

## Multi-Service, Live Training Support for Warfighters

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### CUSTOMER

The U.S. Armed Forces, and the armed forces of our allies, recognize that to prepare warfighters to meet current and future military challenges, Live Training field exercises are and will continue to be essential components of armed forces readiness.

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### CUSTOMER NEED

All of the U.S. Armed Forces, and the armed forces of our allies, utilize a three-environment approach to warfighter training:

- Live Training (LT) is conducted in an actual physical environment, in real time, with real people.
- Virtual Training (VT) involves training in a synthetically replicated or simulated environment.
- Constructive Training (CT) uses an environment based on computer models and game-type simulations.

In order to deliver effective and successful Live Training, each branch of the armed forces required assistance with the planning, installation, maintenance and integration of the physical environments in which the LT took place. They needed a contractor to prepare all aspects of the physical environment, together with the many integrated tactical support systems that facilitated the LT, and have them ready prior to the beginning of any exercise or LT action. All of these LT Support Services make up the multi-year program known as Lifecycle Contractor Support for Live Training (LCCS-LT). The U.S. Army's Program Executive Office for Simulation, Training and Instrumentation (PEO-STRI) was the Executive Agent for this Program.

In addition, the armed forces look to its contractor to capture the many lessons learned from each LT exercise or action and incorporate them into plans to enhance or upgrade the physical environment or the LT Support Services for future exercises or actions.

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### HOW WE HELPED

For the past nine years, Raytheon has provided the necessary LT Support Services, including all operations, maintenance, logistics, engineering and lifecycle services, at the following centralized LT locations:

- National Training Center (NTC) at Fort Irwin, Calif.
- Joint Maneuver Readiness Center (JMRC) at Hohenfels, Germany
- Joint Readiness Training Center (JRTC) at Fort Polk, La.

After the initial one-year contract award, Raytheon received a series of eight-option-year awards (including the current year) to continue providing LT Support Services at these locations, due to the exceptionally high level of customer satisfaction with Raytheon's performance.

In addition, Raytheon delivered comprehensive and effective LT Support Services for many other activities across the globe:

- Tactical Engagement Systems and Precision Gunnery Systems at four regionally-based centers providing depot-level support and 18 worldwide sites

- Rotary wing Air-Ground Engagement Simulation (AGES) systems and Aerial Weapons Scoring Systems (AWSS)
- Army Live Fire Digital Range Complexes at multiple military ranges throughout the U.S.
- Military Operations in Urban Terrain (MOUT) at multiple sites around the world
- Observer Control Communications Systems at JMRC
- Range Data Measurement Systems at JMRC, where as many as 20,000 entities were successfully tracked on the battlefield
- Mobile Data Collection Unit Development at both NTC and JRTC
- At NTC, Raytheon engineers built one of the U.S. Army's very first applications of a Constructive Training simulation to control a live first scenario.

In all of these instances, and many others, Raytheon developed and maintained the precise conditions required for each unit to perform its assigned tasks and for observers to measure the unit's performance against established standards.

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#### **CUSTOMER RESULTS**

As a result of its long-term LT partnership with Raytheon, U.S. and Allied Armed Forces have dramatically increased the learning value of their LT activities.

Raytheon's continual commitment to LT innovation and mission success produced numerous instances where significant enhancements were made to previously established LT environments and exercise scenarios. As a result, the benefits and results of the training improved substantially. For example:

- By integrating new digital instrumentation systems with the existing, native instrumentation system for Mission Ready Exercises (MRE), Raytheon enabled participants in the After Action Review (AAR) of each exercise to focus on individual warfighter's actions on contact and on the movement in convoy of each vehicle in response to changing mission environments. This integration greatly improved warfighter survivability and the safeguarding of vital supply lines.
- Raytheon developed a unique capability to immediately adapt CT simulations in real time, in order to demonstrate specific weaknesses as they were encountered by the actual troops in training or seen by their observer-controllers. Rather than having to wait for the After Action Review, the immediacy of this feedback dramatically boosted the learning value for troops.
- In response to the emerging threats in the Iraq conflict, Raytheon designed and built the very first training devices and environments to simulate Improvised Explosive Devices (IEDs) and to train and test counter-IED scenarios in support of the Joint Counter-IED Task Force. This training proved invaluable in protecting our warfighters in this conflict.

By leveraging Raytheon's deep systems engineering and training expertise in multiple disciplines, Raytheon's LT engineering teams were also able to design, develop and deploy brand new and innovative LT situations, and integrate them with existing scenarios. Thus, U.S. and Allied Armed Forces were able to provide a wide variety of real-world LT exercises, with the latest equipment and weapons, while extending the usefulness of legacy systems and staying within stringent budgetary constraints.

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*Customer Success Is Our Mission*