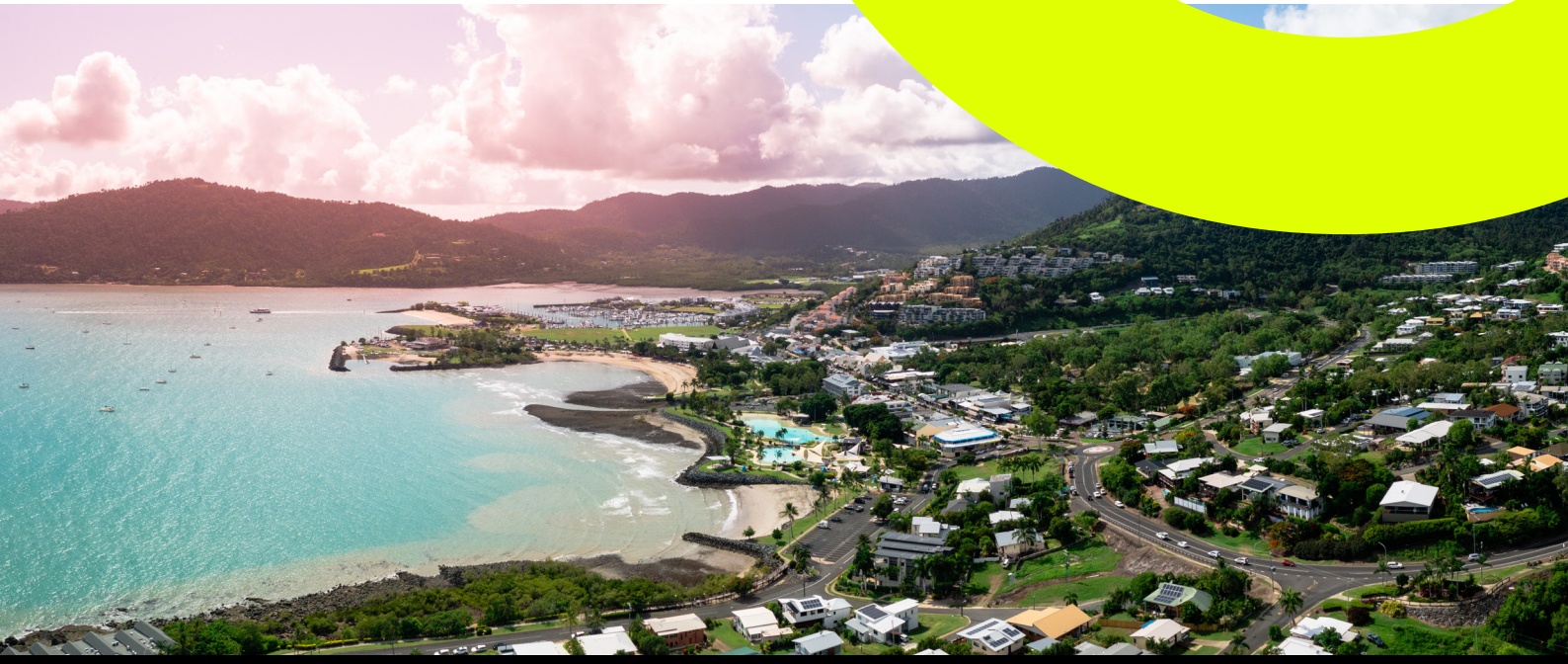


MODERNISING EMERGENCY COMMUNICATIONS
WHITSUNDAY REGIONAL COUNCIL'S JOURNEY TO INFRASTRUCTURE-FREE RESILIENCE

Background and challenges

The 2019–20 bushfire season had a devastating impact across more than 100 Local Government Areas (LGAs), including Whitsunday Regional Council, leading to the loss of life, destruction of property, and widespread environmental damage. In light of these events, the Council identified an urgent need to strengthen the safety of both the public and council staff, ensure the resilience of infrastructure, and support the economic recovery of the region in the aftermath of adverse events.

The Council's ageing analogue radio system, operating in the 70MHz band, suffered from poor coverage, limited functionality, and scarce replacement parts, creating unsafe conditions for field staff during emergencies. Communication during recent events relied heavily on mobile and satellite phones, which proved unreliable in critical situations.

With limited LTE coverage and unsuitable radio tower infrastructure, the Council faced significant challenges in implementing a modern, resilient communication system to better manage emergencies and support proactive disaster planning.

Solution

Following initial consultations and site audits, Simoco proposed a unique Infrastructure-free solution. A traditional multisite DMR Tier III radio network was ruled out due to limited access to radio towers and their poor condition. Instead, Simoco developed a hybrid communications solution utilising the Velocity EC-830 mobile edge computing platform and SDM mobile radios, which integrate both LTE and Starlink satellite networks.

This innovative approach eliminated the need for traditional radio towers, offering a flexible, scalable, and highly resilient system. It allowed the Council to maintain communications across the entire LGA, even during emergencies when LTE coverage may be compromised.

These are some of the challenges Whitsunday Council faced:

Limited and unreliable radio coverage
The legacy analogue system lacked the capacity to provide consistent communications, especially in remote and high-risk areas.

Outdated infrastructure
The 70MHz frequency radio network was aging, with parts difficult to source and limited support for modern features.

Inadequate emergency communication
During critical events like bushfires, floods, or storms, the reliance on mobile and satellite phones was inefficient and unsafe.

Disaster management and resilience planning gaps
Council lacked integrated systems to anticipate risks, prepare adjustments, and ensure public and staff safety during disasters.

Secure. Reliable. Adaptive.

Key aspects influencing the decision to choose Simoco

Simoco was selected for their ability to deliver a bespoke, future-proof solution tailored to the Council's unique operational challenges. Their extensive experience in critical communications and their flexibility in designing a solution that avoided the constraints of existing infrastructure made them the ideal partner. Simoco's approach ensured resilient, reliable communications, regardless of geography, weather, or network disruption.

Hybrid RF and LTE communication
The solution integrates traditional UHF radio with LTE-based voice capabilities, providing council staff with seamless communication options across the entire region. This dual-mode system ensures continuity even when one network experiences disruption, making it ideal for unpredictable emergency conditions.

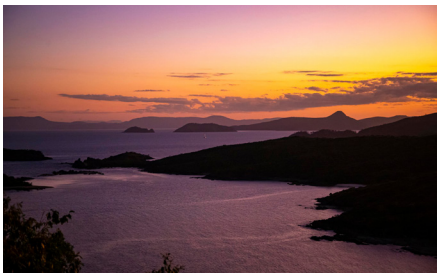
Intelligent mobile edge computing platform with Velocity EC-830
Acting as a central communication hub, Velocity intelligently determines the best available path for transmitting voice and data, whether through LTE or satellite. This ensures optimal performance and cost-efficiency, even in remote or dynamically changing environments.

Satellite backup via Starlink
To address gaps in LTE coverage and ensure resilience during critical situations, the solution includes Starlink satellite connectivity. This enables continuous operation during natural disasters or outages, providing a dependable lifeline for emergency coordination and public safety communications.

Infrastructure-free deployment
Unlike traditional radio systems that rely on fixed towers, this solution requires no permanent infrastructure. By eliminating the need for radio towers or base stations, it significantly reduces deployment complexity and ongoing maintenance, while increasing flexibility and reach in geographically challenging areas.

"We have a council that covers 30,000km, from Airlie Beach to Bowen and out to Collinsville and further west. We needed a communication system that could meet that demand."

Mitch Carr
Manager Innovation and Technology



Result

Whitsunday Regional Council now benefits from a modern, resilient communication system that enables effective coordination during emergencies. Staff safety has been significantly improved, coverage blackspots have been eliminated, and the Council is far better prepared for future disaster events. By leveraging both LTE and satellite technologies without relying on fixed infrastructure, the Council has strengthened its disaster response capabilities and overall operational resilience.