Retail M2M and IoT Applications

Retail M2M and IoT Applications is the fifth consecutive report from Berg Insight that gives first-hand insights into the adoption of wireless connectivity in the vending, parking, ticketing, ATM, digital signage and POS terminal markets.

This strategic research report from Berg Insight provides you with 220 pages of unique business intelligence including 5-year industry forecasts and expert commentary on which to base your business decisions.

**Highlights from the fifth edition of the report:**

- **Insights** from 30 new executive interviews with market leading companies.
- **Overview** of the payment, vending, digital signage, parking, transport ticketing and ATM industries.
- **Summary** of industry trends and developments in each vertical market segment.
- **Updated** in-depth profiles of 111 key players in the retail industry.
- **Reviews** of vendor market shares and competitive dynamics.
- **Perspectives** on the impact of emerging mobile payment services.
- **Extensive** global and regional market forecasts lasting until 2020.

**Berg Insight’s M2M Research Series**

What are the key business opportunities in the emerging wireless M2M/IoT market? Berg Insight’s M2M Research Series is a unique series of 25 market reports published on a regular 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.

www.berginsight.com
Cellular M2M connections in the retail industry reached 34 million in 2016

The retail industry is an important vertical for cellular M2M connectivity with 33.7 million cellular connections today and a total market size of nearly 151 million POS terminals, ATMs, vending machines, parking meters, digital signs and fare collection devices worldwide. Berg Insight forecasts that the number of cellular M2M connections in the retail industry will grow at a compound annual growth rate (CAGR) of 10.0 percent to reach 49.2 million connections worldwide in 2020. Shipments of cellular M2M devices will at the same time increase at a CAGR of 5.6 percent from 11.6 million units in 2014 to 14.4 million units in 2020. Cellular M2M 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 1.0 million units at the end of 2016, whereas the corresponding figure for EU28+2 was 0.25 million units. The market is still in an early stage as penetration rates for North America and Europe are at 20.0 percent and 6.6 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 17.8 percent between 2016 and 2020, reaching 1.9 million connected vending machines at the end of the period. Similarly, the European market is forecasted to grow at a CAGR of 26.0 percent to reach 0.62 million connections by 2020.

The parking industry has been one of the earliest adopters of M2M communication technology and today approximately 62 percent of the world’s 524,000 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 25 percent by 2020.

Cellular connectivity has become a very popular option for POS terminals and was incorporated in more than one third of the devices shipped in 2016. 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 9.3 percent between 2016 and 2020 to reach 42.9 million units worldwide in 2020, 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 10.5 million units in 2016 at a compound annual growth rate (CAGR) of 17.3 percent to reach 19.9 million units by 2020. 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 communication. 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 communication line with other equipment.

This report answers the following questions:

- What is the potential market size for wireless M2M 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?
Executive Summary

1 POS terminals and ATMs
2 Vending machines
3 Parking meters
4 Public transport ticketing
5 Digital signage

1.1 The card payments industry
1.2 Payment infrastructure
1.2.1 Overview of the POS terminal market
1.2.2 POS terminal form factors
1.2.3 Overview of the ATM market
1.2.4 ATM form factors
1.3 Evolution of electronic payments
1.3.1 EMV migration
1.3.2 Adoption of wireless M2M communication
1.3.3 Rollout of NFC-ready terminals
1.4 POS terminal vendors
1.4.1 BBPOS
1.4.2 Brookfield Equinox
1.4.3 CVV
1.4.4 CyberNet
1.4.5 IDTech
1.4.6 Ingenico
1.4.7 Newland Payment Technology
1.4.8 PAX Technology
1.4.9 REA Card
1.4.10 Spire Payments
1.4.11 SZTT Electronics
1.4.12 VeriFone
1.4.13 Worldline
1.5 ATM manufacturers and connectivity solution providers
1.5.1 Contour Networks
1.5.2 Diebold Nixdorf
1.5.3 Digi International
1.5.4 DPL Group
1.5.5 NCR
1.5.6 OptConnect
1.5.7 Triton

2 Vending machines
2.1 Overview of the vending machine industry
2.2 Vending industry players
2.2.1 Vending technology providers
2.2.2 Vending machine manufacturers
2.2.3 Product suppliers
2.2.4 Vending operators
2.3 Payment systems
2.3.1 Coin mechanisms and bill validators
2.3.2 Cashless payments
2.3.3 Mobile phone payments and NFC
2.4 Vending telemetry and software
2.4.1 Remote monitoring of vending machines
2.4.2 Vending management systems
2.5 Connected vending machines
2.5.1 Europe
2.5.2 North America
2.5.3 Rest of World
2.6 Vending telemetry and cashless payment solution providers
2.6.1 BTX (Your Voice)
2.6.2 Cantaloupe Systems
2.6.3 Connected Molecules
2.6.4 Deutsche Telekom
2.6.5 DistriLog
2.6.6 Ingenico Group
2.6.7 Materna
2.6.8 Mecsel
2.6.9 Nayax
2.6.10 On Track Innovations
2.6.11 Prosa
2.6.12 Smarcom
2.6.13 Televen (INTIS)
2.6.14 USA Technologies
2.6.15 Vend
2.6.16 Vendwatch Telematics
2.6.17 Vianet Group
2.7 Vending machine manufacturers
2.7.1 Automated Merchandising Systems
2.7.2 Azkoyen Group
2.7.3 Bianchi Vending Group
2.7.4 Crane
2.7.5 Deutsche Wurlitzer
2.7.6 FAS International
2.7.7 Fastcorp Vending
2.7.8 Fuji Electric
2.7.9 Jofemar
2.7.10 N&W Global Vending
2.7.11 Transvendors Group
2.7.12 Royal Vendors (Coinco)
2.7.13 SandenVendo
2.7.14 Seaga
2.7.15 Sielaff
2.7.16 Westomatic
2.7.17 Wittern Group
2.8 Vending operators
2.8.1 Acramark
2.8.2 Canteen
2.8.3 Coca-Cola Amatil
2.8.4 Pelican Rouge Group
2.8.5 Selecta
2.8.6 Sodexo

3 Parking meters
3.1 The parking industry
3.1.1 Parking industry players
3.1.2 Single-space and multi-space meters in Europe and North America
3.1.3 Pay-by-phone parking
3.2 Connected parking meters
3.2.1 Mobile data communication solutions for parking meters
3.2.2 Connected multi-space parking meters
3.2.3 Connected single-space parking meters
3.3 Parking solution vendor profiles
3.3.1 Cale Group
3.3.2 Came Parkare Group
3.3.3 CivicSmart
3.3.4 Electronic
3.3.5 IEM
3.3.6 IPS Group
3.3.7 MacKay Meters
3.3.8 METRIC
3.3.9 Parkeon
3.3.10 POM
3.3.11 T2 Systems
3.4 Private parking operators

4 Public transport ticketing
4.1 Modal split of passenger transport
4.2 Bus and rail fleets
4.3 Fare collection systems
4.3.1 Fare payment
4.3.2 Fare collection devices
4.3.3 Installed base
4.3.4 Mobile data communication solutions
4.4 Fare collection system vendors
4.4.1 Bytemark
4.4.2 Cubic Transportation Systems
4.4.3 FARA
4.4.4 Indra
4.4.5 INIT
4.4.6 IVI
4.4.7 Masabi
4.4.8 METRIC
4.4.9 Scheidt & Bachmann
4.4.10 Thales
4.4.11 Vix Technology
4.4.12 Xerox

5 Digital signage
5.1 Overview of the digital signage industry
5.2 The digital signage value chain
5.2.1 Display screen vendors

6 Forecasts and conclusions
6.1 Wireless M2M in the retail industry
6.1.1 Cellular M2M device shipments
6.1.2 Cellular M2M network connections
6.2 Market trends and drivers
6.2.1 Uptake of wireless M2M in POS terminals is steady while NFC surges
6.2.2 ATMs in offtake locations benefit from cellular connectivity
6.2.3 Vending operators benefit from cashless payments and telemetry
6.2.4 The parking meter industry leads in the adoption of wireless M2M
6.2.5 Public transport ticketing will move to systems with real-time authorization
6.2.6 Digital signage is becoming an important platform for digital marketing

6.3 Market forecasts
6.3.1 POS terminals
6.3.2 ATMs
6.3.3 Vending machines
6.3.4 Parking meters
6.3.5 Public transport ticketing
6.3.6 Digital Signage

Glossary
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 21 years published numerous articles and reports about IoT/M2M topics. His areas of expertise include location-based services, commercial vehicle telematics, car telematics and retail M2M applications.

Rickard Andersson is a Senior Analyst with a Master’s degree in Industrial Engineering and Management from Chalmers University of Technology. He joined Berg Insight in 2010 and his areas of expertise include fleet management, telematics and retail IoT applications.

Berg Insight offers premier business intelligence to the telecom industry. We produce concise reports providing key facts and strategic insights about pivotal developments in our focus areas. Berg Insight also offers detailed market forecast databases and advisory services. Our vision is to be the most valuable source of intelligence for our customers.

Who should buy this report?

Retail M2M and IoT Applications is the foremost source of information about the adoption of wireless M2M solutions in the retail industry. Whether you are a device vendor, service provider, telecom operator, investor, consultant, or government agency, you will gain valuable insights from our in-depth research.

Related products

- The Global M2M/IoT Communications Market
- IoT Platforms and Software
- POS Terminals and Wireless M2M
- Public Transport ITS in Europe and North America

Order form — TO RECEIVE YOUR COPY OF RETAIL M2M AND IOT APPLICATIONS

You can place your order in the following alternative ways:
1. Place your order online in our web shop at www.berginsight.com
2. Fax this order sheet to us at fax number: +46 31 711 30 96
3. Mail this order sheet to us at: Berg Insight AB, Viktoriagatan 3, 411 25 Gothenburg, Sweden
4. Email your order to: info@berginsight.com
5. Phone us at +46 31 711 30 91

Family/Surname  Forename  Position  Company
Address  Country  Postcode
Telephone  FAX  Email

VAT is chargeable on all orders from Sweden. Orders from all other countries in the European Union must include the buyer’s VAT Registration number below in order to avoid the addition of VAT.

Your PO number  Your VAT/TV/A/IBT/MWST number

Choose type of format

- Paper copy................. 1000 EUR
- PDF 1-5 user license ...... 1500 EUR
- PDF corporate license ...... 3000 EUR

Please charge my credit card

- VISA  - Mastercard

Card number  Expiry date (MM/YY)  CV code
Cardholder’s name  Signature
Billing address
Postcode  Country

We enclose our cheque payable to Berg Insight AB

Please invoice me

Signature  Date

**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 21 years published numerous articles and reports about IoT/M2M topics. His areas of expertise include location-based services, commercial vehicle telematics, car telematics and retail M2M applications.

Rickard Andersson is a Senior Analyst with a Master’s degree in Industrial Engineering and Management from Chalmers University of Technology. He joined Berg Insight in 2010 and his areas of expertise include fleet management, telematics and retail IoT applications.

Berg Insight offers premier business intelligence to the telecom industry. We produce concise reports providing key facts and strategic insights about pivotal developments in our focus areas. Berg Insight also offers detailed market forecast databases and advisory services. Our vision is to be the most valuable source of intelligence for our customers.

**Who should buy this report?**

Retail M2M and IoT Applications is the foremost source of information about the adoption of wireless M2M solutions in the retail industry. Whether you are a device vendor, service provider, telecom operator, investor, consultant, or government agency, you will gain valuable insights from our in-depth research.

**Related products**

- The Global M2M/IoT Communications Market
- IoT Platforms and Software
- POS Terminals and Wireless M2M
- Public Transport ITS in Europe and North America

**Order form — TO RECEIVE YOUR COPY OF RETAIL M2M AND IOT APPLICATIONS**

You can place your order in the following alternative ways:
1. Place your order online in our web shop at www.berginsight.com
2. Fax this order sheet to us at fax number: +46 31 711 30 96
3. Mail this order sheet to us at: Berg Insight AB, Viktoriagatan 3, 411 25 Gothenburg, Sweden
4. Email your order to: info@berginsight.com
5. Phone us at +46 31 711 30 91

Family/Surname  Forename  Position  Company
Address  Country  Postcode
Telephone  FAX  Email

VAT is chargeable on all orders from Sweden. Orders from all other countries in the European Union must include the buyer’s VAT Registration number below in order to avoid the addition of VAT.

Your PO number  Your VAT/TV/A/IBT/MWST number

Choose type of format

- Paper copy................. 1000 EUR
- PDF 1-5 user license ...... 1500 EUR
- PDF corporate license ...... 3000 EUR

Please charge my credit card

- VISA  - Mastercard

Card number  Expiry date (MM/YY)  CV code
Cardholder’s name  Signature
Billing address
Postcode  Country

We enclose our cheque payable to Berg Insight AB

Please invoice me

Signature  Date