

MOBILIZE REAL-TIME INFORMATION SEAMLESSLY ACROSS YOUR OPERATION



CONNECT PERSONNEL MORE SAFELY AND EFFICIENTLY
WITH OUR MISSION CRITICAL SOLUTIONS



PROTECT WORKERS IN HAZARDOUS ENVIRONMENTS

Oil and gas companies are feeling the heat of safety mandates and production goals. They must fuel rising demand by extracting more in remote locations and hazardous environments. Their workers have to be protected as they contend with extreme temperatures and challenging conditions. And critical infrastructure needs to be secure from the increasing threat of cyber attacks and domestic terrorism.

The reality is, operations are being pressed to increase productivity, prepare for emergencies and disasters, comply with changing regulations and secure their assets. All while maintaining the highest levels of safety for their workforce.

33%

**ENERGY IN THE WORLD
FUELED BY OIL¹**

**OVER 86
MILLION BPD
(BARRELS PER DAY)**

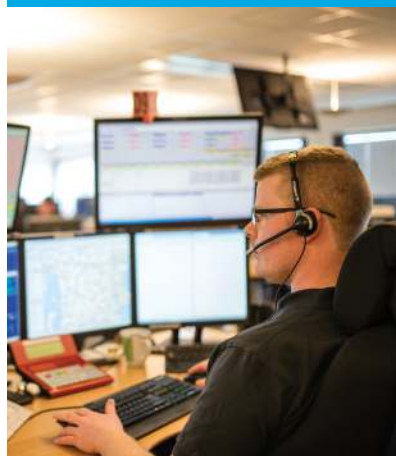
**U.S. OIL PRODUCTION
HITS RECORD HIGH**

40%

**CYBER ATTACKS
TARGETING THE
ENERGY SECTOR²**

**ALMOST
2 BILLION**

**COST OF CYBER ATTACKS
AGAINST OIL & GAS
INDUSTRY BY 2018**



IMPROVE SAFETY IN PETROCHEMICAL OPERATIONS

To improve safety and productivity, voice and data communications should flow seamlessly between work teams and equipment. Whether personnel are on shore or at sea, in remote locations or at the refinery, they have to connect instantly and collaborate in real time.

Many crews operate in locations with extremely high-decibel noise. Two-way radios that deliver loud, clear audio and significantly reduce background noise are critical to ensuring the message gets through the first time, even in noisy environments. Because of ignition risks in these environments, two-way radios and accessories must be purpose-built to be fail-safe and meet or exceed globally-recognized hazardous standards such as FM, UL, CSA, ATEX and IECEx.

As the market leader in mission critical communications, we support both TETRA and APCO standards. Our two-way radio systems streamline voice and data to increase productivity and advance safety. With better information, your personnel can make better decisions and achieve better outcomes. Our in-depth portfolio provides critical communications for customers worldwide. Reliable, resilient, and secure, they perform exactly when it matters – in everyday operations and unthinkable disasters.



EXTREME HAZLOC DESIGN WITHSTANDS IT ALL

It is critical that your workers are equipped with rugged and reliable communication equipment to support real-time collaboration and decision-making in hazardous and remote locations. Strict safety measures must be maintained at every stage of production to prevent fires, explosions or environmental disasters.

Because two-way radios are the primary communication device for field workers, their integrity must be assured. HAZLOC (Hazardous Location) radios and accessories safeguard personnel working in hazardous locations with potentially explosive substances. Given the ignition risks in these environments, the robustness of two-way radios is critical. For example, every two-way radio is subjected to extremely rigorous Accelerated Life Tests (ALT), designed to simulate harsh usage in the field.

- The radio is dropped from a range of heights onto concrete floor. This is repeated several times on all radio surfaces.
- Steel ball drop test subjects each radio to impacts from steel ball bearings dropped from a range of heights onto the radios surface.
- The radio is subject to extreme temperatures, vibration and rain spray.
- APX P25 two-way radios are subjected to the MIL-STD test series and certified to withstand dust, heat, shock, drops and water immersion.

Given that the two-way radios are intended for use in extreme operating environments, their robust design has been subjected to equally extreme testing.



ENHANCE OPERATIONAL EFFICIENCY WITH SMART CONNECTIVITY

With costs continuing to be an obstacle to much-needed infrastructure upgrades, look to technologies that can help you gain greater efficiency and productivity. Our Supervisory Control and Data Acquisition (SCADA) Remote Terminal Units (RTUs) improve the speed and accuracy of infrastructure processes. Now your company can operate more efficiently by securely automating and communicating complex processes with our leading RTUs.

Our smart connectivity solutions help you reduce operational downtime, optimize infrastructure operation and keep personnel out of potentially dangerous situations. So you can produce more efficiently and more safely, while you increase the profitability of your operation.



A person wearing a bright red protective suit and a hard hat is climbing a metal ladder structure. The ladder is made of vertical and horizontal bars, and the person is positioned in the center-left of the frame. The background is a clear sky.

IMPROVE FIELD ACCESS AND MOBILITY

Now your crews can communicate and collaborate more efficiently, wherever they work. All while you protect their safety and enhance their productivity. Our next generation communication solutions are vital for protecting teams, especially those in remote and sensitive locales for exploration and extraction. Send vital information, support in-field operations and keep connected with them, shore offices and headquarters overseas.

EXPAND TO BROADBAND WITH LTE SAFETY- CRITICAL SOLUTIONS

Expand communications to broadband devices such as our LEX L10 Mission Critical LTE Handheld and VML750 LTE Vehicle Modem. These smart, ruggedized solutions are purpose-built to deliver high-performance and rich data capabilities on both Commercial and Public Safety LTE networks between remote locations.

CONNECT ANYONE, ON ANY DEVICE WITH WAVE

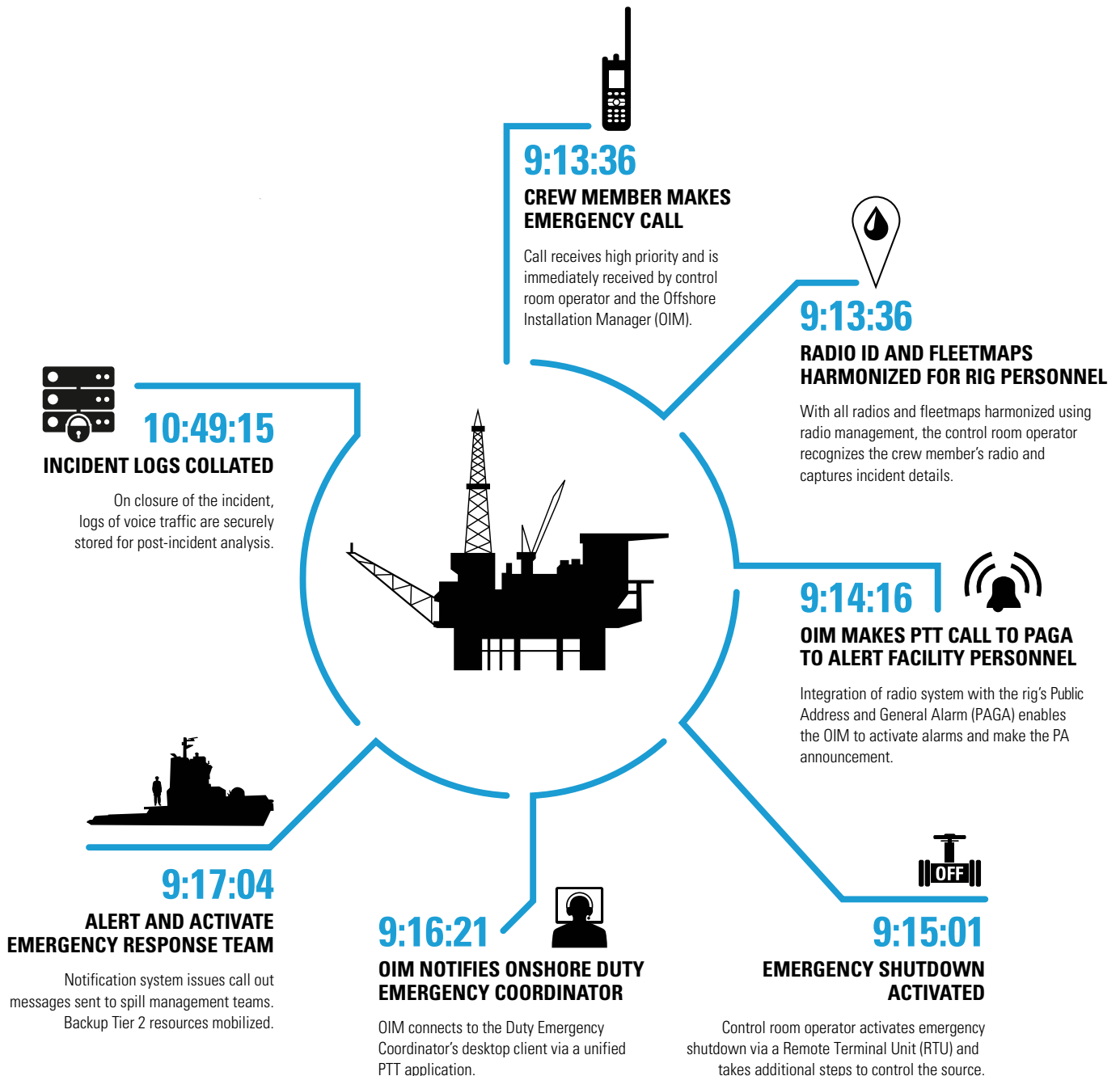
WAVE™ Work Group Communications extends your radio's reach to those who may not carry radios. Now the telecom engineer away from the refinery or the IT director at a conference can talk on their smartphones or tablets with radio users.

WAVE connects smartphones, laptops, tablets, landlines and more on any public or private mobile data network, including Wi-Fi. You get seamless and secure connectivity, affordable push-to-talk, and the freedom to keep your service plans and devices.

TIMELINE OF OPTIMIZED INCIDENT RESPONSE

A digital oil rig helps drive better and faster decisions when every second counts. Efficient wireless voice and data communications on such a rig help workers offshore and onshore securely reach out and be reached, so emergency calls get to the right person immediately upon recognition

of an issue. Advanced digital LMR systems such as ASTRO 25, TETRA and LTE provide a total, integrated solution for your operational needs, ensuring greater efficiencies meet high safety standards.



An aerial view of a large offshore oil rig in the ocean. The rig is a complex of yellow metal structures, including pipes, ladders, and platforms, supported by several legs in the water. A small white boat is visible in the dark blue sea to the left of the rig. The sky is blue with some white clouds.

PETROCHEMICAL COMPANIES TRUST MOTOROLA TO MOBILIZE REAL-TIME INFORMATION SEAMLESSLY

From the drilling platform to the pipeline, in the office or offshore, we're helping oil and gas companies work more safely, productively, and efficiently in the most difficult conditions and demanding environments.

Enterprises around the globe are transforming the way they operate and interoperate with our mission critical communication solutions and expertly-integrated systems, applications, accessories and services.

Connect different personnel, processes and locations together to help your operation run more productively and safely, control infrastructure, and reduce risks and costs.

SOURCES

1. BP Statistical Review of World Energy 2015
2. 2014 Energy Market Review, Willis

To mobilize real-time information seamlessly across your operation, visit
www.motorolasolutions.com/oilandgas

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