

# ADVANCED HAPTICS DEVELOPMENT TO SUPPORT MEDICAL SIMULATED TRAINING ENVIRONMENTS

## IMPROVING PERFORMANCE AND TRAINING EFFECTIVENESS WITH HAPTICS

This Phase III Small Business Innovation Research (SBIR) project was awarded to ECS by the Defense Health Agency (DHA). This project consists of designing and developing haptics-based virtual reality (VR) training systems to support medical simulated training environments. This includes combat medicine in the U.S. Army's Synthetic Training Environment (STE) as well as expansion and commercialization to the broader healthcare communities.

The research and development team includes ECS, HaptX, and Mayo Clinic. This collaborative effort integrates high-fidelity VR with state-of-the-art haptics hardware and software solutions to deliver enhanced training capabilities to our Soldiers and the broader medical community.

The Phase II effort focused on burn case procedures at the point of injury as well as within a clinical setting and culminated in a Training Effectiveness Evaluation (TEE).

The third year of work focuses on use of this technology for training Military Working Dog (MWD) Handlers in K9 tactical combat casualty care. The use case involves recognizing key behavior changes and intervening before incapacitation or other serious injury occurs.

## Key Features

- Training system for burn care treatment
- Multiplayer Tele-Teaching Scenario
- Multiplayer/Multirole Care Under Fire
- Combat Life Saver (CLS) training
- Emergency personnel training
- Training Effectiveness Evaluation
- Military Working Dog Handler trainer

