

## Case Study

### WINGAS Selects RMG by Honeywell for Revolutionary European Pipeline Natural Gas Metering Project



“We partnered with RMG by Honeywell because the task of measuring and metering natural gas is critical. When the pipeline goes into operation, enormous amounts of gas will have to be measured and metered, and the supplies will be more than half of Germany’s annual demand.”

Klaus Haussmann, Project Manager, WINGAS TRANSPORT GmbH

#### Benefits

Germany-based WINGAS GmbH & Co. KG is embarking on a project to revolutionize the energy supply in Europe by providing a direct natural gas link between Russia and Germany. The project, called the Nord Stream Pipeline, will be completed in 2012, and construction relies on the latest technologies and safety and security measures. When it’s complete, the two parallel pipeline legs will be the longest “pipe in the water” in the world, each more than 1,200 kilometers long and carrying 55 billion cubic meters of natural gas per year. Measuring and metering such huge amounts of natural gas exactly is a challenge, so WINGAS needed a reliable partner with proven experience in the gas metering industry.

WINGAS chose RMG by Honeywell to install ultrasonic gas meters, flow computers and gas Chromatograph systems in this groundbreaking project.

Working with RMG, WINGAS was able to install advanced ultrasonic meters ensuring the highest accuracy and stability available. Benefits included

- Highly accurate measurements of gas reading data thanks to path geometry, six-path technology and signal amplitude.
- Conformance with all applicable international gas standards.
- High stability against turbulences thanks to six measuring paths in three levels.
- Long-term stability of measurements.
- Exchange of sensors without recalibration.

#### Background

WINGAS GmbH & Co. KG is a joint venture of Wintershall Holding AG, Germany's largest crude oil and natural gas producer, and Russia's OAO Gazprom. WINGAS has been active in gas distribution since 1993 and supplies natural gas to public utilities, regional gas suppliers, industrial companies and power plants in Germany and other European countries.



WINGAS relies on RMG by Honeywell for precise metering in the Nord Stream underwater natural pipeline project.

The WINGAS Transport pipeline network, which is over 2,000 kilometers long, connects major gas reserves in Siberia and the North Sea to the growing markets in Western Europe. In Germany, two pipelines called OPAL (Ostsee-Pipeline-Anbindungs-Leitung) and NEL (Nordeuropäische Erdgasleitung) will take natural gas from the Nord Stream Pipeline and feed it into the existing European natural gas grid. OPAL and NEL may well constitute the biggest energy infrastructure projects in Europe in the past few decades. They will guarantee a safe and secure supply of natural gas to Germany and Europe in the decades to come. The new connection between Russia and the European customers will be about 10 billion Euro.

### Challenge

Starting in 2011, the Nord Stream Pipeline will transform energy supply to Europe. Two parallel legs will carry natural gas from Russia to the European Union. The intention is to secure the future natural-gas demand of the EU member states thanks to a direct link between Russia and Germany. Because of the enormous amounts of natural gas involved, the biggest challenge for WINGAS is to plan and carry out precise metering of gas quantities and qualities and to handle data processing and communication safely and reliably.

“About 55 billion cubic metres of natural gas will flow through the meters every year, providing safe energy to the European market,” said Klaus Haussmann, Project Manager WINGAS TRANSPORT GmbH. “The quality of the readings must not be compromised.”

### Solution

WINGAS awarded the contract to measure and meter the natural gas volumes and qualities to RMG by Honeywell because of the company’s vast experience in the natural gas industry. WINGAS and RMG partnered closely to engineer and design the system, and have put the highest priority on measuring quality during the planning and implementation phases. The project managers of RMG by Honeywell and WINGAS cooperated closely and coordinated their schedules so as to make sure that all works are carried out smoothly and on time.

When complete, both the OPAL and NEL pipelines will be over 400 km long with a diameter of 1.4 meters each, and

will have a combined transport capacity of 55 billion cubic meters of natural gas per year. RMG is providing the following metering and measuring equipment:

**ERZ 2000 Flow Computer Series** – microcomputer for optimal flow correction, which provides parallel calculation of compressibility according to all established methods. When carrying out corrections using density and standard density, the speed of sound effect is measured and calculated.

**PGC 9000 VC Process Gas Chromatograph** – a system to analyze 11 different components and calculate calorific values, standard density, Wobbe index and density ratios of natural gases on the basis of standards and weight legislation.

**USZ 08 Ultrasonic Gas Meter** – a device for custody-transfer metering, which measures the flow velocity of the gas from which it calculates the flow rate at measurement conditions. The ultrasonic flow meter is an advanced measuring system meeting the requirements for accurate and stable measurements.

The RMG solutions will provide the following capabilities to the WINGAS Nord Stream Pipeline:

- Wide measuring ranges, allowing the ultrasonic flow meter to be used even in measuring stations where flow rates vary greatly.
- Virtually no pressure loss during operation due to the fact that no components are located within the cross section of the pipe.
- Safely protects against overloading since the gas meter has no sensitive components.
- Shortened response time due to the entirely electronic measuring method.
- High accuracy of measurement thanks to multistage correction methods.

Klaus Haussmann concluded, “When the pipeline goes into operation, enormous amounts of gas will have to be measured and metered. RMG has proven to be a very capable partner, helping to drive the success of the project.”

**For More Information**

Learn more about Honeywell's products and services visit our website [www.honeywellprocess.com](http://www.honeywellprocess.com) or contact your Honeywell account manager.

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