

# Making Oil and Gas Fields Safer

Mission Critical Communications for the Petrochemicals





# Ensuring Safety. Empowering Productivity.



Personnel in the Oil and Gas industry frequently operate in hazardous environment that are highly infused with flammable components. Motorola understands the critical importance of having equipment that can withstand extreme temperature, dust, noise, rain and toxic exposure, to ensure that all our communications equipment meet all intrinsic safety requirements, intrinsic safety requirements recognised with ATEX and IEC EX approval.

## Addressing Operational Needs

### Upstream

#### Exploration, Extraction and Production

Communication solutions are vital for prospecting teams; providing vital information support to manage and coordinate in-field operations and maintain contact with on shore offices and overseas headquarters.

The processes entailed in wild-cat or appraisal well extraction and regular production are highly complex and often require extensive coordination and management in order to ensure that they are handled efficiently without compromising safety standards.

### Downstream

#### Pipelines

Operators need to constantly monitor pipelines for up-to-date measurements and leak detection and to stay in touch with maintenance personnel spread over a wide-area. It is crucial that operators are equipped with solutions that enable them to better monitor pipelines safely, efficiently and in real-time.

#### Tank Farms and Refineries

Storage tanks situated at the end of a pipeline as well as in refineries and chemical plants must be constantly monitored around-the-clock by operators who patrol the plant. Wireless technology does not entail any civil works - eliminating errors in digging up wires and hazardous pipes.

#### Distribution

With the right communication solution, the movement of end-products such as petrol, jet fuel, paraffin and ethylene, transported by tank trucks, railroad cars and pipelines, can be better monitored and coordinated.





## Intrinsically Safe Solutions

At every stage of the upstream or downstream process, strict safety measures must be maintained to prevent fires, explosions, and ecological disasters. Workplace Safety is based on the principle of restricting the electrical energy available in a hazardous area to levels that cannot cause ignition. With Motorola's solutions, third party Intrinsically Safe (IS)-certified buffers and sensors are integrated with the systems to meet IS requirements on a system basis.

## Complete Range of Solutions

Motorola provides a wide spectrum of voice, data and integrated voice and data solutions to cater to all the upstream and downstream activities of the Petrochemical industry.

### Voice Solutions

In a volatile environment such as a petrochemical plant, exploration vessel, offshore platform or pipeline, the use of conventional or trunking communication systems, such as TETRA, enables you to get the right information to the right people at the right time.

### Fixed Data Solutions

Motorola's Fixed Data solutions – known as MOSCAD (Motorola Supervisory Control And Data acquisition) systems, enhance the performance and operational reliability of remote installations through the movement of data to and from fixed locations. A wireless solution provides total area coverage of the plant and caters to future plant layout changes, eliminating the need to dig new trenches for wirelines - which tends to be costly in an existing installation.

### Integrated Voice and Data Solutions

Motorola's leadership in providing a wide choice of integrated voice and data solutions, such as, TETRA (TErrestrial Trunked RAdio), is second to none. We are intimately involved in the development of these solutions and have secured numerous customer contracts both globally and within Asia.

### Wireless Broadband Backhaul and Mesh Solutions

Broadband backhaul solutions provide cost-effective connectivity between remote locations. Motorola's solutions are easily deployed, work in both licensed and unlicensed spectrum and help enable efficient paperless workflow systems.

Motorola's Mesh solution can be used to wirelessly enable monitoring devices such as RFID tags, pipeline sensors and CCTV cameras. It can also be combined with Motorola's backhaul solutions to provide video surveillance in refineries or along the pipelines.

### Mobile Computing Devices and Solutions

Designed for use in the harshest environments, Motorola's Rugged Notebook and portable Enterprise Digital Assistant (EDA) device portfolio offers the latest in operating systems and computing power and includes enterprise functionality such as bar code and RFID scanning and image capture.

### Total End-to-End Solutions

Motorola works with our key partners to provide a total, integrated solutions for your operational needs, ensuring greater efficiencies and meeting high safety standards. For example, mobility applications enable mobile workers to move from paper-based to automated processes, resulting in improved operational efficiencies, reduced downtime, improved asset utilization and increased safety and security.

## Customising to your Environment

This industry is challenged with unique operating needs, environment and characteristics. Motorola is well positioned to provide intrinsically safe voice and data communication solutions that enable your personnel to move faster with ease and confidence.



## Our Customers

Motorola's established success and leadership in the petrochemical industry has enabled many of our customers to propel their operations towards greater excellence and success.

Some of the Oil & Gas organisations that have come to benefit from Motorola's mission critical communications solutions include:

- Caltex
- Exxon Mobil
- Petronas
- Shell
- TOTAL
- Unocal
- Karachaganak
- Kaspyprom
- Reliance Jamnager
- SK Corp



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## Why Motorola?

### TRUSTWORTHY

With a rich heritage of leadership in communication, Motorola is well-placed to become your preferred solutions partner. Our reliable offerings give full credence to our promise – providing you peace of mind to move faster, reach further and act with confidence.

### PASSIONATELY DEDICATED

We are committed to work with you and understand the issues that drive your business. With centres of excellence around the world, our teams of experts actively engage you all the way, ensuring that all your present and future operational needs are fully addressed.

### SOLUTIONS LEADER

Our world-class track record in delivering wide-ranging communication solutions is second to none. Drawing on our experience, expertise, partnerships, alliances and extensive portfolio, we design and deliver solutions that enable you to make quick, informed decisions – reducing your response times as well as accelerating your operational efficiency and return on investment.

### SERVING TOMORROW'S NEEDS TODAY

We constantly invest in future technology and solutions. We add value to your operations through understanding the potential of new technologies and the commercial opportunity they bring. Together, we work with you in your quest towards building an intelligent solution for present-day efficiency and future-driven needs.