



# LUKOIL- NIZHEGORODNEFTEORGSINTEZ CHOOSES DIMETRA IP COMPACT

INCREASED CRITICAL COMMUNICATIONS COVERAGE AND FUNCTIONALITY FOR RUSSIAN OIL REFINERY



## LUKOIL-NIZHEGORODNEFTEORGSINTEZ LLC

Lukoil-Nizhegorodnefteorgsintez LLC is one of the largest oil refineries in Russia. It processes about 19 million tons of crude oil piped in from deposits in Western Siberia and Tatarstan every year. Its supplies top quality gasoline and low sulphur content diesel predominantly to Russia, Central and Western Europe. Located in Kstovo, just 30 kilometres from Nizhni Novgorod, the refinery employs about 2,400 workers and extends over 1000 hectares.

Lukoil-Nizhegorodnefteorgsintez had previously used an analogue communications network. However this system had been in use for over fifteen years and needed updating with a modern system that could offer greater functionality and uninterrupted coverage in the densely built up environment of the refinery. Selecting the right network was vital, as it would be the sole form of communication at the refinery; the use of all other radio equipment being strictly prohibited due to safety requirements.

Working in close collaboration with SAGA Telecom, Lukoil-Nizhegorodnefteorgsintez has chosen to deploy Motorola Solutions' Dimetra IP Compact TETRA equipment to provide robust and reliable communication between its refinery workers, its power grid workers and contractors. Key to the decision process was the Time Division Multiple Access (TDMA) technology used in TETRA. With TDMA up to 1000 subscribers can communicate simultaneously throughout the site served by just one single switch and base station, so reducing infrastructure and costs. And finally intrinsically safe ATEX approved terminals can be used with Dimetra IP Compact; these are perfectly suited for use in the potentially hazardous environment of the refinery.

### CUSTOMER PROFILE

**Company**  
Lukoil-Nizhegorodnefteorgsintez LLC

**Location**  
Russia

**Industry**  
Oil

**Partner**  
SAGA Telecom

### Motorola Solutions Products

- 1 Dimetra IP Compact TETRA Switch
- 1 MTS4 TETRA Base Station
- Over 300 TETRA radios:
  - MTM800 TETRA Mobile Terminals
  - MTP810Ex and MTP850Ex ATEX TETRA Terminals
- Further terminals being added constantly

## CASE STUDY

DIMETRA IP COMPACT FOR LUKOIL-NIZHEGORODNEFTEORGSINTEZ

**“Lukoil-Nizhegorodnefteorgsintez has used and trusted Motorola Solutions’ analogue radio systems for years. So, when it decided to upgrade to a digital system, it was delighted when we proposed a TETRA system comprising Dimetra IP Compact and ATEX standard Motorola Solutions terminals. Motorola Solutions equipment meets the most stringent requirements when it comes to quality, reliability and security. The successful deployment at Lukoil reminds us why Dimetra IP is quite simply the communication system of choice when it comes to single site hazardous environments, such as oil refineries.”**

Mikhail Rybachenkov, CEO, SAGA Telecom



## CHALLENGE

The refinery complex is a built-up industrial area on a vast scale – in excess of 1000 hectares. Workers had often been struggling to get a reliable signal, with furnaces, fractioning columns, depots, cooling towers, pipelines and other buildings, all contributing to network interference. Moreover the terminals were outdated and offered limited functionality.

To increase workforce productivity, safety and overall operational efficiency Lukoil-Nizhegorodnefteorgsintez wanted to improve communications both within the refinery and with off-site contractors and power grid workers. It therefore needed a robust, reliable digital system that could offer excellent coverage to allow remote teams to connect to the system. As the network is the sole form of communication on site, the system needed a full redundancy option, so ensuring availability, even in the case of disasters or any component failures. And finally Lukoil-Nizhegorodnefteorgsintez required terminals which met its stringent safety regulations, due to the potentially explosive atmospheres in the area.

## SOLUTION

Lukoil-Nizhegorodnefteorgsintez chose to deploy a Dimetra IP Compact TETRA system. It already knew and valued the reliability and quality of the Motorola Solutions products. Moreover it was aware that Dimetra IP Compact had been successfully deployed at many other leading companies in the sector, such as Rosneft-Yuganskneftegaz, Vankorneft and Sakhalin-2.

The SAGA team worked with Lukoil-Inform LLC, the dedicated IT Division for the Lukoil Group. From design to installation and commissioning took just six months. It was decided to install only one Dimetra IP Compact TETRA Switch and one MTS4 TETRA Base Station,

Both the switch and base station offer full system redundancy, so ensuring continued communications at all times. Dimetra IP Compact is fully scalable, growing as the user base expands or operational requirements change. Currently 60 – 100 additional subscribers are added every year.

The terminals are ATEX certified and comply with Lukoil-Nizhegorodnefteorgsintez’s regulations for safe operation for users. To ensure personnel can communicate effectively in emergency situations, emergency call option and special emergency services subscriber groups are available for use.

## BENEFITS

Motorola Dimetra IP Compact provides secure, reliable and robust communications throughout the site and with remote third parties. Workers and contractors are now able to communicate efficiently and quickly. They can transmit data, make individual or group calls and full duplex calls to both cellular and landline phones. All in all worker productivity and overall operational efficiency at the refinery have increased.

With Dimetra IP Compact refinery and remote teams can be co-ordinated and managed quickly in case of emergencies. This has reduced response times to incidents. This, in turn, has reduced costs through damage limitation; coupled with ease of migration, lower infrastructure, installation and management costs Lukoil-Nizhegorodnefteorgsintez has seen a fast return on investment.

## Applications

- Voice and data communications between refinery workers, power grid workers, transporters, third party contractors and emergency services
- Group, individual and full duplex telephony calls
- Emergency calls and man down features

## Benefits

- **Trusted communications:** robust, reliable communications throughout a high density industrial zone
- **Cost effective system:** with a versatile IP-based infrastructure
- **Rapid adoption:** with easy to use end user radios
- **Flexible platform:** with scalable infrastructure
- **ATEX approved equipment:** to meet stringent safety requirements
- **Better safeguarding teams:** with man down / lone worker features and effective emergency procedures

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](http://www.motorola.com/Business/XU-EN/Product+Lines/Dimetra+TETRA) or access our global contact directory at [www.motorolasolutions.com/contactus](http://www.motorolasolutions.com/contactus)

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