

Petro Telemetrics Inc.



communications - telemetrics - security

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PTI's Wireless Mesh Network Platform

PTI's advanced wireless mesh network is capable of delivering vast amounts of bandwidth securely and reliably in areas ranging from a single building to an oil platform or to an entire oilfield.

The PTI wireless mesh network is a secure wireless communications network made up of radio nodes or access points (APs) organized in a mesh topography. The combined coverage area of the APs working as a single network is known as a mesh cloud. The PTI wireless mesh network is highly reliable and offers multiple layers of redundancy. Should one AP fail, the rest of the nodes can still communicate with each other, directly or through one or more intermediate nodes.

PTI's wireless mesh network offers flexibility and ease of deployment.

PTI's access points can contain up to six (6) software-defined radios, each radio programmable to operate anywhere within the 2GHz to 6GHz spectrum. Any radio within an access point can be designated to communicate with a subscriber unit, laptop, IP security camera, or other wireless network enabled device, while other radios within that same access point can be configured to provide back-haul bandwidth between the access points.

These and other features allow our wireless network to outperform many existing hardwired networks while offering universal, faultless access throughout the coverage area.

Securely connect to existing WLAN, LAN, IP-satellite, microwave or fiber optic network nodes.

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- **High quality transmission of security video**
 - **Mobile access to the network**
 - **Self-healing, self-routing network**
 - **Highest level of network security**
 - **Transparent SCADA transport**



Vehicles may be equipped with special access points with high power back-haul radios and high gain antennas to make high bandwidth connection to the main network cloud many kilometers distant.

Portable computing devices and VoIP wireless handsets may then connect to the distant network via the local vehicle-mounted access point.



Data Rates: PTI's wireless mesh broadband network offers up to 108Mbps full duplex backhaul data rate, while subscriber data rates are highly dependent on standards set by local regulatory agencies. Technically, subscriber data rates are possible up to the highest data rate allowed under IEEE standards.



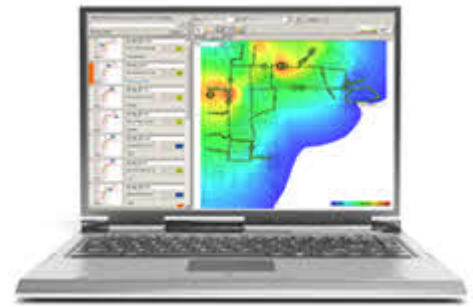
Knowing the whereabouts of personnel in REAL TIME is a critical part of any emergency response.

Asset and Personnel Tracking

PTI's real time location system (RTLS) gives mining, oil and gas companies much-needed visibility into their operations. Knowing where key assets are at the start of a shift translates into savings of time and money, while knowing where employees are at the time of an emergency is a matter of life or death.

PTI offers the industry's most accurate location tracking solution that integrates seamlessly with the PTI wireless mesh network to support location tracking applications both indoors and outdoors.

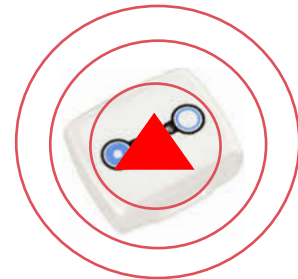
With PTI's RTLS, mining, gas and oil companies can quickly and cost-effectively deploy cost-cutting and productivity-enhancing solutions for asset tracking and reliable safety solutions to protect workers.



The PTI asset and personnel tracking system uses customer supplied maps and site plans to provide the best visualization possible.

PTI01IS IECEx Compliant Tag

The PTI01IS intrinsic safe location tag is engineered to improve personnel safety in hazardous environments such as oil & gas rigs, petrochemical refineries and mines. The tag has a small form factor which makes it ideal for tracking assets and personnel. The tag has been granted international and European petrochemical certificates (IECEx, ATEX: II 1 G EEx ia Iic T6).



Beyond Asset Tracking: Wi-Fi badge with Two Way Communication

- Real time location
- Two way text messaging
- Emergency Call Switch

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Unified Communications and Alerting System



PTI's integrated VoIP, intercom, paging, alarm and warning system may be deployed anywhere within the PTI wireless mesh network cloud. Once the unit has been physically installed, it can be easily accessed using handheld radios, PDAs or laptops, or from the control center.

Advanced Wireless Surveillance



PTI offers a wide range of cameras and other surveillance equipment. Surveillance cameras can be integrated into the personnel and asset tracking system.



Using PTI's intelligent video surveillance, facility security personnel are able to set rules to monitor the flow of objects and people into and around an operations site. The end result is more efficient security, reduced expenses, and enhanced protection from unauthorized entry of people or vehicles that could penetrate or cause damage to the facility. Enhanced wireless security is just one of the options available in PTI's integrated platform.

PTI offers a wide range of VoIP solutions.



Integrated SCADA, security, and communications control center



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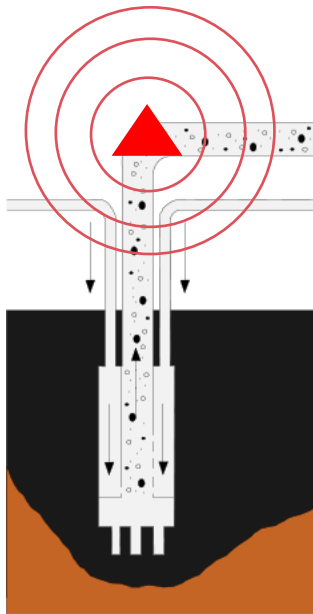


Supervisory Control and Data Acquisition

PTI's SCADA System operates primarily via the PTI wireless mesh network, simplifying the deployment and relocation of RTUs.

The PTI SCADA System is based on VTRIX technology. VTRIX was developed to maximize security, reliability, and ease of operation in SCADA and remote semi-autonomous systems. VTRIX offers numerous advantages over traditional SCADA-to-network interface technologies. VTRIX includes advanced hardware firewalls, integrated encryption, and a protocol that allows visual feedback of remote sensors and associated SCADA-controlled equipment.

PTI offers gateways to most existing and legacy sensors including ZigBee, RS-422, R-485, RS-232 and USB should the client need or prefer to connect non-IP legacy RTUs directly to the PTI wireless network, bypassing VTRIX safeguards. VTRIX was designed to meet NASA's stringent requirements for wireless remote control and remote access to video and telemetry.



Available Sensor and Transducer Types:

- Absolute Pressure Transducers
- Acceleration Transducers
- Acoustical Transducers
- Current, Voltage, Watt Transducers
- Differential Pressure Transducers
- Displacement Transducers
- Electropneumatic Transducers
- Flow Transducers
- Frequency Transducers
- Oil Quality Sensors
- Linear Transducers
- Liquid Level Transducers
- Load Cells & Transducers (Force)
- Load Cells & Transducers (Weight)
- Piezoelectric Transducers
- Position Transducers
- Potentiometer Transducers
- Pressure Transducers
- Speed Transducers
- Radiation Sensors
- Gas Sensors
- Strain Gauge Transducers
- Temperature Transducers
- Tension Transducers
- Torque Transducers
- Transducer Amplifiers
- Transducers
- Ultrasonic Transducers
- Vibration Transducers



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