



# SAFE, RELIABLE COMMUNICATIONS

MOTOROLA DIMETRA IP MICRO SYSTEM HELPS AR-RAZI REDUCE COMMUNICATION COSTS AND DRIVE PRODUCTIVITY



## AR-RAZI (SAUDI METHANOL COMPANY)

AR-RAZI is the biggest single-complex methanol production site in the world, producing more than five million tons of chemical grade methanol from its facility in Jubail City, Saudi Arabia. A joint venture between SABIC and Mitsubishi Gas Chemical Company, the complex spans 1.5 km<sup>2</sup> and encompasses five plants, a major warehousing facility and an emergency services unit.

The company has recently replaced its legacy fleet of analog two-way radios with an advanced digital communication system based on Motorola Solutions' TETRA technology. Using MTP850Ex ATEX and MTM5400 radio devices, the system provides safe and reliable communications, enabling AR-RAZI staff to work quickly and efficiently. The company has also reduced costs by saving 60% in carrier licensing fees.

### CUSTOMER PROFILE

**Organisation**  
AR-RAZI  
(Saudi Methanol Company)

**Location**  
KSA

**Industry**  
Petrochemical

**Partner**  
Space Top Co. Ltd.

### Motorola Products

- Dimetra IP Micro with 2-carrier MTS2 base station
- MTP850Ex ATEX TETRA portable radios
- MTM5400 TETRA mobile radios
- MCC 7500 IP dispatch console

### Applications

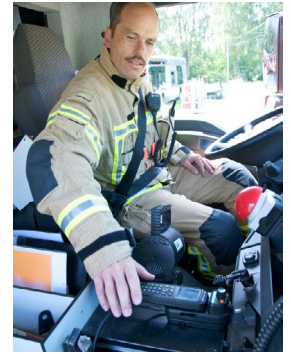
- Immediate voice calling
- Combined voice and data services
- Full network reliability and availability
- Team tracking and man-down feature

## CASE STUDY

AR-RAZI (SAUDI METHANOL COMPANY)

**“Effective and seamless communication is critical for AR-RAZI from both a business and safety perspective. Poor communications can result in loss of production and impede the effective response to emergencies. We wanted to enhance our communications system – recognizing that the new solution would need to provide continuous service in an industrial environment with lots of background noise and where explosive vapors are present. Motorola Solutions’ robust TETRA network provided the best solution with a durable and scalable infrastructure. In a very short time, we have improved collaboration between our departments, reduced costs and greatly improved staff productivity.”**

Fahad Muteb Al-Shammari, Manager, Projects, Projects & TA Department,  
Saudi Methanol Company (AR-RAZI)



## CHALLENGE

AR-RAZI had been using an analog two-way radio system for more than a decade and the devices were becoming obsolete. The company also required additional radio channels to accommodate more users and coordinate teams more efficiently. AR-RAZI specified the need for a digital two-way radio system that would provide greater capacity and support both audio and data services on one network. As well as providing superior audio quality and network coverage across the complex, AR-RAZI also needed to ensure that the technology was ATEX-certified and that the migration process would not result in any costly operational downtime.

## SOLUTION

AR-RAZI instructed its long-standing technology partner, Space Top Co. Ltd. – which has proven expertise in delivering mission-critical systems – to deliver the new network. Space Top Co. Ltd. recommended Motorola's Dimetra IP Micro (DIPM) system which would ensure AR-RAZI a smooth transition to a digital radio network. The management teams of both companies worked closely together in the design and testing of the system. The solution was rolled out in six months.

The DIPM network comprises a compact-size Motorola MTS 2 two-carrier TETRA base station – one of the most powerful in the market – ensuring optimum coverage even in the most difficult corners of the complex. All sites are connected via a local area network, while the Motorola 7500 IP dispatch console ensures the remote control of the radio devices. The digital trunking capability of the DIPM system has doubled capacity with eight radio channels and supports both group and individual calls.

As part of the solution, Space Top Co. Ltd. also supplied Motorola MTP850Ex ATEX portable radios and MTM5400 mobile radios for personnel across various departments. These include management, operations, maintenance, logistics, security and emergency services. The lightweight MTP850Ex devices are ATEX-certified, which means they are intrinsically safe and have the highest rating for gas and dust protection. They are also approved by the Saudi government's High Commission for Industrial Security (HCIS), which ensures the operational safety of all industrial facilities across the Kingdom. The MTM5400 and MTP850Ex's features are accessed through secure authentication and offer exceptional

audio performance. The radios also include keypads with large buttons – so they can be used while wearing bulky gloves – and the interface provides quick access to critical functions, such as push-to-talk and emergency calling.

## BUSINESS VALUE

The new system provides the robust infrastructure needed to support the thousands of radio calls AR-RAZI staff make each day, ensuring the right people are always connected at the right time. Radio messages can be heard accurately and clearly – reducing delays and increasing overall staff productivity. Also, the system has proved to be cost-effective by almost doubling channel capacity while reducing carrier licensing fees by 60%. The user-friendly interface of the radio devices has also decreased costs by reducing training requirements for AR-RAZI staff.

The reliable connectivity of the network helps AR-RAZI run its business more efficiently. Operations personnel heavily rely on the radios to communicate with on-site operators to provide them with time-critical instructions at various stages of the production process. Logistics staff use the radios to coordinate the smooth and safe transfer of methanol containers from production plants to the warehousing facility. And in the event of any disruption to production, AR-RAZI's senior management team uses the radios to make key decisions to reallocate resources, quickly and cost-effectively.

Coordinating resources via radio is also critical for AR-RAZI to ensure a safe and successful outcome in emergencies. The system ensures prioritized emergency calls get through to the incident commander, who then uses the radio to direct personnel and emergency vehicles as quickly as possible. Voice logging software on the devices also provides records of all radio conversations, documenting details of how the incident was handled.

Moving forwards, AR-RAZI is working closely with Space Top Co. Ltd. on rolling out additional units of the MTP850Ex ATEX portable radios which will come integrated with GPS receivers. This will allow the company to locate personnel and improve user safety and resource management. The new devices will also have an internal “man-down” alert: a fully integrated solution which triggers an emergency procedure when the user of the device falls down or remains motionless for a set period of time.

## Benefits

- **Cost-effective:** Increased network capacity and a 60% savings on licensing fees
- **Enhanced safety:** ATEX/IEC-EX radio certification ensures regulatory compliance and safe communications in hazardous environments
- **Improved efficiency and productivity:** Staff connected to right people at right time
- **Faster response time:** Instructions addressed quickly as less time wasted locating people
- **Clearer communication:** High-quality digital audio ensures accurate communication in noisy areas
- **Superior design:** Rugged devices feature simplified keypads and large buttons that are easily accessible with gloves
- **Easy to use:** Intuitive interface reduces time and money spent on training staff
- **Return on investment:** Scalability of solution allows expansion of radio capabilities at little cost

For more information on how Motorola Solutions' TETRA technology can improve the efficiency of your turnaround operations, please visit us on the web at [www.motorolasolutions.com/tetra](http://www.motorolasolutions.com/tetra) or access our global contact directory at [www.motorolasolutions.com/contactus](http://www.motorolasolutions.com/contactus)

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