# Global Manufacturer Reduces Unplanned LMR Downtime with Remote Monitoring

When a global manufacturer of consumer goods was experiencing issues with their repeaters, they knew they had to find a solution to avoid unplanned downtime. While fixing the existing repeater faults was mandatory in the short-term, transitioning into a consistent and reliable practice of proactive maintenance was the best solution for long-term results.
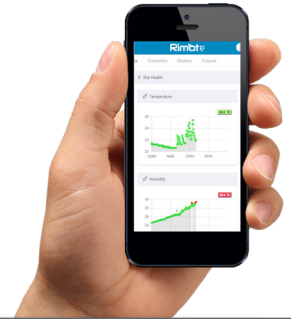
MANUFACTURING AT A GLANCE

Manufacturers today are under immense pressure to produce goods efficiently, safely, and profitably. Whether on the production line or in the office, the ability to maintain worker safety, mitigate downtime, and meet growing consumer demands all depend on reliable voice and data communication. Some of the challenges facing the modern manufacturing environment include:

- Skilled labor shortages and communication between experienced and new workers

- Maintaining correct inventory levels for just-in-time manufacturing

- Embracing industrial automation & Industry 4.0

- Shrinking deadlines while maintaining profitability

- Staying organized to streamline operations and workflow

Effective communication tools are used to help overcome typical challenges and keep manufacturing operations running smoothly. When workers are unable to relay critical information, it can hurt the efficiency and safety of the business. When equipment can't communicate its key parameters and alarms, production lines and operations are put at risk.

THE SITUATION

A leading manufacturer in the eye care industry moved away from cellphone use due to employee distractions and coverage issues. For workers to communicate across three buildings, and in some cases in underground areas, the company built a system of two-way radios so everyone could stay connected.

With approximately 215 two-way radios in use, the fleet consists of Motorola products, including:

- **Motorola XPR2500** mobile two-way radios
- **Motorola XPR5550** mobile two-way radios
- **Motorola XPR7550** and **XPR7550e** mobile two-way radios
- **Motorola SL7550** utra-slim two-way radios

To service the two-way radios throughout their 10-acre property, the company uses four Motorola MOTOTRBO™ SLR 5700 repeaters with Linked Capacity Plus, located on a single rack. With a comprehensive multi-site communications system in place, these repeaters can successfully provide data communications to every corner of their operation.

However, the operations team noticed that the system was rolling back, but couldn't figure out why. Since the repeater rack was located in an area of the facility that required cleanliness and sterilization processes to be followed, it was difficult to immediately access the equipment to diagnose the problem.

Consequently, the manufacturing personnel were experiencing radio system downtime, resulting in employees having to manually seek out the person they needed to communicate with. Until the operations team was able to pinpoint the issue, the costs associated with inefficient communication and unplanned system downtime continued to climb.

THE SOLUTION

Rimot was brought on board by one of the largest Motorola partners in the United States to help pinpoint the repeater issue and provide a long-term land mobile radio (LMR) solution to avoid future two-way radio downtime. By installing a remote repeater monitoring system that allowed managers to access system information off-site, the Rimot team was able to collect a variety of data, including:

- Environmental conditions, such as temperature and humidity
- Transmit power and duty cycle
- The integrity of antenna systems including continuously monitoring VSWR
- Motion sensors for intrusion, or activity inside the repeater storage area
- MOTOTBRO alarms and key operating parameters

After analyzing the data, it was discovered that occasional high room temperature was correlated with repeater overheating, causing a system failure. By making a few adjustments to the air conditioning system, the manufacturing facility was able to avoid future repeater issues and solve their operational concerns.

THE BENEFITS

By having continuous visibility into their repeater system, the manufacturing facility has access to the data they need to make real-time decisions, allowing them to be proactive instead of reactive when itcomes to system maintenance. Other benefits of the RimotRF remote monitoring system for this manufacturing solution include:

• User-friendly dashboard on mobile and desktop devices

• Intuitive threshold settings for automated alerts

• Detailed descriptions of the alert condition and the Motorola-recommended remedies

• Repeaters longevity increased due to better control of high-temperature conditions

• Control of proactive maintenance schedules

Organizations that best adapt to managing the evolving software-centric Land Mobile Radio (LMR) network management gain a powerful advantage in productivity. End users reap the rewards in the form of network security, availability, and performance gain, ultimately adding to the success of the business itself.

RIMOT: MONITORING FOR THE UNMONITORED

Rimot puts companies in the position of proactive servicing with their turnkey monitoring solution, RimotRF. For operational managers that are trying to pinpoint system faults in a manufacturing plant, or monitoring several wireless transmitter sites for coast guard communications, RimotRF provides organizations across industries with digital operational data to address problems quickly or avoid them entirely.

More Than Just Repeater Monitoring – While RimotRF was able to pinpoint and correct the manufacturing plant's repeater issues, its monitoring capabilities don't stop there. Using site sensors, private encrypted IP communication links, and data analytics, RimotRF can monitor key aspects of your wireless transmitters and repeaters, antenna systems, backup generators, tower lighting, and the overall site itself.

"The RimotRF remote monitoring solution was up and running in 30 minutes and gave them access to accurate information in real-time. Using actionable data, we created key parameter thresholds to automatically alert the right people of temperature and humidity fluctuations that may lead to system errors."

- JAMES CRAIG, RIMOT CTO

"The main thing is making sure that critical communication works, particularly when it's needed. If you have an outage, you're going to know about it immediately instead of first hearing about it from impacted users."

- ANDREW BOSWELL, RIMOT CEO

The RimotRF monitoring service constantly collects secure data from critical infrastructure and overlays it with other important data for a complete picture of what's going on in the field, including:

- **RF Health** – Forward power, reflected power, VSWR, and multiple repeaters
- **Weather** – Precipitation rate, wind speed, outside temperature, and lightning
- **Site Health** – AC power, temperature, humidity, intrusion, and configurable alarms
- **Insight** – Web-based interface, reporting, and built-in analysis features

Industries that are proactive with site monitoring software include oil and gas, public safety, utilities, and transportation. With remote sites that are hard to travel too, or are located in tough environments, Rimot's monitoring service allows organizations to gain an advantage in their industry and get the information they need to stay ahead.

A Higher Level of Motorola MOTOTRBO Alerts – Motorola MOTOTRBO alerts aren't the same as typical alarms. With a wide range of major, minor, and informational alarms, interfaces show precisely what the alert means and what Motorola-recommended remedy is needed to resolve the issue.

While Motorola MOTOTRBO diagnostics and alarms are most commonly accessed when a technician is on-site, pairing the MOTOTRBO repeater system with RimotRF provides continuous access to diagnostics and alarms from off-site workstations. The integration between RimotRF and Motorola MOTOTRBO alerts allow operations managers and field service teams to monitor all applications and effectively reduce the cost of truck rolls by knowing what the fix before sending technicians out with the specific tools needed for the job.

System Information Available On Multiple Devices – Using Rimot's private encrypted IP communications link, the RimotRF outpost processes data locally and sends metadata through the cellular network to the cloud allowing users to monitor data using smartphones, tablets, or personal computers. Service teams can get the information they need, using the tools they're most comfortable with.

For emergency field service or mission-critical applications, Rimot networks allow for data-driven decision making in real-time. With access to data from any mobile or desktop device, technicians and managers are better able to monitor labour, order parts quickly, and streamline maintenance schedules for improved customer service.

Secure Critical Alerts Through SMS or Email – For critical safety and data security, equipment comes standard with VPN sessions to keep communications secure and protected. Remote authentication management software allows the implementation of professional-grade systems to control access to devices in the field.

Notifications of critical issues with the radio system can be sent through a secure network, via SMS or email, in real-time. With networks secure, workers can send and receive important information efficiently, quickly, and safely.

PROVIDING REAL-TIME VISIBILITY FOR CRITICAL SYSTEMS

The Rimot team has years of experience with wireless systems, product development, and building technology companies. Rimot provides a fresh approach to managing the largely unseen and underappreciated equipment that businesses and governments count on every day.

Book a Free Product Demo and find out how you can reduce system outages by 50%.

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