From Ideas to Reality Torch actively supports the Army, Air Force, Navy, Missile Defense Agency (MDA), and Defense Threat Reduction Agency (DTRA) in research and development. In addition, we support warfighting applications of new technology concepts through multiple Phases I, II and III Small Business Innovation Research (SBIR), Small Business Technology Transfer (STTR), and Science & Technology programs. Torch's proven process takes technology through concept development, algorithm development, algorithm validation, and finally, technology transition. The Torch advanced technology programs incorporate fundamental research; advanced operational concept and technology formulation, development, analysis, and evaluation; and transition of technology into weapon systems to improve existing warfighting capabilities.

Sensor Registration

Innovative solutions for real-time, autonomous sensor registration monitoring, and correction using High and Low Accuracy Ephemeris satellites.

Sensor Resource Management

Advanced algorithms using a Constraint Satisfaction Programming (CSP) environment that provides real-time resource planning for distributed Ballistic Missile Defense sensors in a multi-raid, multi-target environment.

Lethality Instrumentation

Innovative optics-based instrumentation and software specializing in live-fire detonating warhead and high energy impact data collections to improve and benchmark weapon effects models.

UAS Payload Integration

Development, integration, and demonstration of a modular prototype fire control system for an Unmanned Aircraft System (UAS).

Virtual Systems Prototyping

Torch provides realistic 3D laser system virtual testbed where engineers explore design trades and soldiers explore mission operations.

Reducing Collateral Damage and Risk to Civilians Torch is developing and fielding a high-speed optical sensor suite to collect and interpret missile intercept signatures; physics-based phenomenological models to describe the brief optical flash; and innovative instrumentation systems integrated with automated data processing and data fusion algorithms to capture fragment mass, geometry and velocity information. Our latest innovation is an optical system that will be fielded at test ranges across the United States. This system will help reduce risk of a weapon system’s collateral damage and help protect civilians through more accurate characterization of system behavior.