LOGICALIS
Architects of Change

cisco Partner
Global Gold Integrator

Private LTE/5G as a Service

for Oil & Gas

Logicalis helps you plan, integrate, and operate a full stack, subscription-based private LTE/5G network, enabling oil and gas companies to automate operations, improve communications, maximize productivity, and improve worker safety.

Oil and gas companies typically operate wells, pipelines, refineries, and offshore rigs in some of the most remote and hard-to-reach places on Earth—and they do it all day, every day. So it goes without saying that these facilities often lack the public infrastructure or cloud connectivity that would give them a reliable broadband connection. Just getting voice-only communications, such as push-to-talk, now powered by more expensive satellite, is a challenge.

With better, more reliable connectivity at the edge, oil and gas companies can enable digital applications and automation that can increase operational efficiency and productivity. In fact, one analyst reports that improved connectivity could add up to $250 billion just to upstream operations of the oil and gas industry between 2020 and 2030.

With private LTE/5G wireless networks delivered as a service, Logicalis provides connectivity for dispersed and remote locations, enabling oil and gas companies to take advantage of automation and emerging technologies to improve communications, maximize productivity, and improve worker safety. It's simple.

How private wireless networks enhance connectivity in dispersed operations

For oil and gas operators, private wireless networks offer significant advantages over Wi-Fi. These environments typically use WLAN and have multiple applications within a wide area deployed. But with Wi-Fi and public networks, it's impossible to run cabling out to field operations or connect every device without having spotty connections or reliability, security, bandwidth, and availability issues.

Private 5G offers a portable, "in a box" network that can be located in hard-to-reach areas to enable ultra-secure, ultra-reliable connectivity and bandwidth for people, devices, equipment, and applications. Network slicing enables you to provision dedicated network resources by field site or functional area, ensuring the highest operational connectivity.

As one of two global partners authorized to deliver private 5G as a service, Logicalis is expert at integrating 5G with Cisco networking and security technologies at the core and delivering it as a service. Reduce technical, financial, and operational risks associated with managing your own network and refocus your resources on innovating for business-critical oil and gas operations.

Logicalis: Enabling massive productivity and efficiency gains

We guide you through all the details, starting with a complete assessment and site survey. But instead of introducing completely new technology, Logicalis has already worked out the deployment kinks to give you a clean integration with the Cisco network environment you already know. The result is that private 5G, Wi-Fi 6 and Wi-Fi 6E, and ultra-reliable wireless backhaul work together for unified IoT device management and IoT rigidized environments, keeping teams from having to learn and operate complex carrier-class private licensed radio networks.

In addition, Logicalis provides unified security identification and policy management across all wireless networks, supporting your business and enabling you to tackle the future with confidence.

Experience carrier grade availability and reliability that securely supports the most demanding applications with 24/7 global support.

The result? Massive gains in productivity and efficiency, improved safety metrics, and real-time collaboration across operations.

Here are just a few use cases for the oil and gas sectors:

Use case #1:

Improve field communications and collaboration

The traditional satellite-connected push-to-talk system is expensive and hard to manage—particularly on an oil rig in the middle of the ocean or an oil well at the edge of the frontier. But workers still need 24/7 connected tools to communicate and collaborate with each other.

With a private 5G network, Logicalis can connect an industry-leading portfolio of communication and collaboration tools, including video and messaging platforms, with existing phone and push-to-talk systems.

Even specialized collaboration endpoints for industrial applications, like Connected Worker hard hats and voice-activated remote expert systems, can be connected for a cost-effective communication and collaboration platform that connects the field to the office.

Use case #2:

Increase productivity with predictive analytics and maintenance

Downtime on remote sites—like oil wells and offshore rigs—typically isn't measured in hours. More often, downtime is measured in days or even weeks of non-productive time (NPT). Parts must be located and ordered, technicians scheduled, and travel arranged to hard-to-reach locations. And if the equipment doesn't work, then workers can't work—and operations and productivity are brought to a standstill.

Predictive analytics are used all along the oil and gas lifecycle—from upstream operations (oil well and offshore drilling exploration and production and underground flow) to midstream operations (pipelines and SCADA systems) to downstream operations where crude oil is refined and processed into a final product. Having the ability to predict equipment failures enables you to schedule repairs and get parts—before machines go down.

Logicalis can help you build and operate a private 5G network that integrates IoT sensors and uses AI/machine learning to enable predictive maintenance. Predict and prevent failures and costly breakdowns and repairs, reduce NPT, minimize disruption to the business, and extend the life of equipment. Plus, with Connected Workers, you can perform remote maintenance, reducing downtime and eliminating the high cost of travel.

Use case #3:

Improve worker safety and enable Connected Workers

Oil and gas employees have some of the most dangerous jobs in the world. Taking advantage of solutions that enhance worker safety just makes good business sense.

With a private 5G network, oil and gas companies can put IoT sensors at the edge to monitor for safety hazards. These sensors can alert workers to leaks, temperature fluctuations, and vibrations, enabling them to avoid disaster and ensure their safety.

Moreover, because oil and gas operations typically run 24/7, sending a worker out to dispersed and remote sites to track conditions can be costly and unproductive. But with a private 5G network, workers can track conditions from a central location, saving the time and cost of on-site inspections.

Private networks can also provide the real-time location of workers, particularly lone workers, which is critical for remote and hard-to-reach areas where public cellular and Wi-Fi connections are largely unavailable or unreliable. With private networks deployed on-site, workers will have more cost-effective, reliable connectivity to enable push-to-talk and other voice communications to get help when needed. In addition, automated vehicles and other equipment can be employed to safely remove workers from high-risk areas rather than put other workers at risk.

Finally, private 5G can enable Connected Workers who wear ruggedized, voice-controlled hard hats—outfitted with cameras, displays, microphones, and leading apps—allowing them to collaborate hands-free with anyone in the world and act as their counterparts' eyes and ears. For example, a pumpjack goes down or requires maintenance. With a few simple voice commands, workers can access equipment manuals, call on experts, take pictures, view demos, follow workflows, and successfully make repairs from a half world away.

Logicalis can help you integrate these specialized AR/VR tools and apps into your private 5G environment, providing the bandwidth needed to increase worker productivity and safety, minimize errors, cut travel, and realize efficiency gains.

Use case #4:

Track people and assets to ensure worker safety and productivity

Oil and gas companies require massive numbers of assets and equipment, and tracking their locations and lifecycles across multiple, often remote worksites remains an ongoing challenge. The same is true for workers. They must go out into the field—sometimes alone—and tracking their locations and conditions can be difficult.

Without access to Wi-Fi or even public networks, oil and gas operators have traditionally been unable to have visibility into asset location and condition—a typically manual process if performed at all. But there's a better way and it starts with centralizing data that can be accessed in real time on fixed or mobile assets. With the addition of sensors and emerging technologies, you can help improve worker productivity and safety and keep equipment performing in top condition.

Logicalis helps you build an ultra-low latency private 5G network that can provide highly accurate GIS/GPS location and other services. With this ultra-reliable, ultra-low latency network, you'll have complete visibility into the movement and condition of people, devices, and equipment. The smooth, 24/7 performance of equipment and safety and productivity of workers is assured, while ensuring wells, pipelines, rigs, and other lodes continue to profitably produce.

Benefits

Lower costs

Reduce the high cost of satellite services and individual monthly cellular subscriptions through your telecom provider, while enabling much more reliable service.

Improved reliability

Enjoy more reliable 4G and 5G connections that improve operations with cloud-based configuration and monitoring services across all devices.

Data security

Manage and secure your data locally with local connectivity—data never leaves your network.

Greater simplicity and control

Retain security and control with complete SIM management and greater operational simplicity with service and device visibility by integrating with your Cisco infrastructure.

Better investment protection

Integrate with your existing Cisco infrastructure and get seamless software and firmware upgrades to eliminate obsolescence and maximize investment protection.

Why Logicalis

Deep connectivity expertise

Logicalis has over 20 active field trials featuring considerable expertise in Evolved Packet Core design and carrier deployment.

Award-winning global services

Logicalis delivers a consistent customer experience with the same services delivered, no matter where in the world your operations are located.

Expansive ecosystem development

Logicalis has teamed with industry-leading Radio Access Network (RAN), Evolved Packet Core, and User Equipment providers, as well as numerous global providers who can deploy macro-cell (towers) both indoors and outdoors.

Hefty 5G experience

Through our acquisition of Siticom and its 100+ advanced 5G employees, Logicalis has carrier industry veterans with Private 4G/5G deployment experience and deep knowledge of Evolved Packet Core to provide a more holistic solution offering.

Unique Cisco partnership

As one of just six Cisco Global Gold partners—and one of two authorized to provide private 5G as a service, as well as private 4G—Logicalis has deep Cisco expertise and support.

Technologies

Includes Cisco's full-stack, subscription-based Private LTE/5G solution at the core, along with a Cisco-certified RAN.

Logicalis Professional Services

Provides site evaluation, engineering, and implementation, including site preparation, ordering, organization of the spectrum, SIM management, staging, profile creation, core and RAN installation, core NF configuration, and pre-launch solution validation.

Logicalis Managed Services

Provides ongoing support, including SLA management, 24/7 Logicalis Level 1 support and Level 2 and 3 triage and coordination with Cisco, RMA management, solution optimization, application and device integration, customer care and service, spectrum application, end customer service portal, and transport network managed service.

Case in point

Customer: Chemical plant

Challenge: Wanted to update the manual process they were using for measuring chemicals with a new SCADA system—and they needed a way to backhaul that data to their data center.

Solution: Logicalis Private Wireless Network

Results: Added routers to their tanks to accumulate and monitor SCADA data, enabling them to now maintain it on their central servers.

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