



4G ROUTER FOR TSF SAFETY IN AUSTRALIAN MINES

HIGHLIGHTS

- ✓ [Hermes & Soteria](#) is an Australian innovator in real-time TSF health monitoring, designed specifically for the mining sector.
- ✓ Their advanced solution requires a robust, secure connectivity device for communication between subsurface sensors, data loggers, and cloud dashboards
- ✓ The ideal solution: The RUT956 4G router, selected for its robust security, seamless integration with existing systems, and reliable connectivity, perfect for the demanding conditions of Australian mines.

THE CHALLENGE – COMMUNICATING CRITICAL DATA

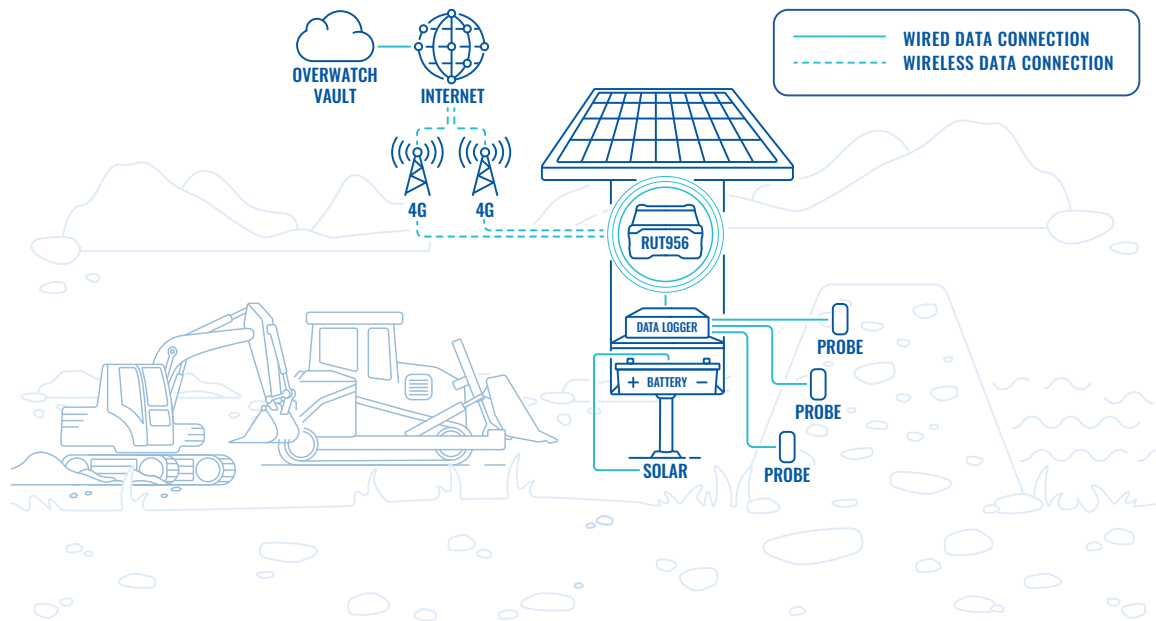
The mining sector faces significant challenges in managing tailings, the waste produced from mineral extraction. Tailings Storage Facilities (TSFs) must be continuously monitored to prevent failures, which pose serious risks, including dangerous spills, water contamination, ecosystem damage, and even loss of life.

To address this, Hermes & Soteria developed [Overwatch](#), a monitoring system that tracks TSF health by measuring geological, geophysical and hydrogeological changes in real-time.

Overwatch uses subsurface probes housing multiple self-powered sensors to capture and send critical data to secure cloud dashboards. This enables complete monitoring and early detection of potential failures.

For real-time monitoring to be possible, the solution required a reliable industrial network device. The solution also needed strong security that meets mining industry standards. Plus, seamless integration with existing infrastructure, and the durability to withstand the harsh conditions of Australia's mines.

TOPOLOGY



THE SOLUTION - RELIABLE CONNECTIVITY FOR REAL-TIME MONITORING

Hermes & Soteria integrated the Teltonika RUT956 4G router into their Overwatch solution to deliver a robust connection and secure data transmission for real-time monitoring.

The RUT956 is installed in a custom control panel, connected to subsurface probes. Accurate readings of key indicators such as seismic activity, positive and negative pore pressure, pH levels and salinity are achieved by maintaining consistent material contact around the sensors. Meanwhile, [data loggers](#) within the control panel transmit the sensor data via the RUT956 to the "Overwatch Vault," a secure cloud-based monitoring system.

The RUT956's dual SIM auto-failover guarantees uninterrupted communication of sensor data, even in remote locations with fluctuating network availability. This in-built stability enables precise monitoring, while the advanced security features safeguard data during transmission.

The router's ease of use with Campbell Scientific data loggers and secure cloud systems enables seamless integration, while Teltonika's signature rugged design ensures reliable performance in the harsh conditions of Australia's mines.

Chosen for its durability, reliability, security and ease of use, the RUT956 provides always-on connectivity for critical TSF health insights across Australia.

This solution is used by some of the largest mining companies to mitigate environmental risks and ensure the safety and stability of Tailings Storage Facilities, while [meeting global standards](#).

