

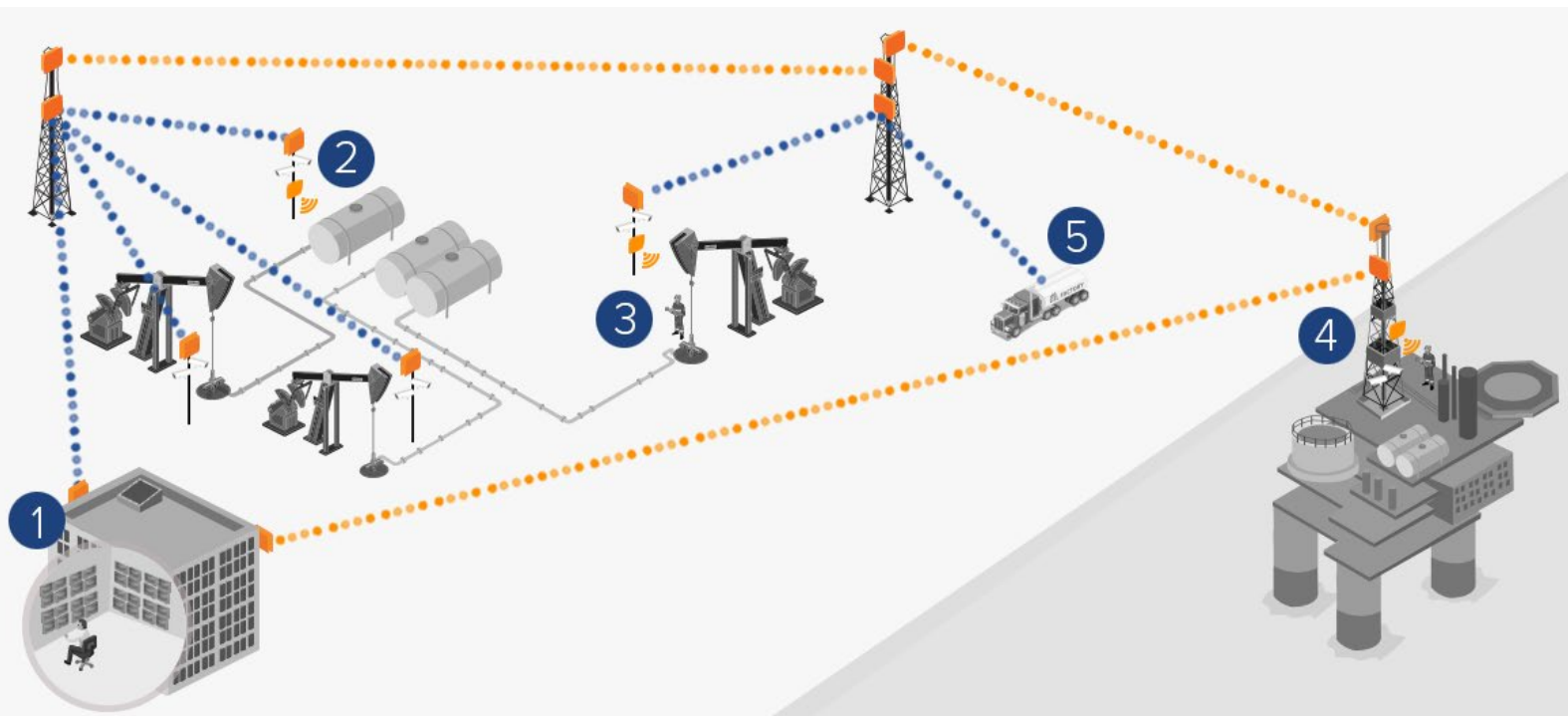
# Proxim Wireless for Mining & Extraction and Oil & Gas

For mining and oil & gas organizations, losing communications connectivity means losing productivity and revenue, but maintaining connectivity is not an easy task. Harsh environments with temperatures ranging from sub-zero to 50°C (122°F) and humidity coupled with industrial debris and dust are common deployment environments and heavily impact system performance and network availability. Networks need to support long distance connections with minimal downtime and high speeds on the order of 100 Mbps or more.

Proxim Wireless offers robust Point-to-Point (PtP), Point-to-MultiPoint (PtMP) and WiFi solutions that are designed for the most rugged of environments. The Tsunami® product line takes advantage of advanced technologies such as WORP® and Proxim ClearConnect™ to provide reliable and robust connectivity with support for mixed traffic (voice, video and data on one network) over distances of up to 40 Kms. Based on the application and network size required, organizations can choose from low, medium to ultrafast bandwidth variants of our solutions. Furthermore, Tsunami® and outdoor ORiNOCO® WiFi AP enclosures are IP67 rated, and a temperature range of -40° to 60°C.

## Wireless Solution for a Range of Mining & Extraction and Oil & Gas Applications

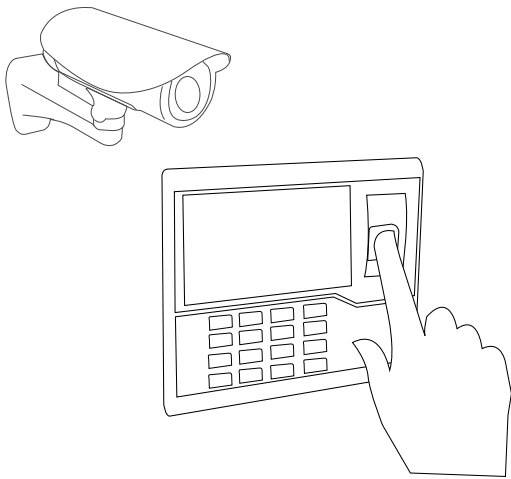
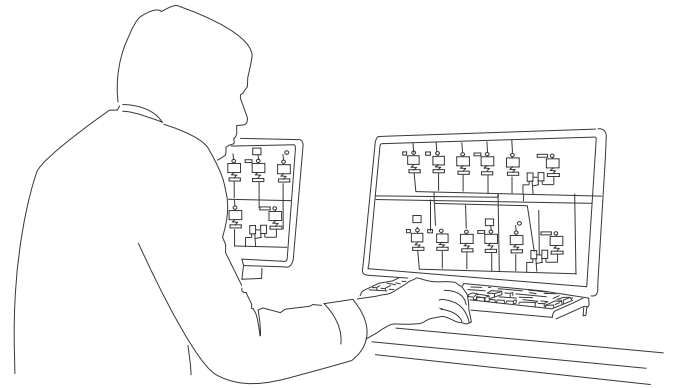
- 1 SCADA    2 Video Surveillance    3 Security and Asset Tracking    4 Wide Area Connectivity    5 Vehicle Connectivity



# Proxim Wireless Solutions

## SCADA

Proxim's solutions can simultaneously support a wide variety of SCADA applications such as measurement and control, wells and storage tank monitoring, drill rig diagnostics, temperature and pressure control, alarm call out and more.



## Video Surveillance

Networking teams can take advantage of the same SCADA wireless network infrastructure to connect HD CCTV cameras. Wireless, inherent to its untethered nature, doesn't face the problem of cable severing – a huge benefit in environments laden with large heavy equipment's such as excavators, loaders and dump trucks. Proxim's Tsunami® solutions feature advanced QoS capability and hardened communications protocols to ensure delay sensitive applications such as voice and video streaming are delivered at the highest priority with minimal packet loss and latency.

## Security and Asset Tracking

Other additional security such as electronic access control at entry points or in the facility, tracking of fixed and mobile assets can also be supported on the same Tsunami network.

## Wide Area Connectivity

With Proxim's high power Tsunami® radios, the network can provide connectivity over wide areas and long distance. Workforce employees serving on and off the field can stay connected with IP phones, instant messaging and e-mail or even video conferencing and can have real-time access to SCADA and operational data, all the time.

## Vehicle Connectivity

Maintain constant voice, video and data connectivity with patrol teams and personnel in mobile vehicles or shipping vessels with Proxim's FastConnect™ technology - a fully mobile solution.



# Why Proxim for Your Organization

## Engineered for Extremes

Tsunami® products are approved after stringent screening involving Vehicular movement Transport Vibration (ISTA-2A), Drop, Shock, Salt Spray, Thermal, and Reliability tests. The enclosure is IP 67 Grade that ensures complete protection from any kind of dust and has been tested under water at 1 meter depth. Additionally, every Tsunami® is engineered using highest grade components, to offer an unparalleled reliability.

## Control and manage networks... Effortlessly with ProximVision® Advanced

Comprised of a wide variety of powerful tools, ProximVision® Advanced (PV A) unifies management of the entire network infrastructure with just a few clicks. Combining the best in class NMS/SNMP features with client control enabled via WLAN controllers in a single software platform, PV A gives IT managers one interface for all their network management needs. From easy setup of a WiFi AP to remote device configuration and management PV A provides total control making it the right choice for demanding environments.

### Control your Network

- ProximVision® Advanced fully supports Proxim ORiNOCO® and Tsunami® product lines, while providing basic information for SNMP ready 3rd party elements (such as Router, Switches and video cameras etc).
- With multiple layers of access rights, an administrator can ensure secure control and governance over the network, while offering defined visibility to designated staff only as needed

### Efficient Network Management

- Instantly deploy devices with automatic discovery, provisioning and firmware upgrade
- Pre-schedule or automate day to day maintenance tasks
- ProximVision® Advanced dashboard providing real time monitoring and historical performance information
- Build custom reports and set email alert of vital network statistics

### Be the First to Know of Any Faults

- Identify faults and troubleshoot remotely
- Visualize network status on notification

# Advanced Security and Access Control

## Outdoor Network Security

- Every Proxim Tsunami® radio implements tiered security layers for the most secure outdoor wireless communications system in the unlicensed frequency spectrum
- Proxim's Wireless Outdoor Routing Protocol (WORP®) prevents snooping and features highly-secure remote management via SSL, SSH and SNMPv3
- Providing security with AES encryption technology prevents unsecure client-to-client communications and leverages MAC, Ethertype, and IP address packet filtering for granular network security

## Indoor Network Security

- ORINOCO® solutions provide enterprise class security to ensure full protection of sensitive information
- 802.11i/WPA2™ based security with AES 128 encryption and 802.1x Radius based authentication
- Rogue scanning and listing of surrounding devices
- Secure management (SSL/TLS1.2, SSH and SNMPv3) preventing unwanted configuration changes

# High Availability and Efficient

## Proxim ClearConnect™

Ensures Proxim Tsunami® radios operate even in the most hostile RF conditions where other standard wireless technologies simply fail to perform. It offers a host of adaptive features including Dynamic Channel Selection, Satellite Density, Beam Steering and many more to ensure high spectrum efficiency with minimal error rates.

## WORP®

Proxim has invested over fifteen years of continuous development and wireless expertise to create our Wireless Outdoor Routing Protocol known as WORP®. WORP® is a reliable, secure, and highly efficient protocol that guarantees delivery and optimal performance with Quality of Service controls, supporting quad play applications on a single wireless network such as mobility, video surveillance, VOIP and other delay sensitive multimedia applications. WORP® also helps ISPs control bandwidth and differentiate service offerings with the ability to enforce SLAs. Learn more about the [WORP® advantage here](#).

## Proxim FastConnect™

Delivering wireless broadband for vehicles, vessels and mobile earth moving equipment, with unparalleled throughput of 600 Mbps, Proxim FastConnect™ supports session persistence through extremely fast handoffs, and the buffering of data during the actual hand off period. This means an application will experience zero packet loss during a hand over from one base station unit to the next, a critical feature for applications such as VoIP.

# Conclusion

To address the unique requirements of 'mining & extraction and oil & gas' fields, network infrastructure that is specifically engineered for the applications is paramount. Proxim's range of Tsunami® outdoor point to point and multipoint products are built from ground up for tough environments such as these. The solutions leverage advanced RF technologies to deliver consistent performance in hostile RF and robust design and construction to address adverse environmental conditions. Proxim's FastConnect™ technology allows 'on-the-move' connectivity for vehicles and vessels. From physical protection aspect, the enclosures are IP67 certified and provides best-of-market protection from dust and water ingress. For more information on our solutions and products, please log on to [proxim.com](http://proxim.com)