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LCE Supports the Development of a Joint Explosive Ordnance Decision Support System That Helps Soldiers Identify and Disarm Bombs

The Situation

As explosives technologies have become increasingly adaptive and ubiquitous, Explosive Ordnance Disposal (EOD) technicians across all branches of the military have called for a rapid, reliable, and secure source of information on identifying and disarming bombs. Since the initial formalization of bomb disposal services during World War II, the EOD community has become a highly specialized group of warfighters serving in Afghanistan, Iraq and throughout the world. These warfighters require a re-envisioning of information design customized to their evolving needs.

The Challenges

Because total situational awareness can mean life or death in an instant, EOD technicians rely on up-to-date information from the field, particularly from one another. For them, a uni-directional flow of data is inadequate. They need a thriving, collaborative body of information designed for their benefit and contribution, one supported by a system that is both fast and secure. Toward meeting that demand, government and industry leaders developed the Joint Explosive Ordnance Decision Support System (JEOD DSS), a research, development, testing, and evaluation (RDT&E) initiative aimed at creating a source of EOD Tactics, Techniques, and Procedures (TTPs). Meeting user requirements proved to be challenging, as EOD work is simultaneously very specific and very fluid. Early iterations of the decision support system were modified from the original concept while other elements were discarded entirely as EOD technicians indicated what would and would not work in the field.

The Approach

With an ear to the EOD community and innovative support from Life Cycle Engineering, the JEOD DSS evolved into its current form, which consists of:

- the JEOD Portal, a rapid and secure net-centric source of information that technicians can use to prepare for ordnance disposal missions
- the JEODNet, a network supporting the Portal and operating among several nodes in geographical locations.
- Mobile Field Kits (MFKs), durable laptops containing EOD information software designed for use in the war theater.

The Results

User-centered enhancements to the JEODDSS program have propelled it from an RDT&E initiative to a Low Rate Initial Production project on the cusp of a Full Rate Production Phase. During this successful transition from life cycle development to agile delivery, the JEODDSS initiative:

- Developed consistent solutions to complex technical problems, which helped the project reach Milestone B, making it a Program of Record (PoR), and Milestone C, which initiated the program's Low Rate Initial Production (LRIP) phase.
- Implemented system integrity across the JEODNET, including nodes of disparate geographical locations
- Acted as a service provider to the program of several competencies including engineering, integration, validation, and operational support
- Developed in-house tools to promote efficiencies across the EOD community
- Adapted principles to ensure security practices were bred into the product and its maintenance of data
- Provided a validation and testing center of competence for the program
- Designed a complete technical refresh including reliance upon a solid virtual platform
- Collaborated efforts across different NAVAL competency centers in multiple geographic locations
- Performed above and beyond program expectations, including overall support for the project during external facing events
- Supported cross-functional and cross-team work groups to push toward one common goal

About LCE

Life Cycle Engineering (LCE) is a leading provider of reliability consulting, engineering services, and applied technology solutions that help both government and private enterprises achieve sustainable success. Widely recognized as the premier provider of innovative and successfully executed reliability and maintenance solutions worldwide, areas of focus for LCE include: design and engineering, logistics support, information technology applications, program management, change management, education, and holistic implementations of Reliability Excellence (Rx). Founded in 1976, LCE is headquartered in Charleston, South Carolina with offices across North America.

