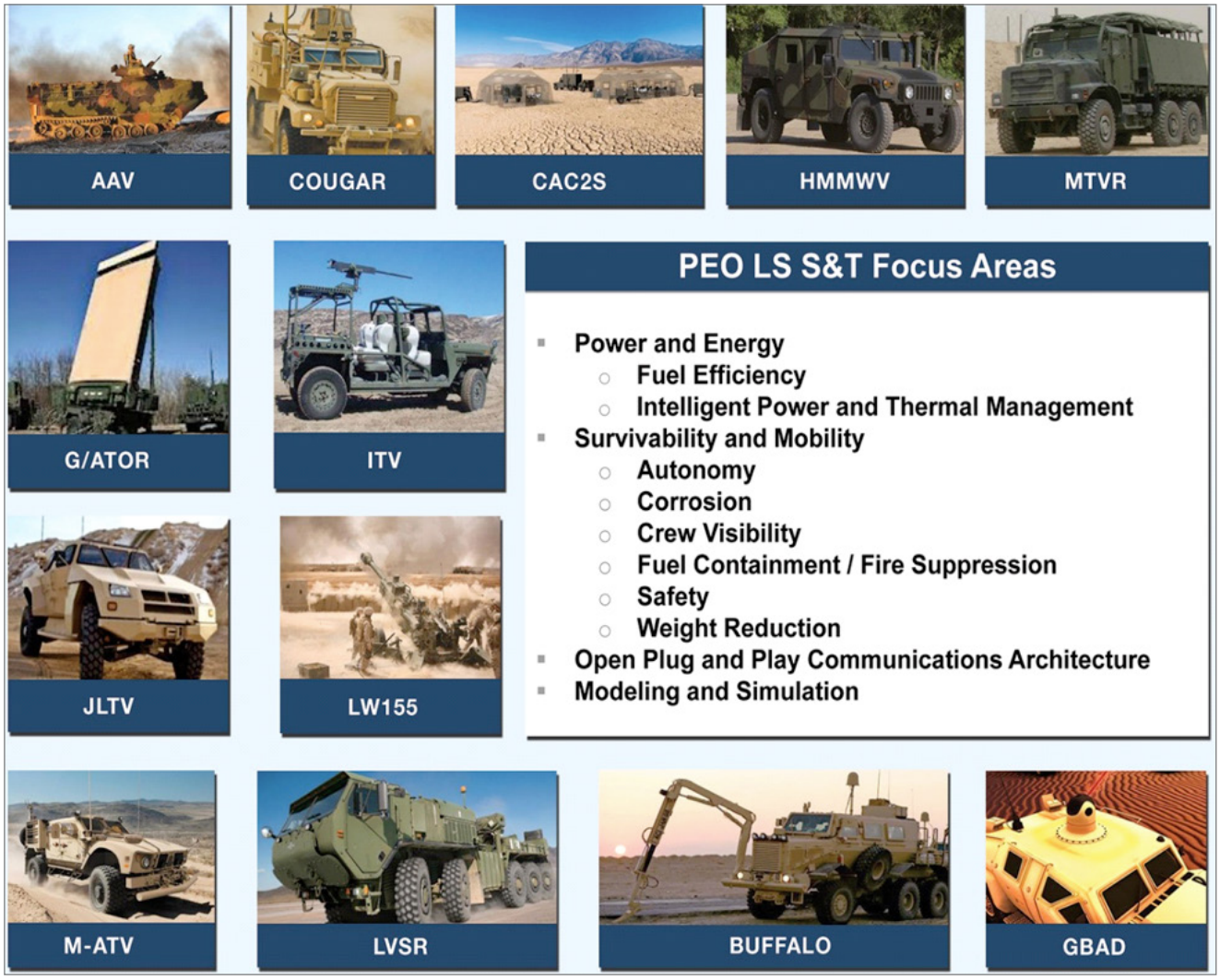
Section 5.0

PEO LS S&T FOCUS AREAS



Program Executive Officer Land Systems (PEO LS) Science and Technology (S&T) focus areas originate from high-priority technology issues identified by each PEO LS Program Manager. They emphasize areas of focused S&T investment and engagement that are mission essential, cross-cutting, operationally relevant, and actionable. These focus areas serve to inform, influence, and align requirements, S&T investments, and support the transition of critical capability to the warfighter.

S&T Focus Areas

5.1 Power and Energy. This focus area encompasses technologies that expand the overall capability of the Marine Air-Ground Task Force (MAGTF) by increasing the availability/capability of battlefield power, while decreasing the logistics footprint.

5.1.1 Fuel Efficiency. These technologies enhance vehicle performance, while reducing fuel consumption. Gains in this area also have a significant impact on the logistics footprint of the MAGTF.

5.1.2 Intelligent Power and Thermal Management. This element centers on the development of an integrated system that manages power utilization on vehicle platforms, heat properties in the cab, as well as other areas on the platform to maintain equipment and crew comfort. Ideally, an effective power/thermal management system will improve electrical system efficiency and improve heat rejection by linking power/thermal management strategies into a single onboard architecture. Advanced power/thermal management tools are a critical step in the development of reliable and efficient vehicle platforms.

5.2 Survivability and Mobility. Survivability (5.2.1) consists of Fuel Containment/Fire Suppression and Safety; Mobility (5.2.2) consists of Crew Visibility, Corrosion, Autonomy and Weight Reduction. These technologies improve mobility and increase the survivability of both Marines and vehicles. They include advanced lightweight armor concepts, active protection systems, energy-absorbing structures, floating floors, shock-mitigating seats, and upgraded drive and suspension systems.

5.2.1.1 Fuel Containment/Fire Suppression. This element includes technologies that safely extinguish internal and external vehicle fires without adversely affecting crews. Preferred solutions will implement a system-of-systems approach that provides fire suppression and/or containment for vehicle cabs, crews, tires, fuel tanks, and engine compartments.

5.2.1.2 Safety. Technologies are needed that increase vehicle stability and mitigate vehicle rollover, while maintaining the ability of vehicles to achieve their off-road and on-road mission profile.

5.2.2.1 Crew Visibility. Clear and unobstructed crew visibility is essential for situational awareness. This area addresses technologies that can provide the ability to identify, process, and comprehend critical elements of information regarding the mission and the operational environment.

5.2.2.2 Corrosion. Damage from corrosion can cause significant maintenance requirements, decrease readiness, and potentially degrade operational capabilities. Marine Corps vehicles are stored and maintained for long durations in pre-positioned stock ashore and at sea and in other areas that are exposed to salt air, rain, snow, heat, cold, and other corrosive elements. Corrosion resistance technologies will reduce total ownership costs and provide a significant increase in equipment readiness.

5.2.2.3 Autonomy. These technologies provide full autonomous capabilities and separate the warfighter from potentially hazardous missions, while providing increased efficiency and economy of force.

5.2.2.4 Weight Reduction. This area develops modular, scalable, lightweight, and affordable components/packages that are tailored to the mission to provide greater flexibility to the warfighter.

5.3 Modeling and Simulation. This element uses tools that can facilitate a systems engineering approach to platform design by evaluating potential design/technology trade-offs for tactical wheeled vehicles. These trade-offs will address performance, payload, crew protection, lifecycle costs, survivability, reliability, availability, and maintainability.

5.4 Open Plug-and-Play Communications Architecture. This technology focuses on the development of an affordable, scalable, and operationally flexible Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance architecture for use on new and legacy platforms.