

Yokogawa Concludes Agreement with Statoil to Jointly Develop a Field Wireless System *Monitoring of plant noise levels in real time*

Johannesburg, South Africa – 23 February 2016 – Yokogawa announces that it has concluded an agreement with Statoil ASA, a Norwegian energy company, to jointly develop a field wireless system. Under this agreement, Statoil and Yokogawa will draw on their respective strengths in plant operations and ISA100 Wireless*1 field wireless technology to develop a system that can map noise levels in real time at Statoil's plants and upstream (exploration and production) facilities, as part of this company's Wireless Noise Surveillance Project (WiNoS). By introducing this system, Statoil will be able to obtain real-time noise information during work in noisy areas, and utilize the data for better risk control of noise exposure of personnel.

Background of the Agreement

In plants, there are many different noise sources, and the noise that is produced can have a harmful effect on workers, impairing their hearing. As noise levels often vary considerably, periodic monitoring with sensors must be done in real time and at multiple locations so that plans can be drawn up for protective measures such as restricting the amount of time workers spend in noisy work environments and requiring that they wear hearing protection.

In a wide range of industries such as energy and materials, there is a growing emphasis on health, safety, and the environment (HSE). Data acquisition systems at production sites must be able to measure and collect not only flow rate, pressure, temperature, and other kinds of production data, but also environmental data such as the concentration of a gas. Wireless technology is well suited for use with such systems. Yokogawa has a wealth of experience in developing ISA100 Wireless-based wireless communications technologies and instruments, and has provided a variety of wireless field devices as well as adapters that can transform a conventional wired instrument into a wireless device, for use in oil and gas upstream production facilities. A number of Yokogawa field wireless systems are already in use at various Statoil facilities.

Both companies now wish to capitalize on the good relationship that has been established through the provision of these field wireless solutions by working together to develop a real-time noise

monitoring system that makes use of their respective technologies and know-how.

Outline of the Joint Development

Statoil and Yokogawa aim to develop a system that will help Statoil in risk management of noise exposure and achieve compliance with the OHSAS 18001 specification*2. This system will use an ISA100 Wireless field wireless network to collect data from noise sensors distributed throughout a plant. In real time, this data will be superimposed on a map of the plant that can be viewed in a central control room or via a cloud service. The data can be saved and accessed at any time for analysis. For such applications, field wireless systems are superior to wired systems because it is easier to collect data from sensors spread out over a wide area, sensors can be installed in difficult-to-wire locations, and wiring costs are lower, even with systems that have many sensors.

Based on this agreement, Yokogawa will provide its technology and products to build the ISA100 Wireless communication system, and Statoil will utilize its expertise to determine the overall system specifications and conduct field tests. Technologies contributed by other Norwegian companies and research institutes will be used to develop the sensors and data visualization graphics.

Under this agreement, Statoil and Yokogawa will conduct field tests of this system at a Statoil offshore platform in the North Sea to confirm its viability as an HSE solution.

After signing this agreement, Masatoshi Nakahara, a Yokogawa director and senior vice president who is head of the IA Platform Business Headquarters, commented: "It is crucially important and a matter of urgent concern for company managers to optimize their management of HSE. Based on this agreement, Yokogawa will seek to develop an ideal system in Norway, Europe's largest producer of oil and gas. To achieve this HSE objective, Yokogawa will combine its wireless technology and know-how with the knowledge and expertise possessed by Statoil, a world-class energy company that is well known for its innovations in oil exploration and production technology. We believe this effort will lead to solutions that help our customers."

*1 A network protocol based on the ISA100.11a wireless communication standard for industrial automation that was developed by the International Society of Automation (ISA), and the applications necessary for its implementation. This was approved as the IEC62734 international standard by IEC in October 2014.

*2 An international occupational health and safety management system specification that was developed by organizations such as the British Standards Institute (BSI)

About Yokogawa

Yokogawa's global network of 88 companies spans 56 countries. Founded in 1915, the US\$3.5 billion company conducts cutting-edge research and innovation. Yokogawa is active in the Industrial Automation and Control (IA), Test and Measurement, and other businesses segments. The IA segment plays a vital role in a wide range of industries including Oil & Gas, Chemical, Food & Beverage, Iron & Steel, LNG Supply Chain, Petrochemical, Oil & Gas, Pharmaceutical, Power, Pulp & Paper, Refining, Renewable Energy and Water & Wastewater.

Yokogawa South Africa (Pty) Limited is an empowered South African company jointly owned by Identity Capital Partners (Pty) Ltd, a local black women-owned organisation, and Yokogawa Africa Holding BV, incorporated in the Netherlands. Yokogawa Africa Holding BV is ultimately owned by Yokogawa Electric Corporation, a Japanese company listed on the Tokyo Stock Exchange.

Yokogawa South Africa (Pty) Limited's comprehensive solutions range from sensors (such as Pressure transmitters, Temperature, Flow meters, Level and Liquid & Gas Analysers) and network solution products, to control and safety systems. This includes the software for advanced control that optimises productivity; and services that minimise plant lifecycle costs. Yokogawa South Africa's Service Training Department is accredited and proficient in theoretical and practical training for Instrumentation and Control systems from first principles. Our Internship Programme contributes to the continued technical skills improvement in South Africa.

For more information about Yokogawa, please visit the company's website www.yokogawa.com/za or contact Christie Cronje in Corporate Communications.

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