TETRA SYSTEM FOR RN-YUGANSKNEFTEGAZ'S OILFIELDS

MOTOROLA SOLUTIONS' DIMETRA IP IMPROVES COMMUNICATION WITH 42% INCREASE IN CALL RATE

RN-YUGANSKNEFTEGAZ LLC

RN-Yuganskneftegaz LLC is a wholly integrated subsidiary of Rosneft, the leading petroleum company in Russia. RN-Yuganskneftegaz produces 500 million barrels of crude oil and 2.5 billion metres^2 of gas every year and has over 6,500 employees. It owns 28 oil fields in the Khanty–Mansi Autonomous Okrug region in Western Siberia. These oil fields are continuously being extended, often into areas with very minimal access or infrastructure. Current operations cover approximately 20,000km^2.

The RN-Yuganskneftegaz field workers had been using an outdated analogue radio system. Sometimes they had little or no radio coverage and had to juggle several radios on various bandwidths to try to reach colleagues or subcontractors. Aware of the need for improved communications, RN-Yuganskneftegaz approached SAGA Telecom to deploy a new integrated digital radio system across its entire operational area. The system needed to be reliable, effective and fully scalable, so that new field workers, user groups and coverage areas could be added at any time. Safety was also a key issue. It chose Motorola Solutions' Dimetra IP network due to its proven track record in similar deployments.

Dimetra IP now provides robust and reliable communications for RN-Yuganskneftegaz. Its mobile workers can easily communicate between themselves and with staff at HQs and control centres, as well as with external suppliers and contractors. In 2011 approximately 7 million calls were made, in 2012 circa 10 million calls were made, 60 percent of which were group calls. The project has been so successful that Dimetra IP is now being rolled out to other divisions of Rosneft, including at RN-Purneftegaz, the Vankorsk deposit and the Angarsk Polymer Plant.

CUSTOMER PROFILE

Company
RN-Yuganskneftegaz LLC

Location
Russia

Industry
Oil and Gas

Partner
SAGA Telecom

Motorola Solutions Products

- 3 Dimetra IP TETRA Switches
- Over 40 Motorola MTS2/ MTS4 TETRA Base Stations
- Over 3,000 TETRA radios:
  - MTP700 FM TETRA Portable radios
  - MTP850 and MTH800 TETRA Portable Terminals
  - MTM700 and MTM800 TETRA Mobile Terminals
  - MTP850Ex and MTP810Ex ATEX TETRA Terminals
- More base stations and radios are being added every year

"The Motorola Solutions Dimetra IP network has allowed our workers, who previously used a number of different systems, to communicate efficiently and securely. The system is exceptionally reliable and we are delighted with the high standard of service levels. The system is fully scalable, constantly developing and growing, as the number of base stations and user terminals increases. The robustness of the hardware and the maximum reliability and full redundancy of the system are fundamental. We are delighted that we have been able to construct a Motorola Solutions network for one of our long term, key clients. Year on year the operational efficiency of the system only serves to prove that RN-Yuganskneftegaz made absolutely the right choice. "

Mikhail Rybachenkov, CEO, SAGA Telecom

CHALLENGE

RN-Yuganskneftegaz had used various different analogue radio networks over the years, but all had become outdated and could not offer the coverage, reliable communication, scalability and functionality required. Workers across sites were using different networks and different radios, sometimes as many as three per worker, and often struggled to communicate effectively. This wasted time, critically in emergency situations, and drove up operational costs.

SAGA Telecom's task was to implement one reliable digital network that could provide robust communications across the whole operational area for a wide range of users with varying requirements. Moreover the radios needed to be able to be used in tough, potentially explosive environments and withstand the severest weather conditions, with temperatures in the area oscillating between +35°C in summer and -50°C in winter.

SOLUTION

SAGA Telecom advised RN-Yuganskneftegaz to install a Dimetra IP system. Following intensive research and a successful pilot phase, the system was launched in 2008 and then further expanded during 2010 and 2011. SAGA Telecom provides annual maintenance on the network and 24 hour technical support.

The current network comprises 3 Dimetra IP Switches, over 40 MTS2 and MTS4 TETRA Base Stations and telephone interconnect architecture, so radio and telephone subscribers can communicate seamlessly. The switches and base stations support redundancy throughout: from site links, base radio and site controller redundancy to fully redundant switch and geographic redundancy. This ensures the mobile workers stay connected at all times.

In order to select the most suitable radios and accessories, SAGA Telecom's engineers spent two months on site at RN-Yuganskneftegaz to ascertain the requirements of the different subscriber groups. Over 3000 Motorola Solutions' TETRA Portable radios and terminals have been commissioned to date. The radios were chosen for their strong, rugged design, powerful audio, the fact that they are easy to use with gloves, and excellent battery life. Operational safety is enhanced as all the terminals support emergency calls. The MTP700 FM TETRA portable radios and the MTP850Ex and MTP810Ex terminals were selected specifically for users working in close proximity to the oil, as they are ATEX certified.

The system is constantly growing, three to five base stations and 250 – 300 terminals being added annually. The additional software features, such as GPS throttling, which can be deployed on the later generations of terminals will help manage and structure call traffic and facilitate the addition of the AVL application which is planned for 2014.

BUSINESS VALUE

Field workers can now communicate efficiently and quickly with just one terminal, wherever they are located in the oilfields. Call volumes increased by 42 percent in 2012 compared to 2011. Operator safety has improved and the productivity of the mobile team has increased significantly. The head office can stay in constant contact with the field teams, for swift redeployment and job allocation when necessary. And operators can now react to emergency situations or faults swiftly and effectively

Important cost savings have been achieved through better management of teams' time, higher productivity and faster emergency response reaction times. And essentially the less wieldy, but highly scalable infrastructure, combined with Motorola Solutions' reliability and longevity of product, ensures a seamless growth in size and performance of the system. In summary the Dimetra IP deployment has led to an increase in overall operational safety and efficiency for RN-Yuganskneftegaz and will continue to do so well into the future.

Applications
Voice and data communications between oilfield workers and staff based at HQs and control centres, as well as with external suppliers and contractors

Benefits
- **Reliable communications:** Robust communications throughout 20,000km² operational area in the most severe weather conditions
- **High capacity:** 42 percent increase in calls in 2012 compared to 2011 – 60 percent group calls
- **Improved communications:** With increased channel capacity and exceptional audio quality
- **Improved safety:** ATEX approved radios for use in potentially explosive environments and emergency call capability
- **Enhanced ROI:** Fast return on investment with the facility to easily add more capacity
- **Compatibility:** Later generations of terminals work seamlessly with earlier models to support the phased introduction of new terminals

For more information on how Motorola Solutions' DIMETRA TETRA IP networks can enhance the efficiency and safety of your mission critical operations, please visit us on the web at www.motorola.com/Business/XU-EN/Product+Lines/Dimetra+TETRA or access our global contact directory at www.motorolasolutions.com/contactus

www.motorolasolutions.com

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