



# SURVICE

ENGINEERING COMPANY

## CORE COMPETENCIES AND CAPABILITIES

Specializing in system safety, survivability, and effectiveness, the SURVICE Engineering Company is a small business that has provided the Department of Defense (DoD) and other customers with high-quality analytical products and services for more than three decades. The company was founded in 1981 to provide specialized survivability services; however, we have continued to expand and enhance our capabilities to support a wide range of industries throughout the DoD, homeland security, advanced technologies, environmental, and commercial markets.

### CORE BUSINESS AREAS

SURVICE is able to offer customized support to each client by integrating our core areas of competency:

#### SYSTEMS ANALYSIS & ENGINEERING

From our beginnings, SURVICE has been a leader in analyzing the composition and performance of U.S. and foreign air, land, and sea combat systems. We conduct a wide variety of ballistic and nonballistic analyses and systems engineering studies, including analyzing threat-target interactions; susceptibility and vulnerability reduction; platform suitability; component, system, and mission performance; technology optimization; personnel vulnerability; fire prediction and mitigation; munitions-related safe escape/separation, flutter, stability, and control; and electromagnetic environmental effects (E3) and lightning.

#### TEST & EVALUATION

SURVICE's experienced T&E professionals are involved in all aspects of acquisition program

support, including ballistic and nonballistic developmental, operational, and Live Fire testing. We perform test planning, management, conduct, analysis, and reporting; and we use the latest automated data collection tools, damage assessment processes, and weapon system databases. Also, when appropriate, we leverage capabilities and technologies from across the company to give our customers a convenient single source for all their T&E needs.

#### MODELING & SIMULATION/ SOFTWARE ENGINEERING

SURVICE has proven expertise with the latest M&S and software engineering tools and technologies. We work with many engineering and physics-based component-, system-, and force-level models; and our capabilities span from algorithm/methodology development to code design and low-level optimization to configuration management and verification, validation, and accreditation (VV&A) support (in all phases of the acquisition process). We also develop customized user interfaces and computational tools for applications such as automated laser measurement, post-test damage collection, 3-D geometry modeling/conversion, high-speed raytracing, and fire modeling.

#### DIMENSIONAL METROLOGY & REVERSE ENGINEERING

SURVICE is uniquely positioned to offer DoD and non-DoD customers specialized, high-precision metrology (i.e., measurement), modeling, and related services. These services—which can be performed at a customer site or our full-service Metrology Centers—include reverse engineering, target

exploitation, rapid prototyping, dimensional inspection, pre- and post-test damage assessment, 3-D geometric modeling, metrology integration support (for manufacturing and assembly), and metrology tool application and development.

#### INFORMATION TECHNOLOGIES AND MANAGEMENT

SURVICE is a repository and distributor of the nation's vital defense-related information. As the prime contractor of the Defense Systems Information Analysis Center (DSIAC), we acquire, archive, analyze, synthesize, and disseminate scientific and technical information related to survivability and vulnerability; reliability, maintainability, quality, supportability, and interoperability (RMQSI); military sensing; advanced materials; energetics; non-kinetic weapons; directed energy weapons; autonomous weapon systems; and weapon systems. Additionally, we maintain classified and unclassified databases, supporting the community practitioners in a wide range of research, development, test, and evaluation efforts.

### SPECIAL TECHNOLOGIES AND FOCUS AREAS

**FIRE WORKS** – SURVICE has a team of uniquely qualified engineering and computing specialists—as well as an array of customized tools, such as the widely used DoD Fire Prediction Model (FPM)—to address the complex threat of fire to military and commercial vehicles and facilities, specifically focusing on prediction, protection, and mitigation.

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# CORE COMPETENCIES AND CAPABILITIES

## TACTICAL RESUPPLY VEHICLE (TRV) –

Our work in UAS development and testing is an example of providing new game-changing capabilities to the warfighter for transportation and logistics. The Tactical Resupply Vehicle (TRV) family of drones, developed in collaboration with UK-based Malloy Aeronautics represents field-proven capability at tactically significant payloads and ranges.

[survice.com/trv](http://survice.com/trv)

**HPC CENTER** – SURVICE’s High-Performance Computing (HPC) Center is a uniquely accredited NVIDIA CUDA Research Center and an industry leader in high-performance computing, computer graphics, scientific visualization, and physics-based modeling and simulation capabilities, developing and using numerous leading-edge tools and technologies, such as the ultrafast Rayforce™ and StingRay™ raytracing technologies.

[rayforce.survice.com](http://rayforce.survice.com)

**COMPOSITES** – As a long-time leader in composites research and development, SURVICE is partnering with experts in academia and industry to leverage the high-

strength, low-weight advantages of composite materials and integrate these technologies across the battlefield and beyond, including as electromagnetic shielding for electronic components, as rotorcraft drives shafts, and as combat vehicle flooring.

## SELF-SEALING FUEL CONTAINMENT –

SURVICE’s self-sealing fuel containment technology provides current and new fuel tank bladders/designs with a robust, lightweight, and easily integrated multi-hit solution, leveraging a novel “sandwich” design of liquid reactant and high-elongation elastomer layers, as well as a quickly forming/expanding polymer, to provide both mechanical and chemical self-sealing capabilities.

**HIGH-ENERGY LASER (HEL)** – As HELs become a focus for DoD vulnerability and lethality communities, SURVICE has added HEL survivability and lethality analysis and testing to our core competencies. We execute HEL analyses that determine platform vulnerabilities as well as develop HEL tools to increase the fidelity and accuracy while decreasing run-times, allowing thousands of engagement

conditions to be run faster than in real time. We also support HEL testing through material and system damage characterization as well as the evaluation of survivability enhancement materials

**NUCLEAR** – SURVICE has recently added nuclear vulnerability and hardness assessments to our company’s suite of survivability and lethality capabilities. We assess thermal, overpressure, and gust damage mechanisms to support both inherent hardness and base-escape analyses. We also support thermal fluence testing to evaluate material damage characterization.

**CYBER** – SURVICE is involved in a variety of high-profile cyber security tasks, supporting multiple customers within the DoD and Intelligence communities. Our primary services include cyber security evaluations and assessments, cyber survivability analyses, cyber research and development, crypto design and implementation, offensive cyber operations (OCO), and defensive cyber operations (DCO).

## SURVICE AREA OPERATIONS

### CORPORATE HEADQUARTERS

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