

Marine Corps On-Board Vehicle Power Systems for Legacy Military Vehicles



**Joint Service Power Exposition
2007**

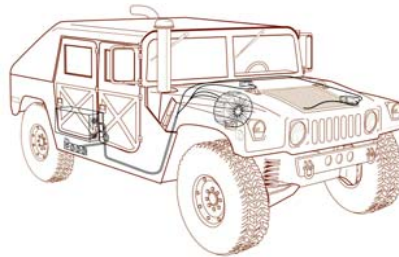


On-Board Vehicle Power Systems

DC-AC Power Inverters
1500- 3000 watts



OBVP - Medium
30 kW Add-on HMMWV



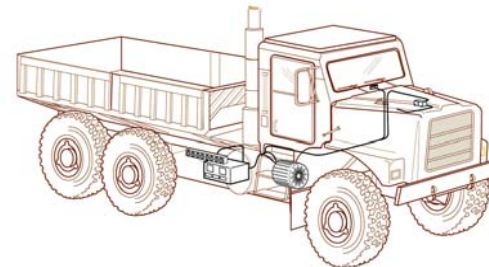
**Retrofits for
In-Theater Assets**



OBVP - Small
5 – 8 kW (HMMWV)



OBVP - Large
120 kW (MTRV)





Vehicle Power Inverters



- **Requirement for DC-AC Power Inverter**
 - **18-32 VDC input**
 - **120 VAC, single phase output**
 - **1800 watts minimum output**
 - **Easily installed**
 - **Readily available / commercial based item**
- **Market Research and testing conducted**
- **GSA schedule showed adequate competition**
- **Solicited, competed, awarded in 2007**
- **Multi-year contract awarded to IRIS QP-1800**
 - **Inverter**
 - **Ruggedized carrying case**
 - **NATO cable connector**
 - **5600 articles planned**



On-Board Vehicle Power - Small



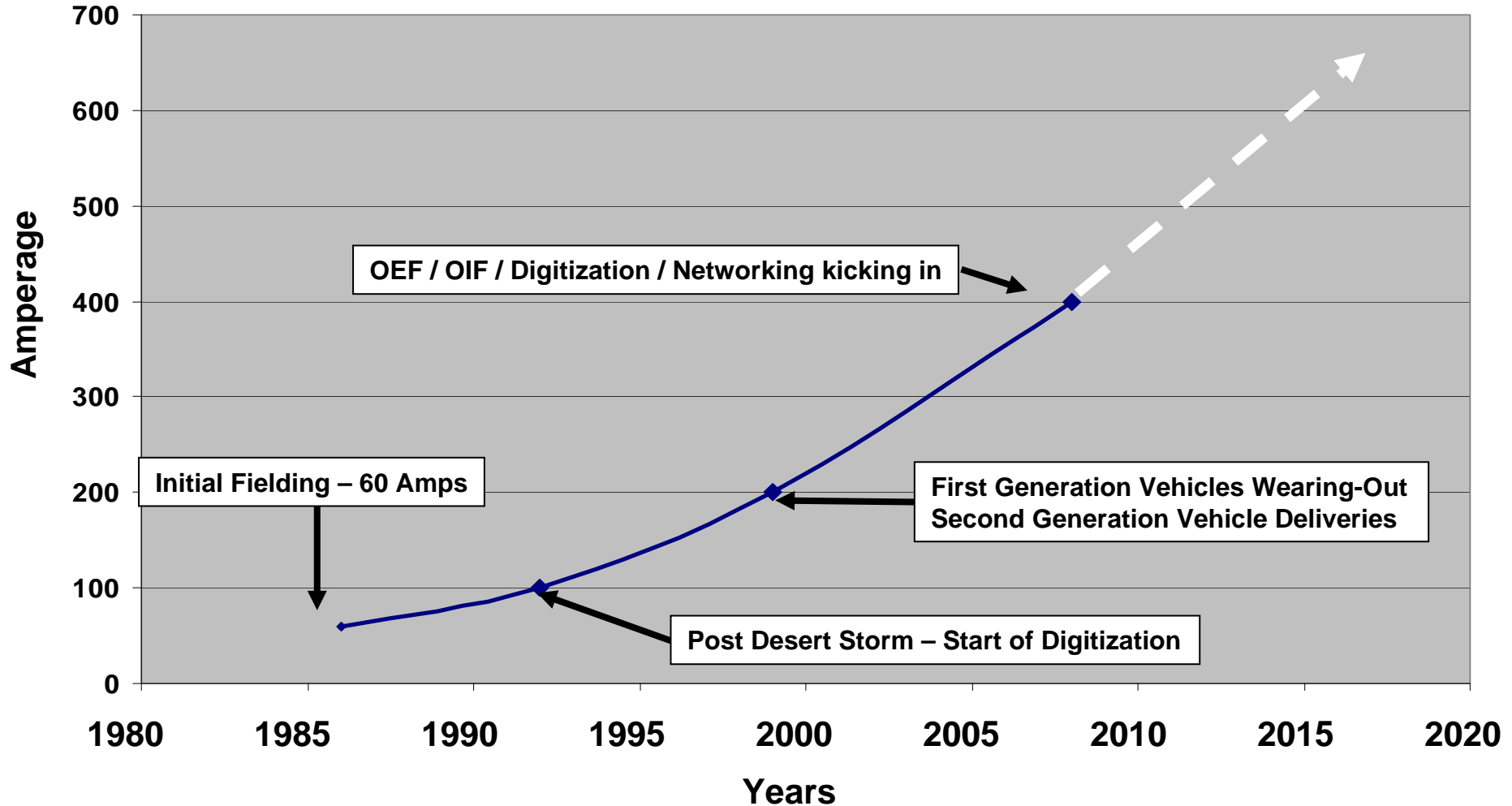
- Up to 400 Amps at 28 VDC needed
- Army has lead on retrofit kit
 - Vehicles in theater
 - DC power needs



- USMC will procure kits in 2007/2008
 - M1114, M1151, M1152 configurations
- Continuing to investigate / test inverters at higher power levels for AC power needs
- Future USMC vehicles will be procured with 400 Amp capacity (LVSR, MRAP)



Alternator Amperage Rating on HMMWV at 28 VDC





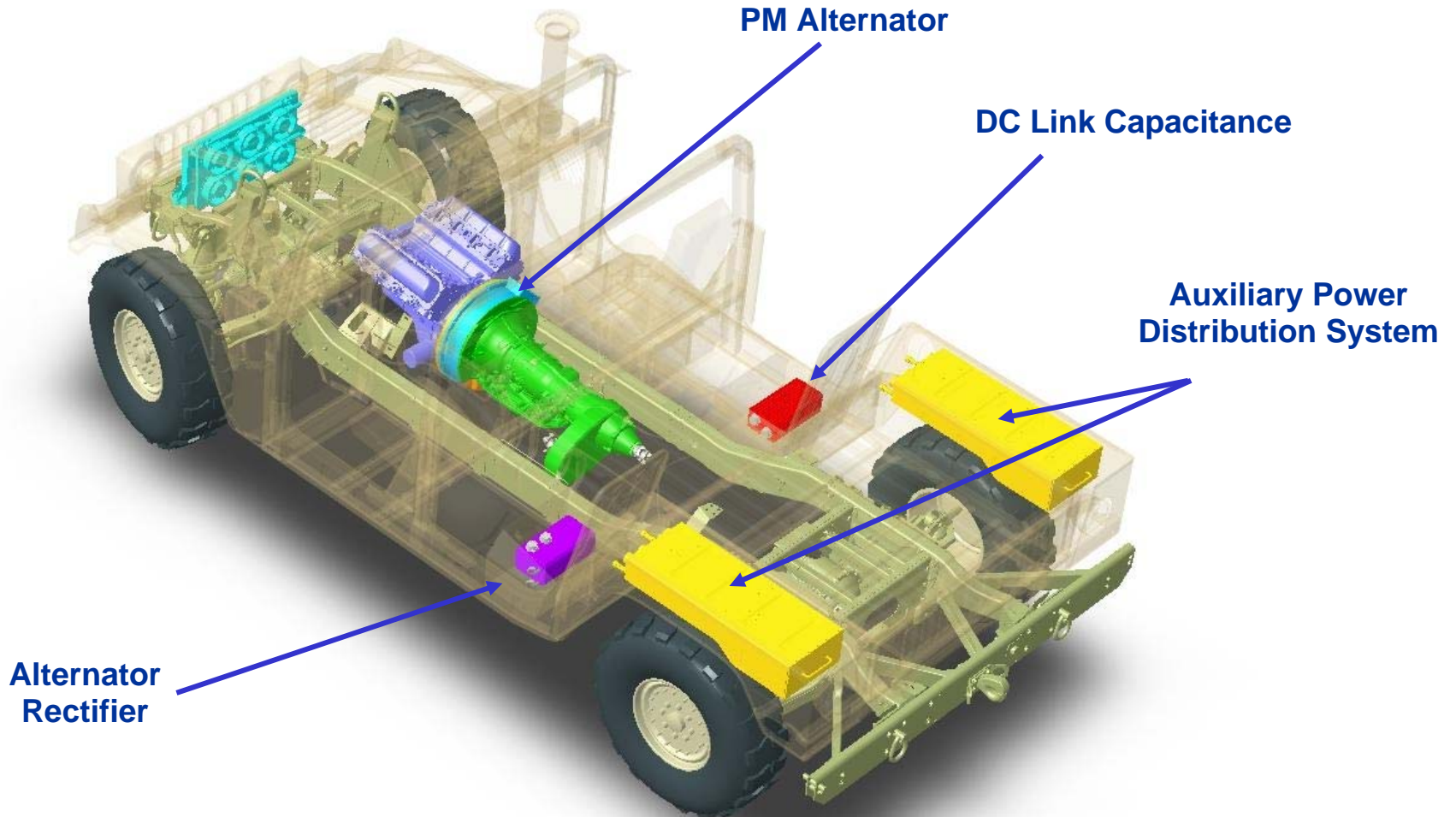
On-Board Vehicle Power Medium & Large Systems

- **Technology Demonstrations funded by Office of Naval Research**
- **HMMWV based system:**
 - **30 kilowatts stationary / 10 kilowatts on-the-move**
 - **Will be mounted on HMMWV M1123**
 - **Power output at 120/208 VAC, 60 hz**
 - **Two vehicles can be connected in parallel (60 kW output)**
 - **Can synchronize to MEP-805B generator**
- **MTVR based system:**
 - **120 kilowatts stationary / 20 kilowatts on-the-move / 3 kW transition**
 - **Mk 23 Truck**
 - **Power output at 120/208 VAC, 60 hz**
 - **Can synchronize to MEP-807A generator**
- **Vehicles will be delivered in 2007 for evaluation**



On-Board Vehicle Power - Medium

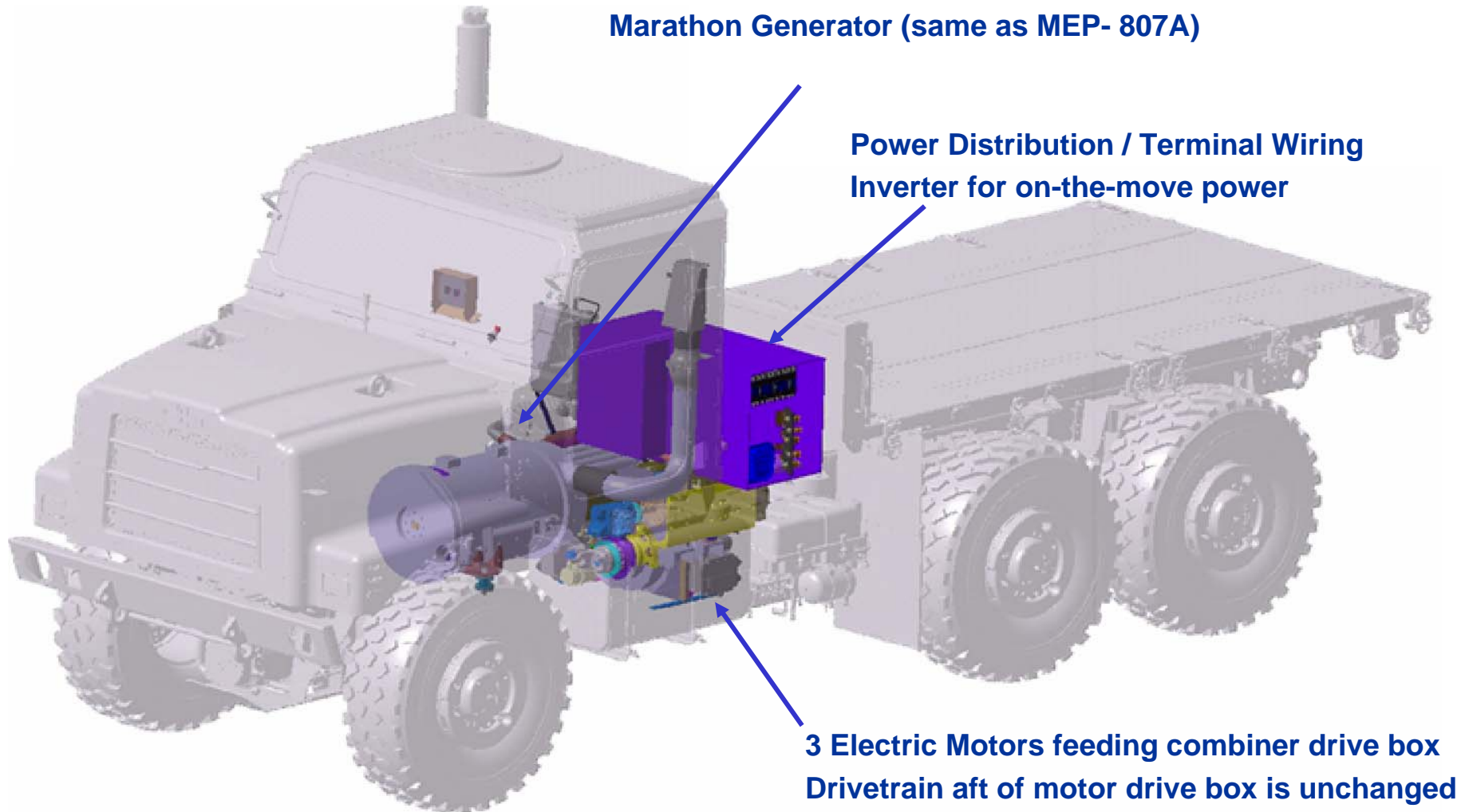
DRS Technologies Selected for Hardware Fabrication Phase





On-Board Vehicle Power - Large

OshKosh Selected for Hardware Fabrication Phase





OBVP Schedule (HMMWV & MTRV)

FY06					FY07					FY08					FY09					FY10																											
O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S

 **Concept Definition**

 **Down Selection**

 **Detailed Design / Fabrication**

  **Design Reviews**

 **Vendor Testing**

 **Delivery to Gov't**

Gov't Testing / Demonstration 

 **Transition to MARCORSYSCOM**

 **Maturation / Kit Development**

 **Gen 2 Vehicle Kit**

 **Integ / Testing**

 **Production Decision**

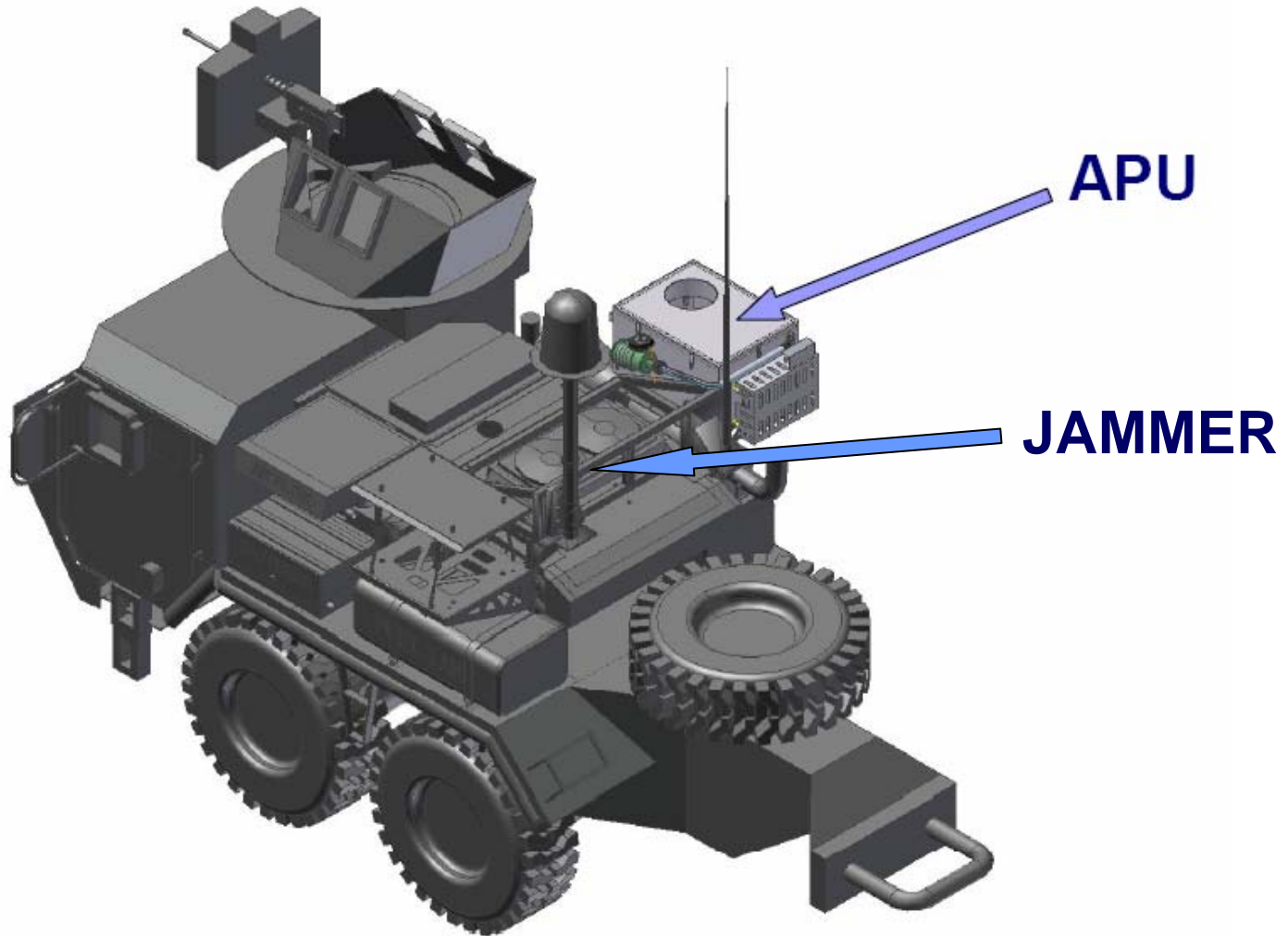


On-Board Vehicle Power Unique Applications

- **Power community continually requested to support other platforms**
 - **Tanks**
 - **Logistics Vehicle System**
 - **HIMARS**
 - **Light Armored Vehicle**
 - **Lightweight 155 Howitzer**
 - **Amphibious Assault Vehicle**
 - **Force Protection / Military Police**
- **Continued need for power for Jammers, Silent Watch, stationary applications**
- **Necessary when host vehicle incapable of power load, or host vehicle can not be retrofitted with larger alternator**
- **28 VDC Gensets needed (various sizes, ratings, restrictions)**



On-Board Vehicle Power - Unique



Watch FedBizOpps for solicitations