Remote facility monitoring

- Outdoor environment (temp/humidity)
- Ingress/egress and occupancy
- Water leak detection
- Lighting conditions
- Outdoor location tracking
- Vibration monitoring
- Tank level monitoring
- Flow monitoring

The Cisco® Catalyst IR1101 Rugged Series Router or IR1101, is Cisco's most compact, FirstNet Ready™ industrial router. Designed in a highly modular form factor makes it an ideal solution for remote asset management across multiple industrial vertical markets.

The IR1101 has an integrated 9.6 to 60V DC power input and is designed to withstand hostile environments, including shock, vibration, dust, humidity and Electrostatic Discharge (ESD). The IR1101 also supports a wide temperature range: –40 to 60°C standard operation, –40 to 75°C in a forced air enclosure with 200 LFM of air, and type-tested at 85°C for 16 hours. This durability makes it ideal for harsh industrial and distributed IoT deployments such as transportation, oil and gas, distribution substations, industrial automation, and financial institutions.

Business benefits and application examples

Industrial customers are looking for real-time monitoring and control of industrial assets to help increase operation efficiency.

Utilities

Utilities are seeking the capability to monitor tens of thousands of miles of electric distribution lines or water infrastructure often located in harsh environments over cellular networks to provide remote assets monitoring and reliable and secure SCADA traffic backhauling. In many cases, these are power-constrained and space-constrained environments. Devices that enable this connectivity need to be highly reliable and able to be remotely monitored and configured. They also need to support traditional serial interfaces to interconnect

with existing monitoring devices and fiber overlay for long-distance, intra-network connectivity. Needless to say, the device is expected to have a long lifetime to support such a massive scale of deployment.

Oil and gas

Oil and gas companies need to monitor pipeline infrastructure across wide geographic areas and remote locations using 3G and 4G cellular networks to collect data from remote terminal units and securely transport SCADA traffic to a Network Operations Center (NOC).

Transportation

Highways and transportation agencies require reliable, always-on communication between speed cameras, monitoring cameras, ticket terminals, and so on. Wireless devices to support such continuous communication need to support 3G and 4G networks to help ensure good, wide coverage; continuous operation in very harsh environments; compact form factor for deployment in roadside cabinets and ticketing machines; local decision-making for a rapid response time; and serial interfaces to existing traditional devices.