



## Quick deployment of resilient communications system for Surf Life Saving NSW

Surf Life Saving Australia  
New South Wales, Australia





With 12,000 beaches to patrol and 100 million annual beach visits to keep a watchful eye over, Surf Life Saving Australia is on a mission to reduce the coastal drowning rate by 50% before 2020.

## CHALLENGE

Maintaining a reliable, secure communications network is at the heart of Surf Life Saving's service. The network needs to offer full coverage with no congestion and the infrastructure used must be able to stand up to weather events and other natural disasters.

For Surf Life Saving Australia, the challenge was to find a partner to provide the links for their digital voice communications along difficult coastal terrain in New South Wales. The solution must use licensed spectrum due to the mission objective of maintaining public safety and there was a desire for cost-effective, easy deployment of infrastructure.

Microwave and fiber solutions were quickly discounted due to the cost of installation – in particular the difficulty and expense of constructing large microwave towers along the coast. Fiber and microwave would also offer far too much capacity for Surf Life Saving's DMR requirements, making the expense of deployment untenable.

In addition, there was a desire that the new network could be managed centrally and would allow for interoperability with other emergency services in order to share information effectively and rapidly during an emergency.

Finally, the new solution also needed to be financially sustainable both in terms of capital expenditure and long-term operation for the non-profit organization.

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## SOLUTION

Karera Communications were chosen as the Systems Integrator to manage the project, due to their extensive experience in deploying mission-critical communications systems.

Based on the successful deployment of Mimomax Wireless equipment for Surf Life Saving New Zealand, the team at Surf Life Saving Australia requested a Mimomax Network Digital Link (NDL) for this NSW-based project. Karera Communications successfully managed the installation of a series of UHF network links, to provide coverage along 1500 kilometers of NSW coastline.

Designed for difficult links which would otherwise have required multi-hop microwave links, the Mimomax NDL offered the following:

- Robust and secure communications based on licensed spectrum;
- Better propagation characteristics due to UHF frequency band - with less impact from atmospheric conditions and path obstructions;
- Ability to install antennas on smaller, existing site infrastructure.

## RESULTS

- Achieving longer paths in a single link, the Mimomax NDL offered Surf Life Saving a solution which was both cost-effective and quick to deploy.
- The Mimomax solution offered compression techniques specifically designed for digital radio voice streams, far greater capacity in the available spectrum due to the use of MIMO (Multiple Input, Multiple Output) technology and very low latency to ensure real-time communications. The solution also allowed the use of lower modulation rates while still providing capacity-exceeding design requirements at a higher system gain compared to other narrowband linking solutions.



## KEY BENEFITS

- Security and resilience from private, licensed spectrum
- Higher capacity via utilization of sophisticated DMR compression techniques
- Cost savings through use of existing infrastructure for antennas
- Greater tolerance to weather conditions and path obstructions due to use of UHF

## ABOUT SURF LIFE SAVING AU

**Location:** New South Wales, Australia

**Industry:** Public Safety

**Services:** With over 75,000 members spread across 129 clubs, surf lifesavers in NSW have patrolled over 1500 kilometers of coastline for over 100 years.





#### About Mimomax

Mimomax develops wireless communications solutions for narrowband channels which enhance visibility and control - right to the edge of our customer's networks.

Our award-winning radios utilize Multiple Input, Multiple Output (MIMO) technology combined with full duplex communications and ultra-low latency to provide our customers with communications solutions which optimize data throughput and provide rapid feedback and control of their mission-critical assets.

Winner of the 2018 UTC IMPACT Award for Mimomax Tornado Radio.

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