Case study

Utility company keeps fleet connected with satellite & 5G

ERICSSON

SA Power Networks improves SLAs and worker safety in remote locations using in-vehicle satellite and cellular connectivity

Customer:
SA Power Networks

Industry:
Utilities

Use Case:
In-vehicle 5G and satellite connectivity

Success story highlights

Challenge — SA Power Networks, South Australia's sole electricity distributor, serves 1.7 million customers across 178,000 square kilometers. Operating a 24-hour hotline, they support remote communities in areas with limited services. Field crews often face challenges due to poor cellular coverage, requiring long drives for communication. This delays restoration efforts and risks missed SLAs.

Solution — SA Power Networks outfitted more than 170 vehicles with ruggedised Ericsson Cradlepoint routers to facilitate low Earth orbit (LEO) satellite WAN connectivity with cellular failover. The routers are monitored using Ericsson NetCloud Manager, which allows IT administrators to oversee network performance — a crucial component for supporting remote maintenance sites.

Benefits — Facilitated through the combination of satellite and cellular WAN, SA Power Networks can provide constant network uptime for crews in remote locations, improving safety and communications while freeing up thousands of field staff hours. Centralised visibility through NetCloud Manager allows simplified access to network insights and usage.

"The connectivity solutions we now have with 5G routers and LEO satellites are saving our field workers significant time on travel and administration effort."

Paul Salter, head of power and electrical services, SA Power Networks

Background and challenges

SA Power Networks is the sole electricity distributor for South Australia, providing power to around 1.7 million customers across 178,000 square kilometers. As a regulated essential service provider, they operate a 24-hour faults and emergencies hotline, which supports many small towns and communities. These locations are often highly remote, have limited services and infrastructure, and require long drives to access cellular coverage, creating challenges for utility response and repair teams.

"Our field crews are working in regional and remote parts of the state, some of which have next to no cellular coverage. Without reliable service, crews could arrive at site to carry out works, but then need to travel to the nearest location with a cellular tower to communicate or access critical information related to the job," said Paul Salter, head of power and electrical services, SA Power Networks.

Crews were forced to drive more than 20 minutes from the service sites to reach the coverage areas needed to receive approvals, alook up information, or provide status updates. These delays slowed restoration efforts in regional and remote areas, putting SA Power Networks at risk of not meeting restoration SLAs.

Solution

SA Power Networks deployed ruggedised Ericsson Cradlepoint routers across more than 170 vehicles to facilitate active LEO satellite connectivity with cellular failover. Network performance is managed and monitored via Cradlepoint's NetCloud Manager for single-pane-of-glass visibility from anywhere.


Image courtesy: SA Power Networks

Due to the remote locations where maintenance work occurs, SA Power Networks uses satellite connectivity as the primary WAN connection. If the router detects degraded satellite performance or a clear line of sight is unavailable, service vehicle networks can fail over to a cellular connection, ensuring uninterrupted connectivity.

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Solution benefits

Reduced resolution times

With network connectivity no longer a constraint, crews can accomplish more digital tasks and make on-site decisions, significantly reducing travel time and administrative effort. This enables faster responses, fewer repeat trips, and improved customer restoration times.

"Regional crews can now access consistent high-speed internet from anywhere at any time, making it faster and safer to carry out restoration and maintenance tasks and to keep head office and customers informed of their progress," said Salter. With guaranteed connectivity, SA Power Networks has estimated a savings of:

- 1,845 hours a year by enabling and improving digital technologies in the field
- 1,844 hours a year by making it easier for crews to close out and approve jobs
- 1,230 hours a year in time previously spent traveling to find a connection

Enhanced crew safety

The combination of satellite and cellular to provide constant connectivity allows uninterrupted lines of contact with crews as they traverse remote areas throughout the state, giving field workers and their families peace of mind about their safety.

"With the combination of 5G and LEO satellite, crews have full connectivity in their trucks, which makes their jobs safer while outage times for our customers can be significantly reduced," said Salter.

Improved network visibility and management

As an essential resource for SA Power Networks, NetCloud Manager offers centralised visibility and management of the organisation's entire fleet of routers, along with clear insights into uptime and data usage across cellular and sattelite WAN interfaces. The platform's robust security and ability to export information such as SIM numbers for asset management have effectively met critical utility data handling requirements.

A platform for future innovation

Streamlining processes and decreasing dependence on offline capabilities boost operational efficiencies and liberates valuable time and resources. Saving time operationally paves the way for SA Power Networks to drive future innovations, ensuring they continue to lead in service quality and technological advancement.

Learn more at cradlepoint.com