The TSOA-ID in Huntsville, AL will have numerous software and hardware demonstrations showcasing how the Open System Standards listed below support easier technology transition, enhance interoperability and reuse, mitigate technology obsolescence, and lower life cycle costs. Additionally, attendees will not only see how the software and hardware can work together to address the various embedded systems on air and ground vehicles, but will also have an opportunity to have your questions answered by those knowledgeable in the field.

The FACE™ Technical Standard provides standardization of generic software applications’ interfaces (APIs) to support the portability of applications (capabilities) across different hardware. It also provides a modeling framework to capture the mission-specific data needed by applications in a standardized format. FACE Conformant software has passed an independent verification and certification process ensuring that the software conforms to the FACE Technical Standard requirements for creating portable and reusable software.

The HOST Standard primarily targets the hardware piece of the puzzle for high performance embedded computing. The primary version of HOST relies on the VPX technology from the VITA consortium. It defines the electrical and mechanical interfaces for cards to plug into a chassis.

The SOSA™ Technical Standard tackles the problem of decomposing sensors, C4ISR and EW systems (EO/IR and RF) through the software, hardware, and networking within the system. It is leveraging many of the existing DoD standards efforts where they are appropriate. For example, the consortium is leveraging a subset of HOST and OpenVPX for the hardware, as well as using API definitions from the FACE Technical Standards, and protocol definitions from CMOSS, specifically MORA.

CMOSS serves a suite of individual standards that are combined together to provide a starting ground for developing an open C4ISR/EW (radios, SIGINT, EW, etc.) system for an Army vehicle. It also uses a subset of HOST & OpenVPX for hardware, uses MORA for protocol definitions from an antenna to a radio backend, and leverages VICTORY for system-to-system communication. VICTORY focuses on the definitions of the networks & messages transferred between embedded systems and applications.