THE TACTICAL RESUPPLY VEHICLE (TRV)

ABOUT SURVICE

SURVICE Engineering has over 35 years of experience in supporting the U.S. Department of Defense and industry clients with specialty engineering services and design expertise. Our Applied Technology Operation focuses on leading-edge research and development across engineering disciplines. We tap into our company's extensive science and technology bench and collaborate with industry, academic, and government partners to develop disruptive next-generation technologies.

DISRUPTIVE WARFIGHTER TECHNOLOGIES

SURVICE partners with leading-edge companies around the world to develop and deliver innovative, disruptive new technologies. Our work in unmanned aircraft systems development and testing is an example of providing new game-changing capabilities to the Warfighter for transportation and logistics.

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

ADVANCED COMPUTING AND CYBER TECHNOLOGIES

SURVICE is the only small business in the world to be accredited by NVIDIA as a GPU Research Center. We leverage this expertise to develop custom, highly-optimized software implementing neural networks and machine-learning technologies across a broad spectrum of applications to include computer vision techniques to automate drone operations. We have also developed and implemented NIST-approved secure and global communications, allowing operations to be conducted and overseen anywhere in the world.

WORLD-CLASS INDUSTRIAL DESIGN

Our Industrial Design and Robotics Team has experience in a broad range of hardware and software technologies, allowing us to develop and fabricate tailored solutions to meet unique end-user requirements.

THE TACTICAL RESUPPLY VEHICLE

TRV OBJECTIVES

- **Objective capabilities:**
  - 50-400+ lbs load capacity
  - Multirole autonomous unmanned missions focus on assured logistics resupply in a tactical environment
- Augmentation of existing assets for “last mile” logistics for assured resupply

ONGOING SPIRAL DEVELOPMENT EFFORTS

- **Military Commercial-Off-The-Shelf (COTS) Transition** – Increase hardening while maintaining low-cost COTS subcomponents
- **Spiral Technology Development** – Continuously improve and evolve tactical capabilities
- **Autonomy** – Develop/enhance autonomous operations and supporting technologies
- **Vehicle Intelligence** – Enable ground combat element Marine operators
- **Interface Standardization** – Establish interface standards to streamline payload integration
- **Testing & Evaluation** – Validate/refine performance with Warfighter involvement

<table>
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<th>PAYLOAD (LBS)</th>
<th>TRV-80**</th>
<th>TRV-150*</th>
<th>TRV-400*</th>
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* Theoretical range at sea level on ISO day
** Demonstrated/validated (to date)

continued...
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TRV PLATFORMS

TRV-80
The TRV-80 is a tested and validated drone platform that has undergone extensive testing both in the laboratory and in the field, with experimental field testing done at ITX 18-3 at 29 Palms, CA.

The TRV-80 has also been featured at AEWE 2020 and has successfully been tested in all weather conditions (rain, wind, desert, snow, and >10,000 ft altitude).

TRV-150
The TRV-150 is another variant in the Malloy Aeronautics TRV family of tactical drones specifically designed to support assured logistics resupply. The vehicle’s performance was designed around the ability to deliver enhanced speed bags. This platform is under development and has already met key milestones, such as demonstrated flight with maximum payload.

The TRV-150 won 1st place at the PMA-263 prize challenge and has been featured at the AEWE 2020. It has been successfully tested in all weather conditions (rain, wind, desert, and snow).

TRV-400
While the initial commercial design thrust was for personnel transport, the TRV-400 platform has been undergoing testing for logistical resupply. Recent refactoring includes migration to a U.S.-based supplier for high-powered motor controllers used in the electrical drivetrain of the vehicle.

OUR PARTNERSHIP
The TRV family of tactical drones is being collaboratively developed by the UK-based Malloy Aeronautics and the Maryland-based SURVICE Engineering Company under contract with the U.S. Department of Defense. The vehicle is one of the leading concepts providing unmanned assured logistics resupply in an aerial platform organic to traditional ground-based units.