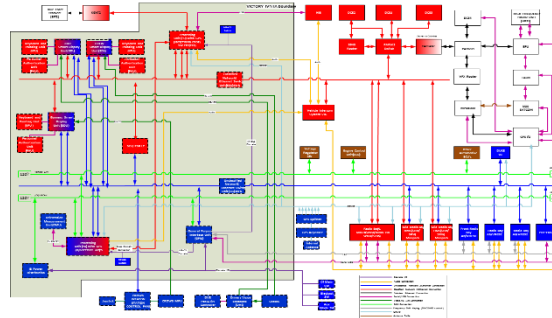
Engineering Services



EMI Analysis & Test



C4ISR Integration

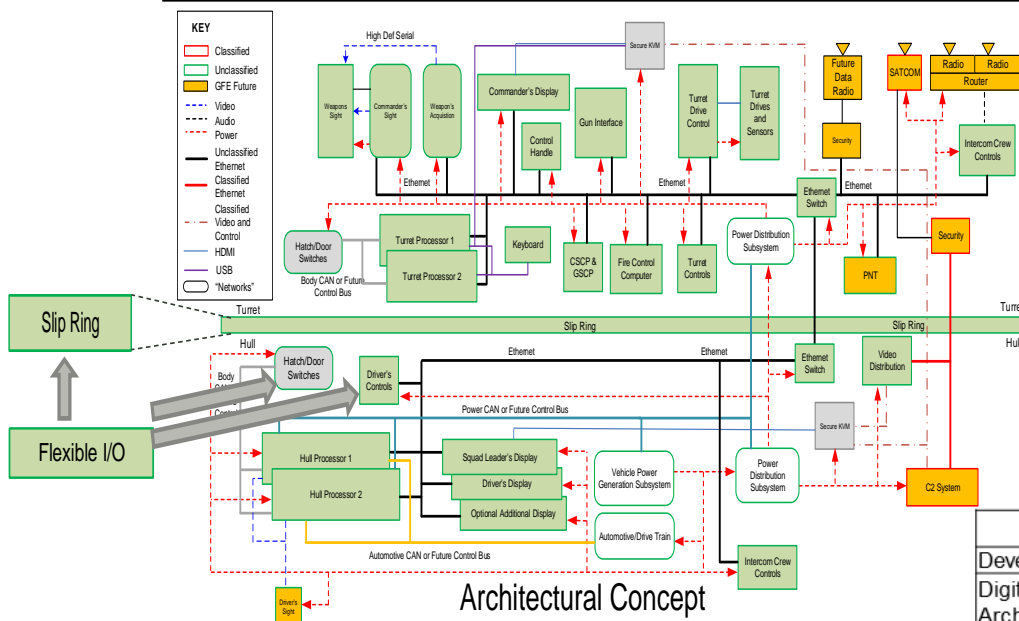


Systems Integration Laboratories (SILs)





ENHANCED - VEHICLE ELECTRONICS (E-VETRONICS) OVERVIEW



Timeline

Tasks	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Develop Architectural Concept	[Green bar]						
Digital Containerization Architecture			[Green bar]				
Advanced Slip Ring Development	[Green bar]						
Flexible I/O	[Green bar]						
Tactical Situational Awareness		[Green bar]					
Mission Package Integration				[Green bar]			
Bench Level Demonstration			[Green bar]	[Green bar]	[Green bar]	[Green bar]	
E-Vetronics Vehicle Integration						[Green bar]	
Funding (BA 6.2) \$M	2.3						
Funding (BA 6.3) \$M							



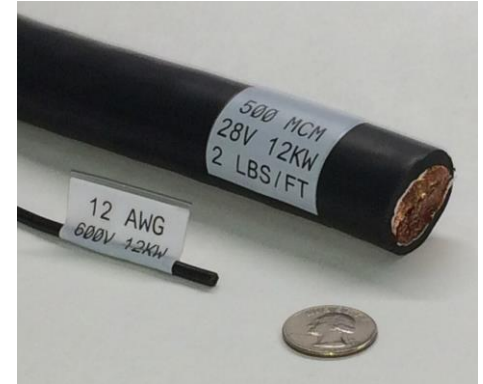
TECHNOLOGY FOCUS AREA: ARMY VEHICLE ELECTRONICS



- **Tech Challenge 1: MIL-Rugged Technology Affordability**
 - Gap: Cost goals
 - Barrier: Low Volume for Mil Rugged Electronics
 - Resolution Timing: ASAP - Program Dependent
- **Tech Challenge 2: SiC Power Electronics**
 - Gap: Small Mil-Rugged Power Electronics
 - Barrier: Availability and cost of power switching devices and LRUs
 - Resolution Timing: ASAP - Program Dependent
- **Tech Challenge 3: Next Generation Slip Ring**
 - Gap: 600VDC, coolant, CAN, 10gbps Ethernet, 3rdGen FLIR slip ring
 - Barrier: No one has been funded to develop for emerging requirements
 - Resolution Timing: FY21 MET-D

Opportunities for Partnership FY19/20

- SiC 120kW DC/DC converter
- SiC 1MW Power Distribution
- Next Generation Slip Ring





VEHICLE ELECTRONICS & ARCHITECTURES

