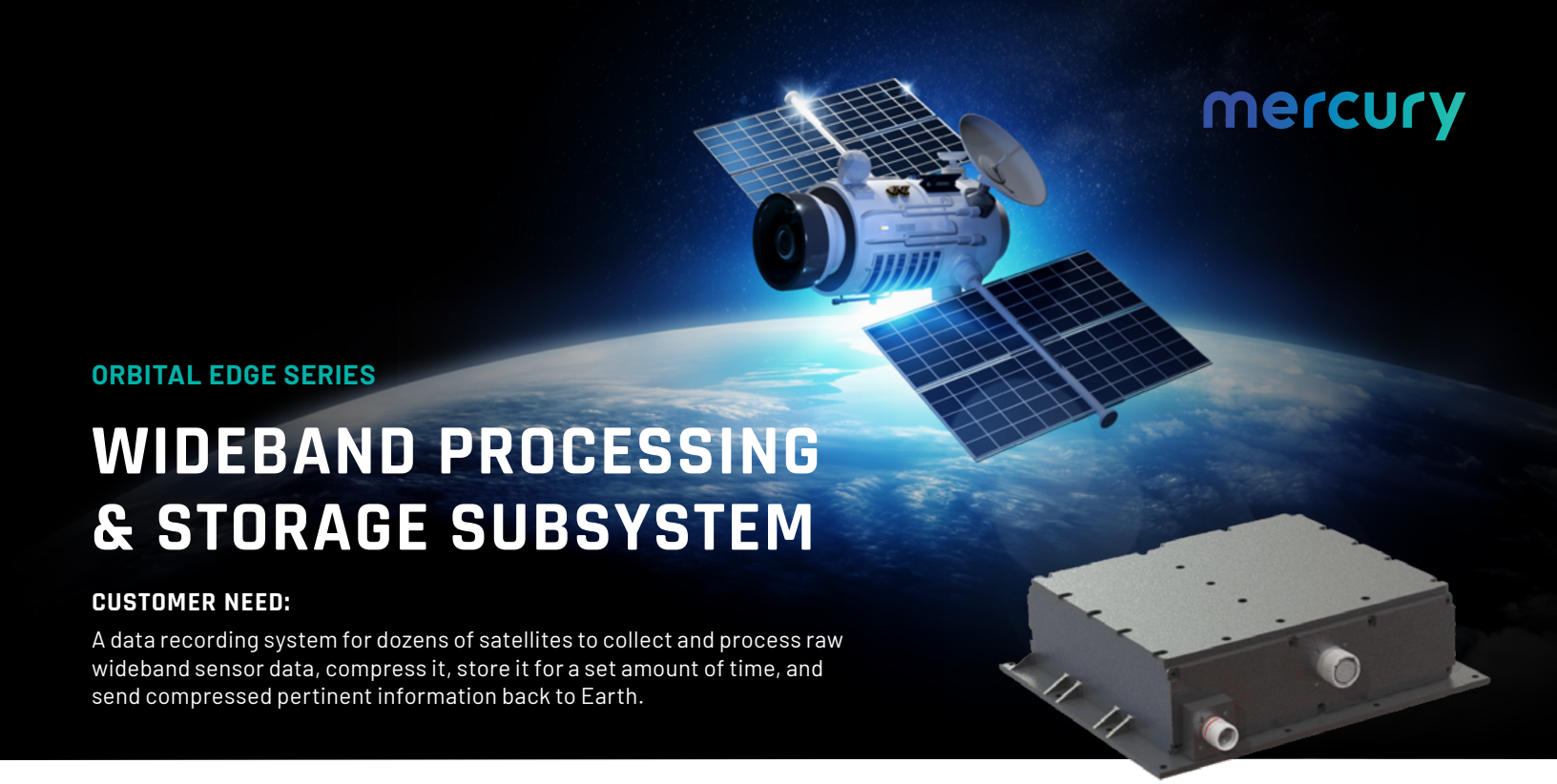

ORBITAL EDGE SERIES

WIDEBAND PROCESSING & STORAGE SUBSYSTEM

CUSTOMER NEED:

A data recording system for dozens of satellites to collect and process raw wideband sensor data, compress it, store it for a set amount of time, and send compressed pertinent information back to Earth.

WHY MERCURY:

With more than 40 years of space heritage and having supported the missions of over 75 different spacecraft, in all orbits, including every Mars flight over the past 20 years, Mercury Systems had functioning space processing and storage modules at the ready. Mercury also had decades of experience creating, building, and testing high-assurance data recorders in-house for aerospace defense.

Because of this, Mercury was able to leverage their proven technologies to create an expandable wideband processing solution ready for space, which greatly reduced development time and cost, speeding the launch of the data subsystem to alleviate satellite data and communication bottlenecks. Further, the space processing and storage subsystem will be able to support AI/autonomous operations and higher data ingest requirements in the future.

ORBIT:

LEO, MEO, GEO

FEATURES:

- Radiation-tolerant, ruggedized data processing and storage
- Versal AI Core VC1902 Processor with fiber optic interface
- 4.5TB solid-state data recording
  - 3.125 Gbps dual-port SRIO interface
  - 16 Gbps dual-host with 8 Gbps/ 9.2 Gbps read/write speeds
  - Enhanced error correction with a unique two-pass correction scheme and the 3D NAND in SLC mode for high reliability and information assurance
- Hybrid 3U/6U backplane for easy expansion
- Additional options: encryption

SPECS:

- Rad-Tolerance:
  - Single Event Latch-up (SEL): > 45 MeV/mg/cm2
  - Total Ionizing Dose (TID): > 30 krad
- Shock/Vibe:
  - Shock: 18 total (3+, 3- per axis)
  - Vibration: 3 axis, 16 Grms
- Operating Temp/Storage Temp:
  - Operating temperature: -40°C to 72°C
  - Storage temperature: -55°C to 105°C
- Size: 251 mm x 224 mm x 84 mm
- Power: 75W

APPLICATIONS:

- Electronic Warfare
- SIGINT
- Communications
- Autonomy
- Space Exploration

Mercury has delivered over 20,000 components into LEO, MEO, GEO, and manned space missions with zero on-orbit failures or anomalies.

Contact us
Interested in the Orbital Edge Series or need space RF or processing solutions? **mrcy.com/contactus**