

CORE COMPETENCIES AND CAPABILITIES

SURVICE
ENGINEERING COMPANY



CORE BUSINESS AREAS

SURVICE can offer customized support to each client by integrating our core areas of competency.

SYSTEMS ANALYSIS & ENGINEERING

From our beginnings, we have been a leader in analyzing the composition and performance of U.S. and foreign air, land, and sea combat systems. We conduct various 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 and lightning.

TEST & EVALUATION (T&E)

Our 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, execution, analysis, and reporting and use the latest automated data collection tools, damage assessment processes, and weapons system databases. When appropriate, we leverage our company's capabilities and technologies to give our customers a single source for all their T&E needs.

MODELING & SIMULATION (M&S)/ SOFTWARE ENGINEERING

We have 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. Our capabilities span from algorithm/methodology development to code design and low-level optimization to configuration management and verification, validation, and accreditation support (in all acquisition phases). 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

We are uniquely positioned to offer U.S. Department of Defense (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 at 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.

ROBOTICS & UNCREWED SYSTEMS

We have played an ever-increasing role as a robotics and uncrewed systems innovator and bring highly capable uncrewed aircraft system (UAS) technology development and advanced tactical capability integration experience and expertise. We successfully design, develop, test, manufacture, and implement state-of-the-art UAS solutions (Groups 1-3) for numerous roles to include logistical resupply and other multirole applications.

CORE COMPETENCIES AND CAPABILITIES

INFORMATION TECHNOLOGIES & MANAGEMENT

We are a repository and distributor of the nation's vital defense-related information. As the prime contractor of the DoD Information Analysis Center, we acquire, archive, analyze, synthesize, and disseminate scientific and technical information related to 22 technical focus areas spanning the defense systems, cybersecurity and information systems, and homeland defense and security information domains. We also maintain classified and unclassified databases, supporting the community practitioners in extensive research, development, and T&E efforts.

RESEARCH & DEVELOPMENT (R&D)

We are involved in various foundational and applied R&D within the DoD and Department of Homeland Security. Our primary services include fundamental materials research in extreme environments, M&S and experimentation of protection technologies for kinetic and nonkinetic threats, personnel and manned- and unmanned-system survivability, mechanical sciences, robotics, weapons sciences lethality and effectiveness, hypersonics, biological and biotechnology research, and forensic chemistry.

SPECIAL TECHNOLOGIES AND FOCUS AREAS

ARTIFICIAL INTELLIGENCE (AI)/ MACHINE LEARNING (ML)

A highly motivated team, rigorous research and development, and a unique adaptive culture allow us to provide robust, data-driven solutions for various problems. We actively explore the cutting-edge of AI/ML technology and continually advance it to adapt to the everchanging technological landscape and growing needs of the U.S. Warfighter.

COMPOSITES

As a long-time leader in composites R&D, we partner with experts in academia and industry to leverage the high-strength, low-weight advantages of composite materials. We integrate these technologies across the battlefield and beyond, including electromagnetic shielding for electronic components, and as rotorcraft drive shafts and combat vehicle flooring.

HIGH-ENERGY LASER (HEL)

As HELs become a focus for DoD vulnerability and lethality communities, we have added their survivability and lethality analysis and testing to our core competencies to determine platform vulnerabilities and develop HEL tools. This increases the fidelity and accuracy while decreasing runtimes, allowing thousands of engagement conditions to run faster than in real time. We also support HEL testing through material and system damage characterization and evaluation of survivability enhancement materials.

UAS/ ELECTRIC VERTICAL TAKE-OFF & LANDING (eVTOL)

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 family of drones, developed in collaboration with UK-based Malloy Aeronautics, represents field-proven capability at tactically significant payloads and ranges.

HIGH-PERFORMANCE COMPUTING (HPC) CENTER

Our HPC Center is a uniquely accredited NVIDIA CUDA research center and industry leader in high-performance computing, computer graphics, scientific visualization, and physics-based modeling and simulation capabilities. We develop and use numerous leading-edge tools and technologies, such as the ultrafast Rayforce™ and StingRay™ raytracing technologies.

NUCLEAR

We have 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 inherent hardness and base-escape analyses. We also support thermal fluence testing to evaluate material damage characterization.

WARGAMING

As warfare becomes more complex and multidomain, the ability to adequately predict the outcome of conflicts becomes more challenging. Partnered with the U.S. Air Force Research Laboratory and the University of Dayton Research Institute, we are working to develop a validated, simulation-based, analytical wargaming tool.



THE SURVICE ENGINEERING COMPANY

Specializing in system safety, survivability, and effectiveness, SURVICE is a small business providing the DoD and other customers with high-quality analytical products and services for four decades. Founded in 1981 to provide specialized survivability services, we continue to expand and enhance our capabilities to support a wide range of industries throughout the DoD, homeland security, advanced technologies, environmental, and commercial markets.

SURVICE
ENGINEERING COMPANY

