

# M2M Applications in the Oil and Gas Industry

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

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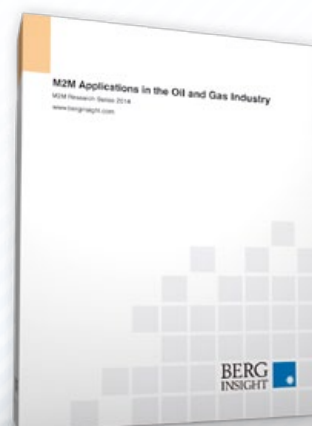
## Highlights from this report:

- **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.
- **Detailed** profiles of 71 key players in this market.
- **Updated** market forecasts lasting until 2016.

## Berg Insight's M2M Research Series

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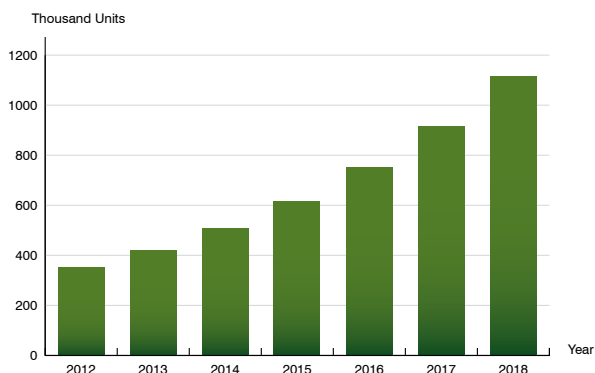
## The market for M2M apps in the oil and gas industry shows healthy growth

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 estimates that the shipments of oil & gas M2M devices with cellular or satellite communication capabilities reached 93,000 worldwide in 2013. Growing at a compound annual growth rate of 23.1 percent, the shipments are expected to reach 263,000 in 2018. Compound annual growth rates for cellular and satellite based devices will be 22.1 percent and 27.5 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 21.4 percent from 423,000 units at the end of 2013 to 1.12 million units by 2018. The installed base of cellular and satellite based M2M devices in 2018 are forecasted to be 871,000 units and 244,000 units respectively. Berg Insight anticipates that pipeline monitoring and tank monitoring will be the top two M2M applications in the oil & gas industry. On-shore well field equipment will be the most common wireless application in the upstream segment of the oil & gas market.

The market for wireless M2M applications in the oil & gas industry are dominated by a mix of major M2M companies and oil & gas M2M specialists. Sierra Wireless, Digi International and Calamp are major M2M players that deliver solutions to a wide range of industries including oil & gas. Pason Systems, Zedi and Critical Control are Canadian based ►



Installed base of active wireless M2M units in the oil and gas industry (World 2012–2018)

► companies which are major vendors of specialized field instrumentation, equipment, services and M2M solutions for the upstream and midstream segments of the oil & gas industry. SkyWave, Hughes Network Systems, Numerex, Orbcomm and AV SatCom are communication service providers that also market products and solutions for remote data gathering and monitoring suitable for the oil & gas industry. vMonitor, FreeWave, Willowglen Systems, American Innovation, Semaphore, eLynx Technologies, Telular, Oleumtech and Mesh Systems are providers of wireless solutions for remote control, monitoring and automation in this industry. ISA, Sensile Technologies, Silentsoft, 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. General Electric, Rockwell Automation and Schneider Electric are three such companies which have made substantial investments in SCADA and wireless M2M solutions aimed at the in oil & gas market in recent years.

North America is the most advanced market using M2M applications in the oil & gas industry. The region is the home of a majority of the players which are more specifically targeting the oil & gas market segment. The region has in recent years seen increased production levels of oil and gas. There are major pipeline projects across the world in which wireless M2M solutions are being used for real time remote monitoring and control applications. There will also be a strong focus on environmental safety in the coming years driven by anticipated new regulations and requirements which can be achieved more effectively with the help of M2M applications. In the downstream segments, cellular M2M solutions have been proven to be a great fit for remote monitoring of fuel and LPG tanks. 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 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

## About the Author



**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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