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USE CASE

# Connectivity in the Oil and Gas Industry

How connectivity can fuel higher performance

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The oil and gas industry is acquiring new and enhanced tools to boost productivity and spur innovation.

# Connectivity in the oil and gas Industry

## How connectivity can fuel higher performance

Digital transformation has become an imperative in the highly specialised oil industry, with new technologies offering greater insight into production, processing, and distribution. It helps manage market volatility while improving the exploration and management of existing resources. Digital tools also help the industry minimize risk and optimize operations.

Oil companies have widely deployed the Internet of Things (IoT) and campus connectivity across their production facilities as part of their digital transformation. Fast, reliable connectivity to the cloud and the corporate network is vital to this infrastructure, allowing real-time data processing and analysis. Better data insights enable oil companies to gain visibility across the entire value chain, breaking down silos between upstream, midstream, and downstream operations.

Digital tools and connectivity are also essential in ensuring worker safety and reducing environmental impact. Oil platforms are a dangerous environment and require highly-skilled staff that are in great demand. Safety and welfare are essential to protect staff and minimize churn. In addition, data collected and analysed from production sites can also automate processes, reducing the need for staff to be onsite.

Quality of life is a key consideration for many employees whose work takes them away from home for long periods.  Connectivity can improve their leisure time and help strengthen personal ties with loved ones.

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Easier access to connectivity for employees improves welfare and morale.

## Connectivity challenges

As the oil and gas industry pushes into more remote areas to find new resources, it becomes more difficult to find adequate connectivity to support digital initiatives. A typical digitally-enabled offshore oil platform generates at least 2TB of data per day.

In addition, data related to production and drilling safety is particularly time-sensitive, requiring fast networks for real-time analysis in the cloud. Reliability is also essential to avoid costly downtime or interruptions to production.

A further strain on connectivity is the increasing use of video in training, telemedicine, and collaboration. Traffic needs to be carefully managed to ensure that internet connectivity provided to staff for leisure doesn't disrupt business-critical communications or applications.

## Connectivity solutions

OneWeb will help the oil and gas industry better use emerging technologies as pressures on price and demand increase. It can help them deliver network-enabled services across all locations to benefit from digital transformation and analytics.

Low Earth Orbit (LEO) satellite connectivity is designed to boost performance across the upstream oil and gas value chain. It helps capture and crunch more data faster, to enable decisions, optimization, and more efficient automated processes, across a wider geographical reach. In addition, LEO connectivity can be integrated into an SD-WAN infrastructure for additional flexibility and resilience.

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# Enhanced opportunities

## Boost connectivity

OneWeb connectivity is quick to deploy, easy to manage, and offers high bandwidth and low latency. It integrates seamlessly with campus networks such as LTE or 5G, to ensure that oil rigs, ships, sensors, and crew all remain well connected. Any location either on land or the high seas will be able to connect to corporate applications and the cloud.

## Digital oil field

Connectivity from OneWeb can also enable advanced applications, including automation, big data analysis, predictive maintenance, and environmental monitoring. This can help minimize unplanned downtime and optimise production by ensuring equipment is always operating effectively. The low latency of OneWeb service also enables remote operation of equipment such as surveying drones or remotely operated vehicles (ROV) for underwater work. And digital technology such as geofencing, video analytics, and gas detection plays a key part in mitigating dangerous working conditions.

## Retain skilled staff

The oil and gas industry relies on highly-skilled employees, and OneWeb can help provide a more attractive working environment. This includes internet connectivity to maintain contact with friends and family, and to provide telemedicine services. It can also improve working conditions through advanced training aids such as augmented reality and easy access to experts where needed.

More high volume data on equipment status or anomalies will improve operations.

# Enhanced and new applications

### Realtime data analytics

To manage the exploration and production of oil and gas on and offshore.

### Security and asset management

Sensor-based data, CCTV, and security management systems, that prevent downtime and maintain equipment.

### Proactive risk management

Improve safety on site with increased automation, sensors and geofencing.

### Tracked safety training

Meet licensing and certification requirements to fulfil workplace obligation.

### Digital media

Improved latency-sensitive digital experience for work and leisure, including streaming and videoconferencing.
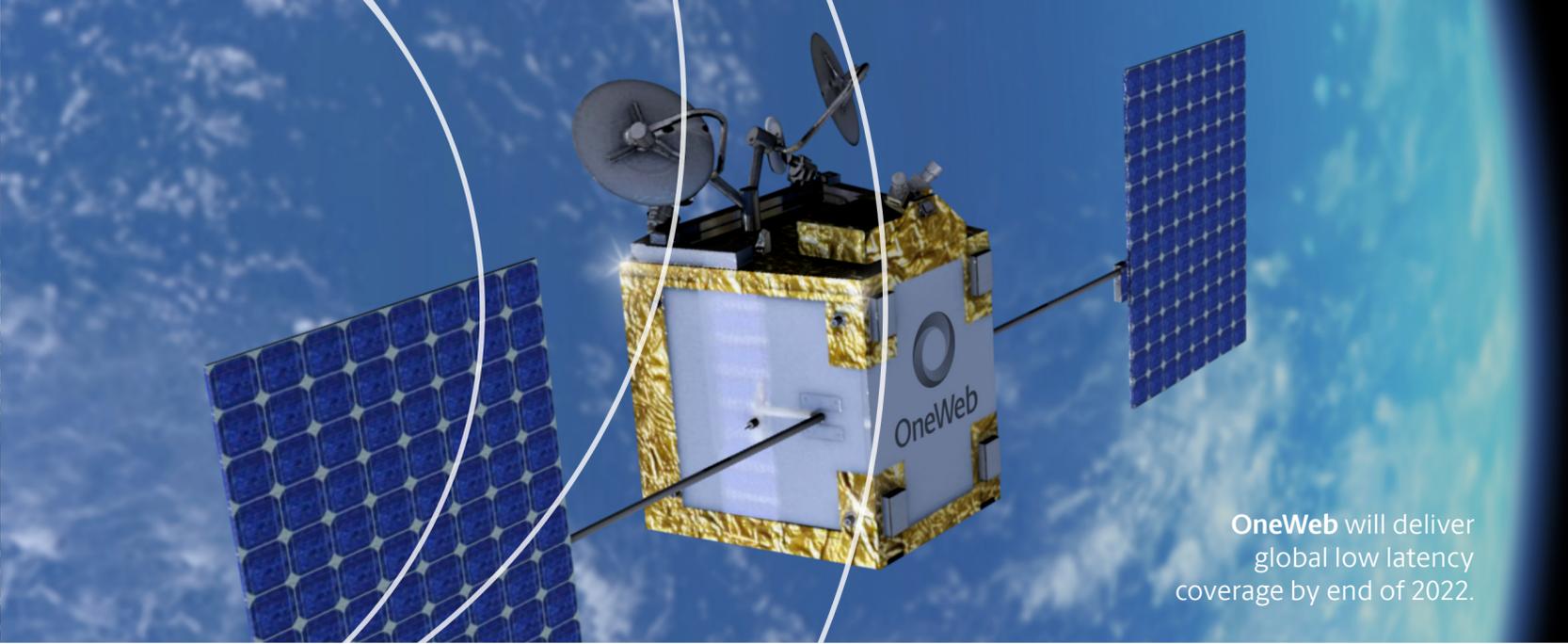
### Business continuity

Shutdown, turnaround, and outages (STO) management, hybrid and back-up solutions. specialist software, and environment, health and safety (EHS) systems for compliance.

### Employee morale, health and safety

Greater access to online communities, medical care, video calling and large file sharing.

### Skills and training

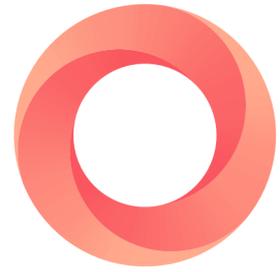Improved access to online skills and learning facilities.

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OneWeb will deliver global low latency coverage by end of 2022.

# Space-based connectivity made easy

OneWeb is powering the digital transformation of oil and gas operations everywhere with flexible, scalable, and reliable connectivity plans designed to enhance existing communications solutions.

Access OneWeb connectivity with a new class of User Terminal that brings together function, design, and easy-to-use LEO technology. Simple to order, deliver, install, and maintain, for primary, backup, and hybrid network solutions that meet the demands of today's **gas and oil industry**.

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## Global space-based connectivity

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