

M2M Applications in the Oil and Gas Industry

M2M Applications in the Oil and Gas Industry is a comprehensive report from Berg Insight analysing the latest developments on the wireless M2M market in this industry vertical worldwide.

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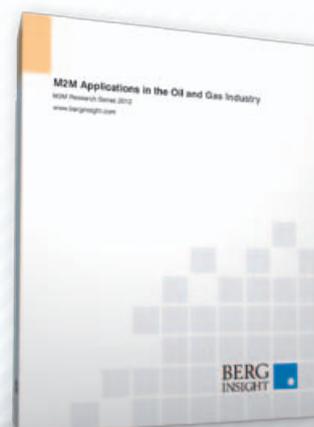
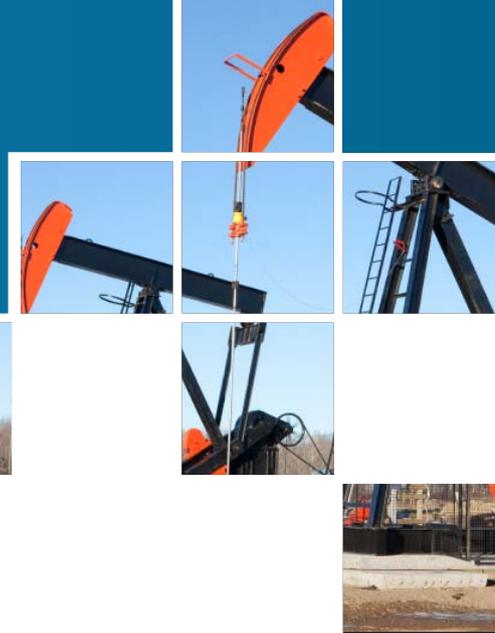
Highlights from this report:

- **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.
- **Updated** profiles of 42 key players in this market.
- **Market** forecasts lasting until 2016.

Berg Insight's M2M Research Series

What are the key business opportunities in the emerging wireless M2M market? Berg Insight's M2M Research Series is a unique series of market reports published on a monthly 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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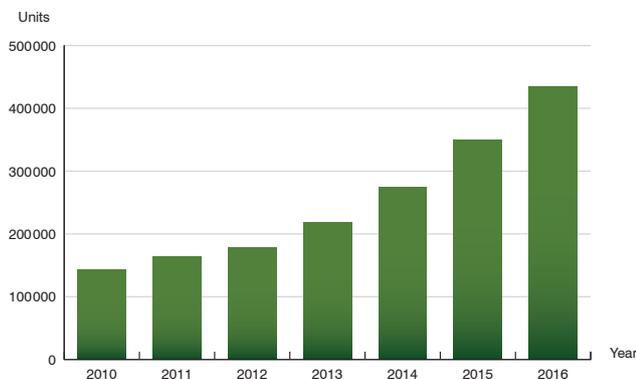
Adoption of M2M apps in the oil & gas industry will accelerate in the coming years

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.

The oil & gas industry is characterized by remote and inaccessible facilities where wireless communication in many cases is the only viable option for transferring M2M 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 is of the opinion that the market for wireless M2M applications in the oil & gas industry has entered a growth phase that will last for several years to come. Berg Insight estimates that the shipments of oil & gas M2M devices with cellular or satellite communication capabilities reached 33,000 worldwide in 2011. Growing at a compound annual growth rate of 30.7 percent, the shipments are expected to reach 126,000 in 2016. Compound annual growth rates for cellular and satellite based devices will be 32.5 percent and 26.8 percent respectively during the same period. The installed base of active oil & gas M2M devices is forecasted to grow at a compound annual growth rate of 21.5 percent from 164,000 units at the end of 2011 to 435,000 units by 2016. The installed base of cellular and satellite based M2M devices in 2016 are forecasted to be 275,000 units and 160,000 units respectively. Berg Insight anticipates that on-shore well field equipment monitoring and in-land pipeline monitoring will be the top two applications for wireless M2M in the oil & gas industry.

The worldwide market for wireless M2M applications in the oil & gas industry are dominated by global industrial automation and engineering companies including ABB, Emerson, Honeywell, Invensys, Schneider Electric ►



Installed base of active wireless M2M units in the oil and gas industry (World 2010–2016)

► and Siemens. These companies are all major SCADA vendors delivering solutions for remote automation and control to all segments of the oil & gas industry. There is an on-going consolidation trend where the larger industry groups acquire smaller specialised companies. Schneider Electric has for instance in just a few years made several acquisitions of companies specialising in wireless M2M solutions for oil & gas applications including Serck Controls, Control Microsystems and Trio Datacom. Furthermore, in June 2012, ABB acquired wireless technology specialist Tropos Networks. The company will serve as ABB's global center of excellence for wireless networking products and systems. Pason Systems, Zedi, Digi International, CSE Semaphore and Eurotech are international providers of M2M solutions. While their geographical footprints are not as extensive as the global industrial and engineering companies, these companies are more specialized and have a more focused offering of wireless M2M solutions for the oil & gas industry. American Innovations, Elecsys, FreeWave, ISA, vMonitor, Avidwireless and Mesh Systems are providers of solutions for remote control, monitoring and automation based on wireless technology such as cellular and satellite. These companies may have some international operations, but their home markets are their most important markets. This group of companies is also often specialized on a specific market vertical of the oil & gas industry, such as end-to-end solutions for pipeline or well monitoring. SkyWave, Hughes Network Systems and AV SatCom are communication service providers that also market products and solutions for remote data gathering and monitoring.

Wireless M2M solutions can help oil & gas companies to increase operational effectiveness and the companies that fare best are likely going to be those that master advanced technology. There will also be a strong focus on environmental safety in the coming years with new regulations and requirements which can be more effectively complied with using wireless M2M technology. Remote automation, control and monitoring are also key ingredients in order to make it cost effective to extract, transport and distribute emerging oil & gas products including LNG and unconventional resources such as shale gas.

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 of M2M applications?
- What impact will technology advancements have on the market?
- What is the split between cellular and satellite based M2M devices?
- What impact will the exploration of unconventional resources have on the market?
- How will the oil & gas M2M market evolve in the future?

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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, wireless M2M markets and mobile applications.

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