

Cisco Wireless Refinery Solutions for Oil and Gas



Overview

Today's oil and gas industry is increasingly looking for new ways to enhance operations through improved industrial control data and expert collaboration. Cisco® Wireless Refinery solution provides a converged, standards-based architecture for applications that monitor and gather data right down to the sensor level. The resulting detail helps managers improve operational efficiency, create and adjust business processes, and comprehensively manage the refinery site.

Oil and Gas Refinery Challenges

The cost of producing oil and gas is constantly going up. Refineries face increased material and production costs that can only be resolved by improving process efficiency and making better use of assets. In a strict regulatory climate, refineries must also safeguard employee health and safety, especially in remote areas, which can reduce worker productivity. Sometimes such issues are almost impossible to address with current networking capabilities, due to a lack of visibility into real-time information. As a result, facilities are unable to accurately set schedules, track equipment, or grow the system architecture in line with the business.

Connectivity Across the Network

Many refineries are locked into costly, proprietary IT environments, maintaining multiple networks for business and control systems. By contrast, Cisco can interconnect a wide variety of applications for business, security, and processes—from wireless phones and remote video collaboration to industrial control systems and enterprise applications. The Cisco Wireless Refinery solution is based on an open-standards IP infrastructure which

integrates and interoperates with all major industrial protocols, including ISA.100.11a and WirelessHART for sensors. It is powered by Cisco routers and switches ruggedized for harsh refinery environments, ATEX certified wireless mesh access points (APs), and Cisco CleanAir® technology to reduce radio interference and help improve performance.

Visibility into Refinery Control Systems

Cisco Wireless Refinery solutions allow real-time visibility and access to sensor-level information. This level of detail supports consistent, condition-based monitoring to assure high performance from equipment at all times. In alignment with the Internet of Things, sensor-based capabilities lower OpEx by reducing unplanned downtime and shortening planned maintenance windows. They also support comprehensively integrated on-site and remote operations, providing “eyes and ears” on remote sites to validate and resolve issues.

Location-Based Asset Management and People Safety

Key to improving operational efficiency is managing the location of assets throughout the plant. With partners such as AeroScout (Stanley Industrial), Cisco offers innovative RFID Location-Based and Context-Aware Services over the IEEE 802.11 wireless network. By tagging equipment, vehicles, and containers with active RFID tags, workers can monitor their location to reduce loss and theft and to help ensure that assets are available when needed. People assets are also protected by an automated sensor-based system that monitors and alerts workers regarding their surroundings. Along with a panic button, it provides alerts on environmental conditions, such as dangerous levels of gases or temperature variances. Other partners offer portable gas detectors and sensors to protect workers and improve safety.



Assuring Cyber and Physical Security

Cisco's wireless network promotes information and system security with a full suite of industry-leading firewalls, next-generation encryption, interference and rogue access point-detection tools, intrusion detection, network management, client security, and other critical control measures. It also provides a set of RFID-specific services and supports message-level controls such as authentication and authorization. Using video management and partner camera solutions, Cisco supports physical security systems to help guard the site from intrusion.

Benefits

- Powerful visibility into every aspect of the refinery operation
- Faster decision making based on real-time information
- Flexible implementation of advanced applications, and reduced time to deployment of devices, avoiding expensive cabling
- Better management of resources and assets with the enablement of mobility applications over the wireless network
- Improved safety for personnel and property
- Greater regulatory and security compliance
- Lowered costs through greater efficiency and physical security

Why Cisco

Cisco has more than 25 years of experience in industrial networking, extending the reach of your operation while protecting your investment in remote or hazardous sites. To learn more, go to our website at <http://www.cisco.com/go/energy>.

