M2M Applications in the Oil and Gas Industry

M2M Applications in the Oil and Gas Industry is the third consecutive report from Berg Insight analysing the latest developments on the use of wireless M2M technologies in this industry vertical worldwide.

This strategic research report from Berg Insight provides you with 140 pages of unique business intelligence, including 5-year industry forecasts, expert commentary and real-life case studies on which to base your business decisions.

Highlights from this report:

- **360-degree** overview of the M2M ecosystem in the oil & gas industry.
- **Insights** from 30 new executive interviews with market leading companies.
- **Comprehensive** overview of the value chain and key applications.
- **In-depth** analysis of market trends and key developments.
- **Detailed** profiles of 64 key players in this market.
- **Updated** market forecasts lasting until 2019.

Berg Insight’s M2M Research Series

What are the key business opportunities in the emerging wireless M2M/IoT market? Berg Insight’s M2M Research Series is a unique series of 25 market reports published on a regular basis. Each title offers detailed analysis of a specific vertical application area such as smart metering, fleet management or vehicle telematics. Once per year we also publish summaries of our research with detailed forecasts for the Global and European wireless M2M markets, respectively.

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What’s next for the M2M application market in the oil and gas industry?

M2M is an abbreviation for machine-to-machine, or technology that supports wired or wireless communication between devices. M2M technology has evolved from telemetry which is a technology that allows the remote measurement and reporting of information of interest to the system operator. Supervisory Control And Data Acquisition (SCADA) systems are centralized systems that utilize telemetry to monitor and control remote facilities. SCADA, telemetry and M2M solutions can be found throughout the oil & gas value chain including applications such as drill and well monitoring, fiscal metering and pipeline monitoring. Today, M2M and telemetry are integral parts of the broader term Industrial Internet of Things (IIoT). The oil & gas industry is characterized by remote and inaccessible facilities where wireless communication in many cases is the only viable option for transferring data. Wireless technologies such as private radio, cellular and satellite communication can provide ubiquitous online connectivity at reasonable cost and deliver very high performance, as well as excellent availability. All of these components combined enable the delivery of operations management, equipment management and regulatory compliance applications linking remote equipment and enterprise IT systems.

Berg Insight estimates that shipments of oil & gas M2M devices featuring cellular or satellite communication capabilities reached 0.12 million units worldwide in 2014. Growing at a compound annual growth rate of 21.0 percent, shipments are expected to reach 0.30 million in 2019. Compound annual growth rates for cellular and satellite based devices will be 21.1 percent and 20.6 percent respectively during the same period. The installed base of oil & gas M2M devices is forecasted to grow at a compound annual growth rate of 20.1 percent from 0.5 million units at the end of 2014 to 1.25 million units by 2019. The installed base of cellular and satellite based M2M devices in 2019 are forecasted to be 0.99 million units and 0.27 million units respectively. Berg Insight anticipates that pipeline monitoring and tank monitoring will be the top M2M applications in the oil & gas industry. On-shore well field equipment monitoring will be the most common wireless application in the upstream segment.

Major M2M companies, oil & gas M2M specialists and global industrial technology companies are active on the wireless M2M application market in the oil & gas industry. Sierra Wireless, Digi International, Calamp, OrbiComm and Numerex are major M2M players that deliver solutions to a wide range of industries including oil & gas. FreeWave Technologies is an important vendor of M2M private radio solutions to the North American upstream and midstream oil & gas market. Pason Systems and Zedi are Canadian based companies which are major vendors of specialized field instrumentation, equipment, services and M2M solutions for the upstream and midstream segments. CriticalControl, Elecsys, DataOnline, ZTR Control Systems, eLynx Technologies, Willowglen Systems, Oleumtech, AMCI Wireless and American Innovations are providers of specialised wireless M2M solutions for remote control, monitoring and automation in oil & gas. TankLink, ISA, Sensile Technologies, Silensoft, Powelectrics and Silicon Controls are major vendors of remote monitoring solutions for oil & gas storage tanks in the downstream segment. In addition to specialised M2M players, important actors are also found among global industrial companies. Emerson, Siemens, General Electric, Schneider Electric, Honeywell, ABB and Rockwell Automation are all major providers of wireless monitoring and control solutions to the oil & gas industry.

Wireless M2M solutions have become increasingly popular in oil & gas applications in the past few years. The main drivers for adoption are safety and environmental concerns, regulatory compliance and demand for improved operational efficiency. In 2014, M2M in oil & gas experienced strong growth levels. However, growth slowed down considerably at the end of the year when oil prices – which started decreasing in July 2014 – reached half of previous levels. North America is the leading region for wireless M2M in oil & gas and energy producers in the region were particularly affected by the price drops which resulted in halted investments. This change in the market has however led to an increased focus on cost savings and efficiency. New technology and solutions with a demonstrated high ROI are prioritised, especially when combined with Solution-as-a-Service business models which minimise the initial investment. Automation, remote control and monitoring are extra important in order to make it cost effective to extract, transport and distribute unconventional resources such as shale gas and tight oil.

This report answers the following questions:

- Which are the leading wireless M2M solution providers for oil and gas applications?
- What offerings are available from device vendors and service providers?
- What impact will new regulations have on the market?
- What are the key drivers behind the adoption M2M applications?
- What impact will technology advancements have on the market?
- What is the split between cellular and satellite connectivity?
- What impact will the exploration of unconventional resources have on the market?
- How will the oil & gas M2M app market evolve in the future?
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Glossary
Johan Svanberg is a Senior Analyst with a Masters degree from Chalmers University of Technology. He joined Berg Insight in 2007 and his areas of expertise include embedded connectivity, M2M/IoT markets and mobile applications.

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