

THE OIL AND GAS INDUSTRY IS FACING  
A PERFECT STORM – HERE'S HOW UNIFIED  
COMMUNICATIONS CAN HELP



**MOTOROLA**  
SOLUTIONS

# RISING PRESSURE IN OIL AND GAS



# THREE BIG TRENDS IMPACTING THE OIL AND GAS INDUSTRY

## THE OIL AND GAS INDUSTRY IS FACING MASSIVE CHANGE ON MULTIPLE FRONTS.

Some of that goes with the territory – it's a volatile industry, built on a never-ending boom-bust cycle, perpetually swinging between oversupply and soaring demand. The work is dangerous, conditions are hard and urgent production pressures arrive suddenly, at the behest of an unpredictable market.

That's why communication has always been vital. Individuals and teams need to stay closely connected – to each other and their surroundings – in order to stay agile, work efficiently, and most importantly, keep safe in volatile conditions.

But today, the pace of change is accelerating, and oil and gas companies face disruption on several fronts.

Multiple trends have coalesced and placed the whole industry in flux, as organizations increasingly face greater risks and higher costs with fewer resources.

### 1. The end of easy oil

Natural reserves of oil and gas have been steadily declining for decades. Companies today need to explore further and drill deeper to produce the same number of barrels.

### 2. Rising production pressures

Oil and gas companies operate in a challenging, competitive environment – global demand is rising, drilling is more complex and production costs are growing.

### 3. The great crew change

As baby boomers near retirement, oil and gas companies urgently need to attract next generation workers – but so far, millennials aren't interested.

In isolation, any one of these challenges could destabilize the industry. But they've all arrived at the same inflection point, compounding an already complex environment facing

tightening regulations, accelerating digital transformation and rising cyber threats.

All-encompassing change from the above factors demands a calm, measured approach on the ground. The future leaders in oil and gas will be the companies who can adapt to this shifting landscape by driving safety, efficiency and agility across the whole pipeline.

Unified communications – between individuals and teams, the machinery they work with, and even the back office – has a huge role to play in helping oil and gas companies navigate the connected challenges of the next few years.

**Let's find out how.**



1

**The end of easy oil**

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3

**The great crew change**

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2

**Rising production pressures**

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# IMPROVING SAFETY THROUGHOUT THE END OF EASY OIL



As global energy consumption climbs and diversifies, the energy sector is going through a significant transformation. Energy producers need to both keep pace with increased demands and adapt to a volatile market shaped by limited natural resources.

From a distance, oil and gas looks stable. While renewable energy is set to be the fastest growing energy source between now and 2040, oil and gas are expected to remain the two largest energy sources for at least the next 20 years (and probably beyond).

However, look closer, and the picture starts to change.

The number of easily accessible oil and gas reserves is starting to dwindle. Exploration and production is getting more difficult, more expensive and more dangerous.

With fewer shallow fossil fuel deposits available, front-line teams are being pushed to more dangerous and remote environments in order to satisfy growing demand.

That means rigs are moving further afield, into deeper waters and remote arctic basins. Crews drill to record depths to find new reserves while battling punishing and unpredictable weather. Freezing temperatures, high-speed winds and rogue waves isolate workers from each other, and from on-shore support and resupply.

Put simply, one of the world's hardest jobs is getting harder. And that means your communications systems need to start working harder too.

**One of the world's  
hardest jobs is  
getting harder.**

# USING TWO-WAY RADIO TO NAVIGATE THE END OF EASY OIL...

**TWO-WAY DIGITAL RADIO HAS THE FLEXIBILITY AND REACH TO KEEP YOUR FRONT-LINE TEAMS COORDINATED AND CONNECTED TO EACH OTHER THROUGHOUT THE END OF EASY OIL.**

As your teams push into more remote frontiers, two-way digital radio brings voice and data connectivity with them. Workers get the coverage they need throughout inhospitable environments and arduous weather conditions, using devices that deliver crystal-clear audio and noise cancellation next to roaring machinery spitting out more than a hundred decibels.

Unifying your communications with digital two-way radio means you can keep track of isolated workers as they move throughout huge platforms and facilities via GPS or Bluetooth® sensors. High-risk areas can be geo-fenced to send time-stamped notifications to control room operators when workers enter and exit dangerous locations. And advanced safety features like man-down automatically alert central control if any worker is unresponsive for a set time.

Equally, workers need equipment built for the harsh conditions around them. That means rugged, waterproof and shock-resistant gear tested to military standards, and intrinsically safe radios for teams working around dangerous chemicals and gases.

Worker safety will always be the number one priority for oil and gas companies. But the end of easy oil is driving another major trend in the industry: an increasingly aggressive competitive environment. Demand is growing while production costs are rising, and teams are striving to find efficiencies and boost productivity where they can.

And two-way digital radio can help.

**Worker safety will always be the number one priority for oil and gas companies.**

**Oil and gas workers need equipment built for the harsh conditions around them.**



# IMPROVING EFFICIENCY THROUGHOUT RISING PRODUCTION PRESSURES

RISING PRESSURE IN OIL AND GAS

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Oil and gas has always been a tough competitive environment, and the last ten years have been particularly volatile. The industry took a major blow following the 2008 financial crash, as the price-per-barrel bottomed out at \$35. Since then, companies have been weathering more pronounced boom and bust cycles, with higher peaks and longer troughs.

The constantly shifting interplay between plenty and scarcity means reserves are left dormant until the

market determines they're economically viable. The end of easy oil hasn't helped – deep drilling is more complex and expensive, so when wells do become viable, crews need to work harder, faster and more efficiently to achieve the same results.

This market destabilization is compounded by the fact that the volume of new oil and gas discoveries is at its lowest point since the 1950s. Production pressures can arrive suddenly. For oil and gas companies

that need to strike while the iron is hot, it's now a case of drilling better rather than simply drilling *more*.

And that means supporting front line teams to not only work more safely in more dangerous environments, but also to work more efficiently.

**It's now a case of drilling better rather than simply drilling more.**

# USING TWO-WAY RADIO TO MEET INCREASED PRODUCTION PRESSURES...

Unified communications can be a powerful driver of production efficiencies across the whole pipeline, whether that means improving productivity, reducing costs or both.

For a start, two-way digital radio can help crews raise their output by working more flexibly and dynamically. Automated worker ticketing means individuals can pick up tasks directly through their radios based on their location throughout the rig or facility, which can be tracked via GPS or Bluetooth® sensors.

Event logging and voice recording provide a robust audit trail of what happened and when, allowing teams to analyse responses to improve future performance. This helps improve coordination, reduce waste and drive transparency.

Your communication network becomes even more powerful when assets and equipment are also connected to the digital radio system. For instance, sensors in tanks and pipes mean central control room operators can remotely monitor the product levels, or flow rate to detect issues early and action a response directly to a nearby team, all in the same system.

Extending your communications network to support other functions using existing infrastructure can drive cost efficiencies and reduce management complexity. For instance, two-way radio networks can also support siren and alerting systems. That means crews can configure specific alarms for different situations based on data flowing in from individual team radios. This makes incident response faster and more accurate, and the cost efficiencies of one system versus two are significant.



**Small workflow improvements create significant efficiencies of scale.**



# IMPROVING ACCOUNTABILITY THROUGHOUT THE GREAT CREW CHANGE

There's a final piece to the connected challenges faced by oil and gas companies today, and it's a big one: the industry is staring down the barrel of a major skills crisis.

For decades, the industry has struggled to attract new entrants to the workforce. This wasn't an immediate problem twenty years ago, but today, as the baby boomer generation reaches retirement, it's estimated that 50 percent of the workforce will exit the industry in the next five to seven years.

Before long, the effects of "the great crew change" are going to be hard to ignore.

Against a backdrop of increasing complexity and costs, it's clear that organizations need to plug the manpower gap as a matter of urgency. But this isn't just a question of capacity. If oil and gas companies don't act soon, they're also going to lose an enormous amount of hard-won skills and experience that could take decades to recover.

Digital communications will play a vital role in helping oil and gas companies manage the great crew change. There are significant demographic differences between new entrants joining the industry and the established workforce. Younger users are digital natives who've learned what great communication looks and feels like from a lifetime with sophisticated consumer devices. And they're bringing those digital-first expectations with them.

But more than that, this is a great opportunity to explore innovative new ways to manage information and disseminate knowledge throughout an asymmetrical workforce. Front-line teams need to rapidly upskill before the effects of the great crew change materialize, and the advanced safety and collaboration features of digital radio promise to make that process easier and faster.

# USING TWO-WAY RADIO TO MANAGE THE GREAT CREW CHANGE...

## TWO-WAY DIGITAL RADIO HELPS OIL AND GAS COMPANIES RISE TO THE CREW-CHANGE CHALLENGE.

The improved coverage and functionality of digital two-way radios means they can provide more opportunities than legacy analogue systems, bridging the knowledge gap between new starters and more experienced workers. By providing clear, reliable communications, they can help ease the transition into a challenging and isolating environment by making new starters feel more connected to, and supported by, senior crew members.

For example, automated work order ticketing isn't just great for boosting productivity among more experienced crew members. It's also a valuable channel for helping inexperienced workers understand the different stages within interconnected processes.

It also allows for more flexibility. Where in the past, teams worked within rigid schedules and hierarchies, two-way digital radio makes workforce management more fluid and efficient. Teams can be redirected to new tasks as they emerge, making better use of downtime and upskilling new team members in the process. Centralized, flexible group call management also means central operators can connect younger crew members with subject matter experts at a moment's notice, speeding time-to-resolution for ad-hoc queries and reducing the obstacles to productivity when learning a new process.

Similarly, advanced safety features can have a reassuring impact on inexperienced workers unfamiliar with their new environment. New radios can track movement and location, and even use accelerometers to measure vertical positioning and send an automated alert if someone has fallen and isn't responsive.

Features like this reassure new starters that they'll have the support they need wherever they are in the facility. Plus, dedicated emergency buttons and priority call functions mean instant assistance is always at hand.

**Two-way digital radio eases the transition into challenging and isolating environments.**

# THE CONNECTED SOLUTION

Oil and gas is facing a multitude of commercial, regulatory, environmental and technology challenges. But there's a common undercurrent connecting them all: that workers are exposed to increasing levels of risk, and that it's incumbent upon oil and gas companies to drive safety everywhere.

Upgraded communications is a critical part of the solution. Keeping teams connected to each other, and their environment, is one of the best ways to help people work more safely in extreme conditions.

The good news is that by using digital two-way radio communication systems to improve safety, oil and gas companies will also see the productivity gains, work efficiencies, cost reductions and regulatory compliance that they're striving for elsewhere.

The companies who build unified communications systems that leverage voice, video, data and advanced safety features will see happier, safer, more productive workers, more efficient processes, and fewer disruptive incidents (with faster incident response).

That's why quality two-way radio communication across the entire pipeline is such a critical differentiator in an increasingly competitive market.



# HOW WE CAN HELP

Motorola Solutions products and services keep crews connected with secure, resilient land mobile radio communications, backed by mission-critical services, software, video and analytics.

We support teams to work more safely, productively and accountably across the entire oil and gas pipeline.

Our drive for continuous innovation and our partnership with our customers enables crews to be their best in the moments that matter.





**MOTOROLA**  
SOLUTIONS

# MOTOROLA SOLUTIONS KEEPS FRONT-LINE WORKERS CONNECTED THROUGHOUT THE ENTIRE OIL AND GAS INDUSTRY.

Find out how we bring voice and data together across the whole pipeline to keep teams safe, efficient and productive.

[Discover more](#)

## **Brazil**

Tel: +55 11 5171-0905

## **Mexico**

Tel: +52 55 52576816

## **NOLA**

Costa Rica, Caribbean, El Salvador, Guatemala, Honduras, Nicaragua, Panama and Puerto Rico

Tel: +57 1 5085036

## **SOLA**

Argentina, Bolivia, Chile, Paraguay, Peru and Uruguay

Tel: + 54 1150771914

Mail:

[centroderespuestas@motorolasolutions.com](mailto:centroderespuestas@motorolasolutions.com)

