SEDONA FIRE DISTRICT
SAFE. FRIENDLY. DEDICATED.

SIMOCO

RELIABLE COVERAGE WHEN IT MATTERS MOST
SIMOCO CONNECTS SEDONA FIRE DISTRICT

Background and challenges

Nestled in the dramatic landscape of Grand Canyon country, Sedona, Arizona is surrounded by towering red rock formations and deep river canyons. While visually stunning, these geological features make radio communications exceptionally difficult.

When the Sedona Fire District set out to upgrade their system, they needed a reliable and rugged solution that could perform in a demanding topography and deliver consistent coverage across every canyon and ridge.

Solution

Simoco delivered its Dalman Solar Simulcast System, a highly adaptable and scalable solution that uses plug-and-play IP technology. The system was deployed across three transmit and nine receive sites, seamlessly integrating with existing base stations and delivering unmatched coverage across Sedona's complex terrain.

The system also supported a microwave backhaul network capable of carrying VoIP, internet access, and Windows server traffic, extending its utility far beyond basic radio communication.

These are some of the challenges Sedona Fire District faced:

Overlapping coverage zones in rugged terrain

The system needed to manage radio overlap across multiple high and low elevation points without interference or signal degradation.

Deep canyons and low-lying valleys disrupting signal transmission

The terrain created significant communication blind spots, requiring specialized coverage planning and technology.

Integration with existing base stations and infrastructure

The department wanted to preserve its investment in existing equipment, which required a system that could seamlessly integrate without overhauling the entire network.

Secure. Reliable. Adaptive.

Key aspects influencing the decision to choose Simoco

Simoco stood out for its ability to combine advanced functionality with practical implementation. The Dalman Solar Simulcast System was easy to integrate with the Sedona Fire District's legacy infrastructure and required minimal configuration. Its IP-based architecture provided the flexibility needed to scale and adapt to future demands. From installation to operation, the system proved simple to manage while delivering the performance and reliability critical to first responders.All at a cost-effective price point.

Simulcast and voting integration
Delivered seamless communication across multiple sites, maintaining coverage even in overlapping and remote zones.

Plug-and-play IP architecture
Enabled quick deployment and simplified system management without the need for complex configurations.

Multi-service support via microwave backhaul
Extended beyond radio, carrying VoIP, data, and other essential network services across the region.

Resilient and compatible design
Maintained full compatibility with existing equipment, supported DTMF tones and Knox release functions, and ensured fail-safe communication with line fail talk-through capability.

"We did not have to change the delay off set from zero, line fail talk through worked great, Knox release tones and DTMF passed through the system no problem and our Mobiles could not tell when they were in overlap. The Solar System is built with the right philosophy; we could use our existing base stations, it was simple to integrate and maintain — and most importantly, it had the right price tag!"

Bob Motz
Sedona Fire District

Result

The Sedona Fire District implemented the system in a phased rollout, carefully testing each site before proceeding to the next. This disciplined approach ensured stability and performance at every stage. In operation, the new system exceeded expectations delivering clear, uninterrupted communication across previously unreachable areas. Field units experienced consistent coverage, smooth transition between zones, and enhanced reliability that significantly improved emergency response capabilities. Simoco's solution didn't just meet technical requirements, it brought real operational value and peace of mind.

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