IoT Research Series

Retail M2M and IoT Applications

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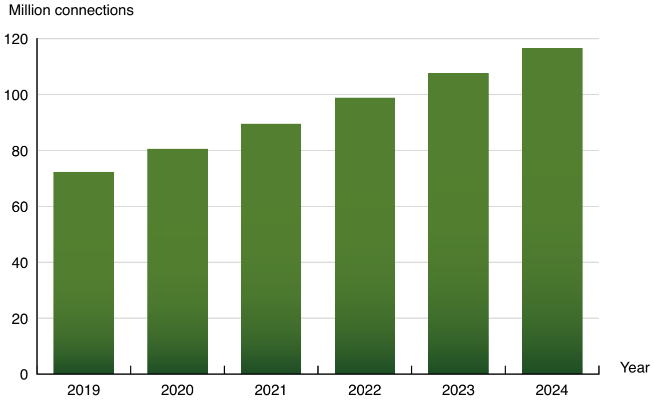
Cellular IoT connections in the retail industry reached 72 million in 2019

The retail industry is an important vertical for cellular IoT connectivity with 72.4 million cellular connections today and a total addressable market size of nearly 232 million POS terminals, ATMs, vending machines, parking meters, digital signs and fare collection devices worldwide. Berg Insight forecasts that the number of cellular IoT connections in the retail industry will grow at a compound annual growth rate (CAGR) of 10.0 percent to reach 116.6 million connections worldwide in 2024. Shipments of cellular IoT devices will at the same time increase at a CAGR of 6.1 percent from 31.6 million units in 2019 to 42.4 million units in 2024. Cellular IoT technology enables devices such as POS terminals and ATMs to be used at new locations where fixed line connectivity is unavailable or impractical. The technology has a more transformational effect on markets such as vending and parking, where machine operators need to reorganize their operations in order to benefit from the availability of real-time information.

The installed base of connected vending machines in North America reached 2.0 million units at the end of 2019, whereas the corresponding figure for EU28+2 was 1.1 million units. The market is still in an early stage as penetration rates for North America and Europe are at 49 percent and 27 percent respectively. However, vending is also one of the fastest growing segments for connectivity solutions in the retail industry, driven by demand for cashless payment and vending telemetry solutions. The North American market is projected to grow at a CAGR of 11.0 percent between 2019 and 2024, reaching 3.4 million connected vending machines at the end of the period. Similarly, the European market is forecasted to grow at a CAGR of 20.1 percent to reach 2.7 million connections by 2024.

The parking industry has been one of the earliest adopters of IoT communications technology and today approximately 60 percent of the world's 577,000 multi-space meters are connected, primarily to cellular networks. This penetration rate will continue to increase steadily throughout the foreseeable future, as nearly all new multi-space meter deployments have connectivity as a requirement. Connectivity has in contrast to this only recently become an optional feature in single-space meters and today only 10 percent of the single-space meters in the world are connected. However, connected single-space meters have recently had a breakthrough in the North American market, where mixed deployments that comprise both single-space and multi-space meters are becoming common. The share of single-space meters that incorporate connectivity is as a result now increasing rapidly and expected to reach 22 percent by 2024.



Cellular IoT network connections in the retail industry (World 2019–2024)

Cellular connectivity has become a very popular option for POS terminals and was incorporated in 44 percent of the devices shipped in 2019. The wireless technology has an important role in facilitating the global adoption of electronic payments, as it enables the rollout of POS terminals to many new market segments as well as regions where the fixed line telecommunications infrastructure is less developed. Berg Insight forecasts that the installed base of cellular POS terminals will grow at a CAGR of 9.5 percent between 2019 and 2024 to reach 103.7 million units at the end of the period, driven especially by growth in emerging markets.

Digital signage solutions have found their way into nearly every possible vertical market and a wide variety of application areas. The untapped market potential is nevertheless still vast and growth is showing no signs of slowing down. Berg Insight forecasts that global shipments of display screens for digital signage will grow from 17.2 million units in 2019 at a compound annual growth rate (CAGR) of 13.8 percent to reach 32.8 million units by 2024. Cellular connectivity is very useful for applications such as temporary signs and in locations where access to fixed line communications is not available or costly to obtain. However, cellular is expected to remain a niche connectivity technology due to the higher costs associated with the technology, especially in bandwidth-intensive applications.

Cellular connectivity is incorporated in more than 0.1 million fare collection devices worldwide today, such as on-board ticket vending machines, stationary vending machines and handheld ticket sales terminals. Berg Insight anticipates that the market potential for cellular connectivity in public transport will expand as account-based fare collection systems gain ground and increase the need for real-time communications. However, the number of fare collection devices that incorporate cellular connectivity is likely to remain relatively modest, as many fare collection devices can share a communications line with other equipment.

This report answers the following questions:

- What is the potential market size for wireless IoT communication in the retail industry?
- Which are the key applications that offer sizable business opportunities?
- Which trends and developments are shaping each vertical market segment?
- Which are the leading providers of vending telemetry solutions?
- How is the market for wireless ATM connectivity solutions developing?
- Which are the leading providers of connected parking meters?
- How many connected digital signs are there worldwide?
- What is the attach rate for cellular connectivity in POS terminals by region?
- How is the market for public transport fare collection systems evolving?

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About the Authors

Johan Fagerberg is co-founder and an experienced analyst with a Master's degree in Electrical Engineering from Chalmers University of Technology. He has during the past 24 years published numerous articles and reports about IoT/M2M topics. His areas of expertise include commercial vehicle telematics, car telematics and retail M2M applications.

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