



IIoT Applications in the Oil and Gas Industry

5th Edition

IIoT Applications in the Oil and Gas Industry is the fifth consecutive report from Berg Insight analysing the latest developments on the use of wireless technologies in this industry sector worldwide. This strategic research report from Berg Insight provides you with 160 pages of unique business intelligence, including 5-year industry forecasts, expert commentary and real-life case studies on which to base your business decisions.

The installed base of wireless IIoT devices in the oil and gas industry to reach 18.8 million by 2028

Oil and gas operators utilise wireless industrial IoT (IIoT) solutions to increase operational efficiency, secure assets and achieve regulatory compliance throughout the entire value chain. Industrial control systems such as Supervisory Control And Data Acquisition (SCADA) and Distributed Control Systems (DCSs) are used to monitor and control remote facilities. These solutions enable operators to remotely monitor a multitude of data points such as pressure, volume levels, flow rates, temperature and operating status and conditions of various equipment at well sites, tank farms and pipeline facilities. A combination of wired and proprietary radio solutions is typically used for communications between sensors, controllers and systems, although cellular, satellite and non-3GPP LPWA technologies are increasingly used for non-mission critical applications.

Berg Insight estimates that the number of installed wireless devices featuring cellular, satellite and LPWA connectivity for oil and gas applications reached 7.8 million units worldwide in 2023. Growing at a compound annual growth rate (CAGR) of 19.3 percent, the installed base is expected to reach 18.8 million units by 2028. Remote monitoring of assets such as industrial equipment, tanks and pipeline infrastructure in the midstream and downstream sectors comprise the most common applications for wireless solutions in the oil and gas industry. The expected growth in cellular device shipments is attributed to a higher adoption rate of sensor applications based on LTE-M and NB-IoT technologies and continued preference for cellular communications in the remote tank monitoring segment. Since many remote monitoring applications have limited requirements on bandwidth, non-3GPP LPWA technologies such as LoRa can achieve a significant position on this market as well.

Internationally, the upstream oil and gas market is dominated by National Oil Companies (NOCs) and Integrated Oil Companies (IOCs), which are largely served by major industrial automation vendors including ABB, Emerson, Hitachi, Honeywell, Rockwell Automation, Schneider Electric, Siemens and Yokogawa. These companies are increasingly focusing on selling complete and integrated systems rather than individual control systems. Today, the major automation suppliers' IIoT solutions are aimed at helping customers acquire data from assets and optimise processes further through data management and analytics. Industry players that specialise in data-oriented software applications for SCADA systems and asset management include Quorum Software, AUTOSOL, eLynx Technologies, Inductive Automation, Peloton and PSI. Vendors of wireless instrumentation solutions include Banner Engineering, Endress+Hauser,

OleumTech and Pepperl+Fuchs. Providers of remote terminal units (RTUs) for SCADA applications include Ovarro, High Tide Technologies and Willowglen Systems.

Solutions for remote monitoring and tracking of assets such as wellheads, storage tanks and pipelines are also offered by a large number of specialised vendors. The market for remote tank monitoring (RTM) is led by Canadian Otodata with an installed base of about 2.0 million units. Additional providers of RTM solutions include Anova, Skybitz, Sensile Technologies, Dunraven Systems, Kingspan, PowTechnology, ATEK Access Technologies, SilentSoft and Varec. Companies specialising in remote pipeline monitoring solutions are Abriox, American Innovations, Atmos International, OmniMetrix and OptaSense. Specialists in gas leak detection include Blackline Safety and GasSecure. Asset tracking solutions for upstream, midstream and downstream operations are offered by ORBCOMM, Quake Global, Geoforce and Tektelic.

Due to the remoteness of oil and gas facilities, cellular and unlicensed proprietary radio solutions are typically used for data acquisition and backhaul communications. The largest providers of cellular IoT gateways and routers in the industrial space are Cisco, Belden, Semtech (Sierra Wireless), Digi International, Moxa, HMS Networks, Advantech, InHand Networks, MultiTech and Eurotech. While cellular solutions are today primarily used for non-mission critical applications, there is growing support for use of private cellular networks across critical infrastructure industries. In contrast, unlicensed proprietary radio solutions are today already used in mission critical applications, primarily at well sites, where wired installations are unfit. Vendors of proprietary radio modems include 4RF, FreeWave Technologies, RACOM, GE Vernova and Schneider Electric.

Installed base of wireless IIoT devices in the oil and gas industry (World 2023-2028)

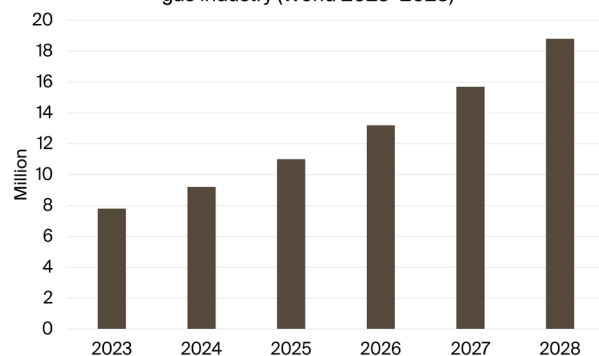


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Glossary

Highlights from the report

- 360-degree overview** of the IIoT 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 79 key players in this market.
- Updated** market forecasts lasting until 2028.

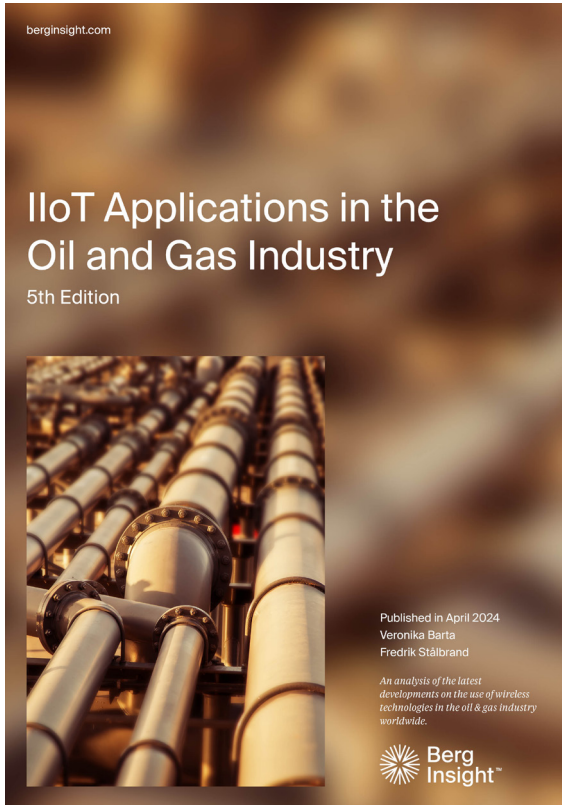
The report answers the following questions

- Which are the leading wireless IIoT solution providers for oil and gas applications?
- What offerings are available from device vendors and service providers?
- What are the main drivers and barriers for the adoption of IIoT solutions?
- What impact will technology advancements have on the market?
- What is the split between terrestrial and satellite connectivity?
- How are satellite communications providers involved in the ecosystem?
- What are the recent merger and acquisition activities on this market?



About Berg Insight's IoT market research

Our market reports offer comprehensive information and analysis on key IoT technologies and markets, addressing important concerns including total addressable market, market penetration, market shares, industry landscape, regulatory environment, market trends and forecasts. Our research portfolio today comprises more than 70 items, where each market report focuses on a specific vertical application area or cover horizontal themes. All market reports come with complementary data sets in Excel format that can be easily analysed and converted into tables and charts. We offer a range of different license options together with bundled packages and subscriptions to suit your specific needs.



INDUSTRIAL IOT

IIoT Applications in the Oil and Gas Industry

This study investigates the worldwide market for wireless IoT applications in the oil and gas industry. Typical applications include pipeline, tank and well field equipment monitoring and control. The installed base of wireless IoT devices in the oil and gas industry is forecasted to grow at a compound annual growth rate of 19.3 percent from 7.8 million units at the end of 2023 to 18.8 million units by 2028. Get up to date with the latest information about vendors, products and markets.

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Who should read this report?

IIoT Applications in the Oil and Gas Industry is the foremost source of information about the adoption of wireless IoT technologies in the oil and gas industry. Whether you are a solution vendor, oil & gas company, telecom operator, investor, consultant, or government agency, you will gain valuable insights from our in-depth research.

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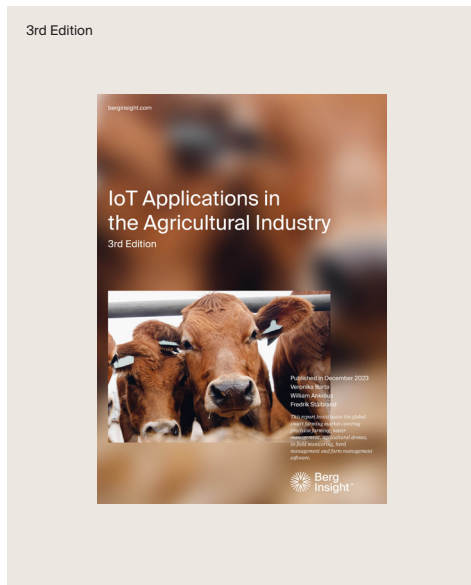


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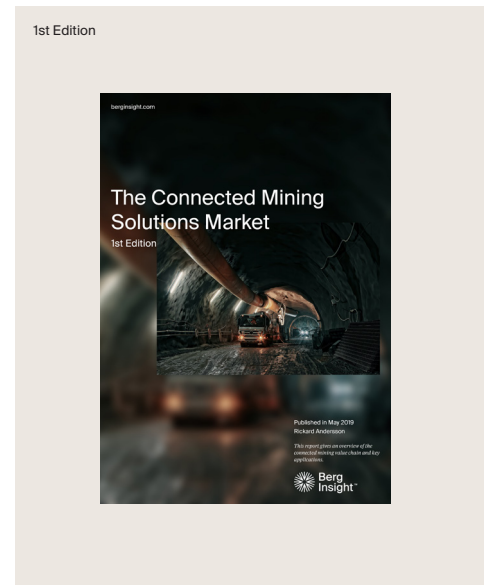
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