Section 5

PEO LS S&T FOCUS AREAS

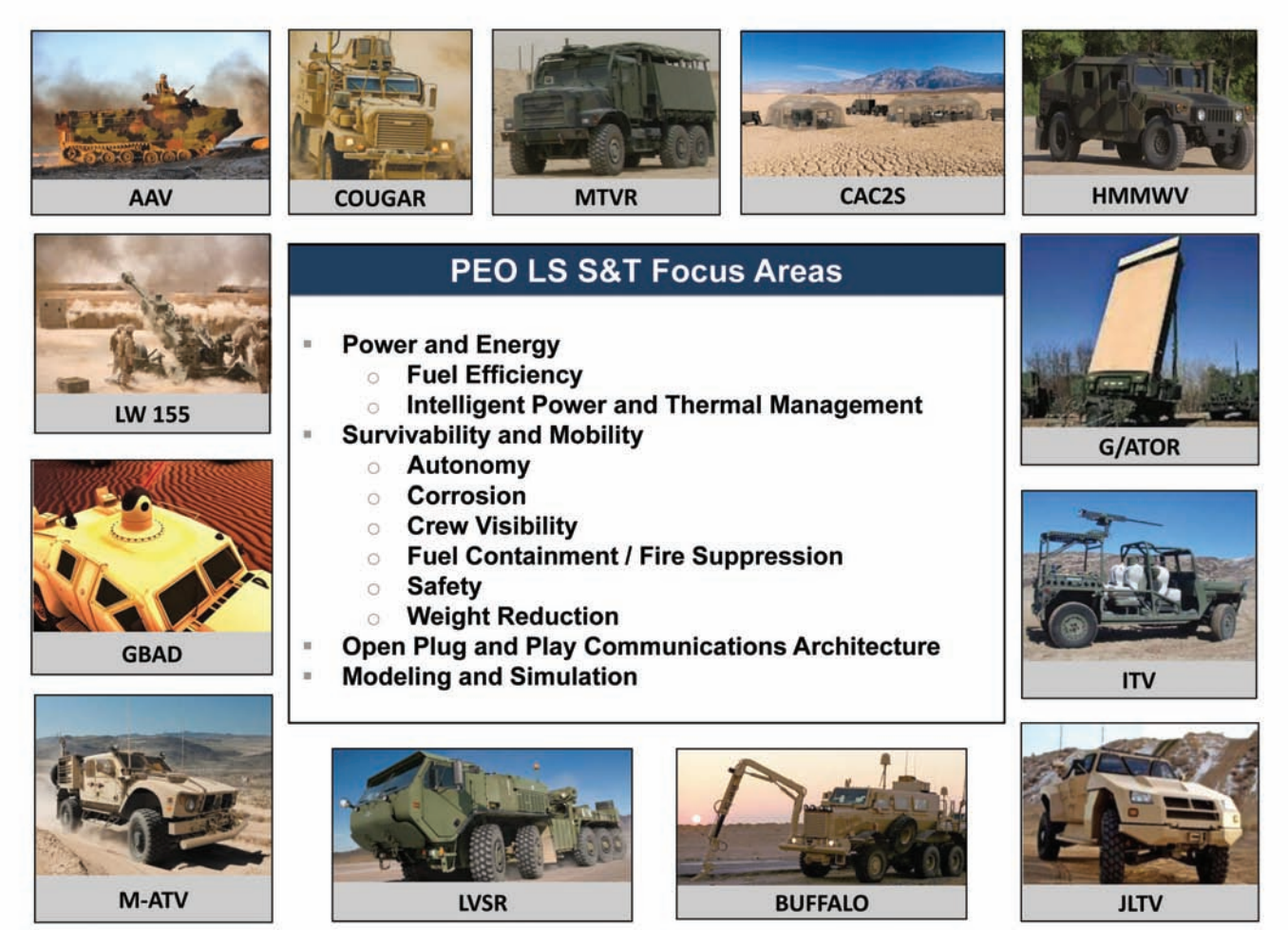

Figure 5-1. PEO LS S&T Focus Areas

S&T focus areas are intended to emphasize mission essential, cross-cutting, operationally relevant, and actionable areas of focused S&T investment and engagement. PEO LS Program Managers, Deputy Program Managers, Lead Engineers, and PEO LS S&T Representatives coordinated their efforts to develop and scrutinize each area. These areas serve to inform, influence and align high priority S&T technology investment decisions, resolve technical issues, and support the transition of warfighter capability.

S&T Focus Areas

5.1 Power and Energy: Technologies that expand the overall capability of the MAGTF by increasing the availability/capability of battlefield power while decreasing the logistics footprint.

5.1.1 Fuel Efficiency: Technologies that can 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: The development of an integrated system that manages power utilization on vehicle platforms in order to improve fuel efficiencies as well as manage heat properties in the cab and other areas on the platform to maintain equipment and crew comfort. This is the intelligent management of power and thermal systems. 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 efficient and reliable vehicle platforms.

5.2 Survivability and Mobility: Technologies that improve mobility and increase the survivability of both the Marine and the vehicle. These technologies 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 Fuel Containment/Fire Suppression: Technologies that safely extinguish internal and external vehicle fires without adversely affecting the crew; preferably a system-of-systems approach that provides fire suppression and/or containment for the vehicle cab, crew, tires, fuel tank, and engine compartment.

5.2.2 Safety: Technologies are needed that increase vehicle stability and mitigate vehicle rollover while maintaining the ability of the vehicle to achieve its off-road and on-road mission profile.

5.2.3 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.

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

5.2.5 Autonomy: Technologies that provide full autonomous capabilities and separate the warfighter from potentially hazardous missions while providing increased efficiency and economy of force.

5.2.6 Weight Reduction: The development of modular, scalable, lightweight affordable armor packages that are tailored to the mission to provide greater flexibility to the warfighter.

5.3 Open Plug and Play Communications Architecture: The development of an affordable, scalable, and operationally flexible Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) architecture for use on new and legacy platforms.

5.4 Modeling and Simulation: Tools to 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, life cycle costs, survivability, and reliability, availability, and maintainability.