

Micron's IT SSDs Withstand DRS' Toughest Tests

From the situation room to the front line, quality matters more than ever. Industrial-grade devices are a must-have for the mission critical applications that make up the global defense industry.

Focused on defense technology, DRS develops, manufactures and supports a broad range of systems for mission-critical and military sustainment requirements. DRS makes it their business to ruggedize cost-effective, commercially available technologies and make them valuable in the combat theater.

Over the years, DRS has matured their design process and now develops their own hardware and software with a focus on being a high-quality value supplier to the modern warfighter.

DRS engaged with Micron when we first released our C300 SSD product line many years ago, when they were seeking to qualify a new SSD for a large Army program. Early testing of systems with the client-class drives revealed an inherent weakness with the flash memory architecture; the leaded components simply could not remain attached to their circuit board during high-energy shock testing.

As products and roadmaps evolved together, our M500 SSD became the product of choice for one of DRS' largest Army customers. It has performed extremely well in support of DRS' users and their mission-critical systems.



Newer drives like the M500IT have transitioned to lead-free BGA-based packages, which provide a greater strength-to-weight ratio in terms of their mechanical adherence to the PCB.



DRS' engagement with Micron helped standardize and revolutionize the storage network that the modern warfighter interacts with in the course of the mission.

DRS sought to collaborate with a rugged supplier of solid state drives with a proven record of excellent reliability and performance — Micron is that supplier and has been a valuable contributor to DRS' storage network efforts.

Technology Requirements

The tactical rugged computing market is being pushed to incorporate technologies such as SATA III, DisplayPort and USB 3.1 while also being required to operate in excruciating environmental conditions. Expected computer operating temperatures include -46°C to $+71^{\circ}\text{C}$, while shock and vibration can exceed 500g. Size, weight and power limitations mean that computers must operate through these conditions without the benefit of shock isolation or forced air cooling.

“The relationship between Micron and DRS is based on trust and collaboration. On many occasions, the two companies have teamed up on development concepts and on problem resolution. This relationship has grown to include technical interchanges at the engineering level and collaboration at the strategic level in terms of joint product roadmap planning.”

TODD HICKS
DRS Project Manager

Fast Facts

- >> **Customer:** DRS Technologies, headquartered in Arlington, VA, is a wholly owned subsidiary of Leonardo S.p.A., which employs more than 47,000 people.
- >> **Industry:** A leading supplier of integrated products, services and support to military forces, intelligence agencies and prime contractors worldwide.
- >> **Challenges:** Consumer-grade products are not designed for the rugged and unforgiving environment that modern warfighters find themselves in day in and day out. Conversely, available “ruggedized” storage systems that are specifically designed for this environment are cost-prohibitive to the value-proposition that DRS maintains.
- >> **Solution:** Micron developed the M500IT SSD to meet the need of the automotive and embedded industries. The automotive industry's rigorous requirements match well with those of the defense industry.
- >> **What Made the Difference:** Micron supported DRS with early access to engineering sample drives and provided failure analysis of drives that did not pass DRS' testing.
- >> **Result:** M500IT is fully qualified for use in DRS' most popular tactical computer platform.

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