IoT Platforms and Software

IoT Platforms and Software is the fourth strategy report from Berg Insight analysing the latest developments on the IoT connectivity management, device management and application enablement platform markets.

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Highlights from this report:

- **360-degree** overview of the IoT ecosystem.

- **Insights** from 30 executive interviews with market leading companies.

- **Summary** of the latest industry trends and developments.

- **Updated** in-depth profiles of key players in the IoT platform market.

- **Reviews** of the market strategies of leading platform vendors.

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The IoT platform market to reach US$ 9.2 billion in 2023

IoT platforms provide developers with tools to connect and manage devices and integrate collected data into various applications and services. These platforms are intended to reduce the cost and development time for IoT solutions by providing standardised components that enterprises can build upon. The product category facilitates the growing trend away from time-consuming in-house developed and bespoke IoT solutions. Broadly speaking, most IoT platforms fall into one of the following three categories: connectivity management platforms, device management platforms and application enablement platforms.
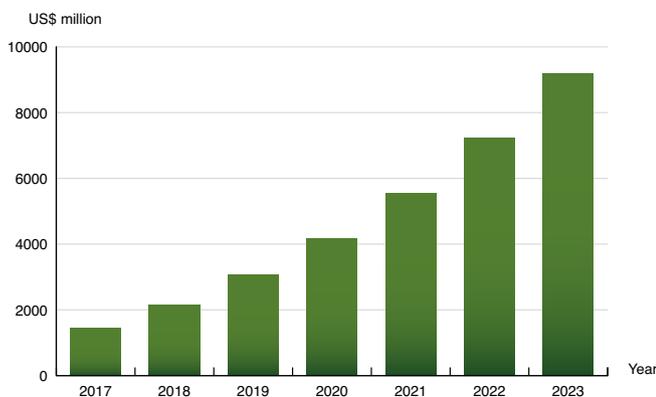
About 63 percent of the global installed base of 1.2 billion IoT SIMs were managed using commercial connectivity management platforms (CMPs) at the end of 2018. Huawei is the leading IoT CMP vendor with close ties to the domestic operators China Mobile and China Telecom and managed over 600 million IoT SIMs in mid-2019. Whale Cloud, formerly known as ZTEsoft and partly owned by Alibaba Group since 2018, is the runner up on the Chinese market. Cisco is the dominant IoT CMP vendor outside of China with 130 million connections, followed by Vodafone and Ericsson. As a response to the decline in IoT connectivity ARPUs, leading IoT CMP vendors are gradually moving up the stack to help network operators generate new revenue streams from value-added services and solutions.

IoT CMPs are also a key component in the value proposition from IoT managed service providers. Aeris and KORE have consolidated their positions as leading players in this segment, with 14 million and 11 million connections respectively in mid-2019. Several IoT managed service providers offer their solutions to mobile operators. Nokia's Worldwide IoT Network Grid (WING) service has been selected by eight operators, including AT&T and Tele2. New entrants further include Arm as well as 1NCE, which announced Deutsche Telekom as the first customer to select its IoT CMP to address high-volume, low bandwidth use cases. EMnify and Eseye are at the forefront of integrating global cellular IoT connectivity with cloud platforms, enabling customers to seamlessly incorporate IoT connectivity management controls in their IoT solutions built on public cloud infrastructure.

The market for IoT device management and application enablement platforms is in a stage of transformation driven by investments from the major cloud service providers AWS, Microsoft, Alibaba and Google. While IoT platform providers have always had ▶

▶ strengths and weaknesses in various parts of the stack, recent developments have led many vendors to re-align their solutions with a renewed focus on core capabilities. Increased focus is also being placed on interoperability, as partnerships are formed between vendors with complementing capabilities. Collaboration is also happening through open source initiatives, enabling companies across the IoT ecosystem to compete at scale by jointly developing open source components to be part of their solutions. Berg Insight estimates that the market for commercial device management and application enablement platforms grew 48 percent to reach about US$ 1.4 billion in 2018. Growing at a compound annual growth rate (CAGR) of 37 percent, the market value is expected to reach US$ 6.9 billion in 2023.

IoT platform providers span from start-ups to major technology companies, device makers and industrial software vendors. Even though consolidation is happening at a rapid pace, Berg Insight is of the opinion that a level of fragmentation in the market will remain due to specific requirements in industries such as manufacturing, utilities and automotive. In the industrial sector, PTC continues to expand, leveraging its strategic alliances with Rockwell Automation and Microsoft. Both Microsoft and AWS have recently put efforts into providing more capabilities for edge devices, while extending their reach into the industrial markets. The business software vendors SAP and Oracle increasingly focus on enabling customers to integrate IoT data to their existing business applications by adding built-in integrations and extensibility features. Asset-heavy companies like GE and Hitachi leverage their expertise in both the operational technology and information technology domains to help customers increase asset performance and process efficiency. Important IoT platform providers with high involvement in the industrial sector further include the vendors Altair Engineering, Bosch, Davra, Device Insight, Eurotech, Exosite, Relayr and Waylay. In the utilities sector, C3.ai and Nokia Software IoT have amassed large customer bases of utilities that use the companies' analytics software to enhance grid asset management. Vendors with strong device management capabilities such as Arm, Amplía, AVSystem and Gemalto also have a strong market presence within the utilities sector. In the automotive space, several large automotive OEMs have chosen commercial IoT platforms from vendors such as Alibaba, Bosch, Huawei and Microsoft to support their connected car efforts.

This report answers the following questions:

- Which trends and developments are shaping the IoT platform market?
- What are the benefits of using commercial IoT platforms?
- Who are the leading providers of IoT connectivity, device management and application enablement platforms?
- What are the main drivers behind the adoption of IoT platforms?
- Which are the leading IoT platform vendors in the major market verticals?
- What are the key features of the application enablement platforms available today?
- Which mobile operators have deployed IoT connectivity management platforms from third party vendors?
- What is the potential market size for commercial IoT platforms?

US$ million

IoT platform market value, US$ million (World 2017–2023)

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About the Author

Fredrik Stålbrand is a Senior IoT Analyst with a Master's degree in Industrial Engineering and Management from Chalmers University of Technology. He joined Berg Insight in 2016 and his areas of expertise include IoT/M2M applications in industrial markets and the agriculture industry as well as IoT platforms and hardware.

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