The Ground-Based Operational Surveillance System (G-BOSS) Family of Systems (FoS) provides surveillance capabilities directly supporting Marine Air-Ground Task Force (MAGTF) capability gaps for Persistent Ground Surveillance, Personnel Protection, and Threat Detection. The G-BOSS FoS is an expeditionary, ground-based, self-contained, multi-spectral, sensor-oriented, persistent surveillance system with the capability to observe, collect, detect, classify, identify, track, record, and report on contacts, objects of interest, and assess threats twenty-four hours a day utilizing a fused video and sensor data display.

1) The G-BOSS Heavy (GBH) employs an integration of Commercial Off-the-Shelf (COTS) and Government Off-the-Shelf (GOTS) sensors that provide a beyond-the fence surveillance capability. The tower employs multiple detection and assessment technologies, all self-contained on a mobile platform. Alarm and assessment data are presented automatically on a display through data overlay and window pop-ups. Capabilities offered by the GBH platform will extend the eyes of the employing force and provide situational awareness (SA) needed in today's tactical environment. The GBH is unmanned, self-contained, and remotely monitored and operated.

   Concept for Future Mission: The MA-DOSS (Heavy) Fixed Site system would fill a similar role as the G-BOSS Heavy does currently. The Fixed Site would be deployed on permanent or semi-permanent installations where an extended sensing range would be necessary and a large footprint or longer setup time would not be an issue. Artificial Intelligence (AI) integration will allow for object detection, identification (facial recognition), and tracking of, vehicles, personnel, vessels. Machine Learning (ML) will allow these algorithms to refine over time, through data modeling and build a baseline to enable pattern of life analysis, behavior identification and anomaly detection. Signals collection and geolocation of multiple waveforms will allow beyond line of sight (BLOS) sensing and surveillance. All sensors will be modular to facilitate compliance with host nation agreements and privacy requirements.

2) The G-BOSS Medium (GBM) employs an integration of COTS and GOTS sensors and a mast that provides a beyond-the-fence surveillance capability. Each mast employs multiple detection and assessment technologies, all self-contained on a mobile platform. Alarm and assessment data are presented automatically on a display through data overlay and window pop-ups. The Platform will extend the eyes of the employing force and provide SA needed in today's tactical environment. The GBM is unmanned, self-contained, and remotely monitored and operated.

   Concept for Future Mission: The MA-DOSS Medium, unmanned ground vehicle sensor system, would fill a similar role as the current G-BOSS Medium with increased mobility and commonality to platforms common to the 2030 Marine Littoral Regiment. The modular sensor suite and elevating and mounting mechanism will be paired with a common semi-autonomous ground vehicle capable of organic Marine Corps airlift, and Naval Sealift. The MA-DOSS Medium will have the capability to transport, launch, recover and dock for charging, multiple MA-DOSS Light variants. The Medium and its organic Lights can act like a hub and spoke to maximize sensor coverage into the Maritime and Land Domains. An MLR will retain the capabilities of the legacy system

that will enable Land Domain force protection, and intel collection, while having additive capabilities to tie in the near shore Maritime domain sensing gaps of the Naval Expeditionary Force (NEF) to include: RF detection to provide BLOS tipping and cueing; IBS receiving and producing to receive sensing data from all domains; integration with USN Maritime sensors and USMC organic terrestrial sensors; Maritime Search Radar; and through its Light variants it will have limited hydrographic and subsurface sensing capability. Its integrated AI capabilities will retain those of the MA-DOSS Heavy with the added algorithms to allow random pattern generation of positions, movement orders, emit and transmit, sensor point of interest and zone of responsibility. This capability will increase survivability in the adversary WEZ. Finally, the MA-DOSS will have a non-lethal anti-tamper capability to facilitate fully autonomous, or remotely operated operations.

3) The G-BOSS Light (GBL) employs multiple detection and assessment technologies, all utilized on a mobile platform. The GBL uses these technologies in a portable, small, and agile setup to afford the warfighter flexibility to adjust to a variety of terrains, threats, and missions. The GBL has the ability to connect to other G-BOSS Sensor Nodes (SNs). Networking multiple Systems allows the Operator to observe their entire battlefield through an easily understood display. Alarm and assessment data are presented automatically on a display through data overlay and window pop-ups. Capabilities offered by the GBL Platform will extend the eyes of the employing force and provide SA needed in today's tactical environment. The System range is based upon the capability of the Ground Surveillance Radar (GSR) and the matching imaging suite used.

   Concept for Future Mission: The MA-DOSS unmanned amphibious system will be capable of transport and network with the MA-DOSS Medium, or independent operations in support of maneuver. It will have modular sensors that can be tailored to the robotic system without the need for FSR support. As the name implies this system will be capable of ship to shore movement in support of Naval operation, particularly landings, reconnaissance and hydrographic survey. When operating from shore based units it will be capable of being deployed from the Medium, or from a base station, and movement on all terrain and into sea and riverine environments. To increase range of patrol the Light variant will be able to be deployed near max range via rotary wing lift and collected by personnel or MA-DOSS.

4) The G-BOSS Ultra-Light

   Concept for Future Mission: The MA-DOSS Ultra-Light system would be able to be carried by a single Marine. The system would be able to be quickly deployed when the Marine deems it to be necessary. It is intended that the MA-DOSS Ultra-Light would be used for short duration missions of opportunity.