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Petroleum Development Oman Awards Yokogawa with First Major STARDOM™ Order in Middle East

Yokogawa Electric Corporation announced the award of the first major STARDOM project in Middle East estimated to be worth EUR 6 million in January 2003.

Petroleum Development Oman (PDO), a Shell operating company, awarded Yokogawa System Center Europe (SCE) with the major STARDOM order. In their quest for a new and innovative wellhead control system, providing transparent information technology from field devices to SCADA and management tools, PDO requested Yokogawa to prove, STARDOM's control and communication capabilities, in combination with FOUNDATION™ fieldbus H1 network technology and Yokogawa's FAST/TOOLS as the remote HMI & SCADA system.

Yokogawa presented PDO STARDOM's key technical benefits as:

- Flexible configuration supporting redundancy and hot swapping of I/O
- Seamless connections to secure Intranet/Internet and FOUNDATION™ fieldbus H1 networks
- Reporting and securing valuable data under extreme ambient conditions
- Remote programming, diagnostics, maintenance and management functions

STARDOM, Yokogawa's first network -based control system , is a powerful and rugged autonomous control system that combines FOUNDATION™ fieldbus H1 network-, secure Internet-, and communication technologies as well as SCADA software, to match the most extreme remote field application requirements such as local control of geographically spread-out wellheads with data acquisition in a central location.

STARDOM was field tested at one of the the world's hottest places with peak ambient temperatures well over 50°C. STARDOM allows operators to adjust and monitor field devices, process settings and monitor device alarms from a central remote position, where engineers can keep track of device alarms and performance, and also plan and predict required device maintenance. STARDOM embeds an IEC-61131 programmed control environment and a WEB server, seamlessly connecting to various Ethernet & secure Internet based networks and devices. The control as well as communications can be made redundant and I/O modules are hot swappable.

In the PDO STARDOM Project, controllers will be implemented to act as an oil well (or wellhead) control system. A wellhead control system must be able to secure valuable data collected from the well, and perform accurate control under extreme ambient conditions. It also has to provide a communication platform to Yokogawa's safety systems. The collected data must be transmitted to a remote SCADA application providing the operators with information in graph form from various wellheads. Whenever long- distance communications are disrupted, the wellhead controller will remain autonomously in control over the well and store data until communications have been re-established. With the chosen solution, PDO will let the information do the traveling, not the engineers!

For PDO, the benefits are obvious. According to Mr. Shihab Al-Barwani, Engineering Manager for the Harweel Cluster Project, "STARDOM is a rugged control solution that can be used without cooling, provides a suite of remote capabilities like predictive maintenance and is simple to maintain. By using STARDOM, we are able to save costs in maintenance and operation by minimizing the visits to wellheads, thus reducing HSE exposure for our operations staff."

By offering the FOUNDATION™ fieldbus H1 field devices like pressure and temperature transmitters, STARDOM controllers, Secure Internet communications, FAST/TOOLS SCADA, and Safety systems, Yokogawa is able to provide a total solution to PDO as a main automation contractor with single responsibility.

About PDO

Petroleum Development Oman is the major exploration and production company in the Sultanate of Oman. It accounts for more than 90% of the country's crude-oil production and nearly all of its natural-gas supply. The Company is owned by the Government of Oman (which has a 60% interest), the Royal Dutch/Shell Group (which has a 34% interest), TotalFinaElf (which has a 4% interest) and Partex (which has a 2% interest). The first economic find of oil was made in 1962, and the first consignment of oil was exported in 1967.

About Yokogawa Europe

The European headquarters were founded in Amersfoort, the Netherlands in 1982. Throughout Europe, Yokogawa has its own sales, service and engineering operations.

This dedicated network has been extended to Central and East Europe and Southern Africa to further enhance the coverage and support associated with serving the process control and automation market place. We develop and produce flowmeters at Rota Yokogawa in Germany and liquid analysers and industrial safety systems at Yokogawa System Center Europe in The Netherlands. In addition to this dedicated network of Yokogawa subsidiaries, a select organization of Test & Measurement (T&M) subsidiaries and distributors is established in certain areas to support the specific customer needs of this continuously developing and specific market of T&M instrumentation.

About Yokogawa

Yokogawa's global network of 29 manufacturing facilities, 101 affiliate companies, and over 500 sales and engineering offices span 29 countries. Since its founding in 1915, the US\$3 billion company has been engaged in cutting-edge research and innovation, securing over 4,500 patents and registrations, including the world's first distributed control system and digital flow and pressure measurement sensor. Test and measurement systems, industrial automation, and information services are the core businesses of Yokogawa. For more information about Yokogawa Electric Corporation, please visit our website at www.yokogawa.com.