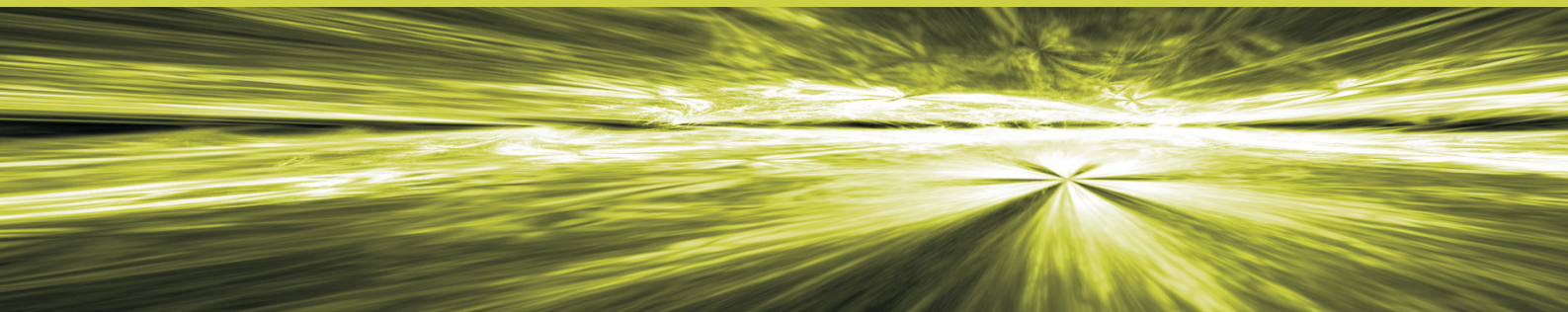


M2M ~ Rise of the Machines

This whitepaper is an extract from:

**Embedded Mobile
& M2M Strategies**
Healthcare, Telematics, Metering & Connected Buildings
2009-2014



M2M ~ Rise of the Machines

Introduction

Mobile operators are in a unique position to capitalise on the M2M (Machine to machine) opportunity with operators such as Vodafone, o2, Verizon and KPN already putting significant resources into developing M2M business units. Vodafone has established a 100 strong M2M business unit recently and Verizon Wireless has formed an alliance with Qualcomm, to cite just one or two examples.

Device manufacturers, for their part, have been focussing on the area for some time, and though the M2M device industry is far from mature and comprises thousands of small players, the pricing of M2M components has been coming down particularly over the last eighteen months to two years.

Though this will help the M2M industry develop, there are significant challenges involved in addressing the M2M market, not least the fact that there is not one M2M market but several, all of which have their own attributes and all of which are at different stages of development.

And despite rumblings and some exceptions, genuine operator interest in the area of M2M is fairly new. This is partly because the ARPU “profile” of M2M applications cannot match existing revenue models for “human” subscribers, though volumes will ultimately be substantially higher. Even operators that made an early commitment to M2M have taken some time to work through and address the various challenges that M2M presents, such as SIM reliability in challenging environments and seamless activation.

Clearly the revenues attributable to the operator in terms of connection revenue and revenue derived from services surrounding connectivity will vary according to the market concerned. However Juniper believes that connectivity will represent less than 10% of overall service revenues, while revenues associated with service enablement and device management will account for just under 20%. The remaining revenues will be associated with the service itself (the actual provision of a telematics service within a car, for example). Generally operators will not play a role in this part of the overall market, though some are considering it.

Several industries account for the lion’s share of current deployments as well as the lion’s share of M2M connections and revenues:

- Connected buildings: site and building management monitoring and security
- Mobile connected smart meters
- Consumer vehicles with onboard M2M systems: mobile connected vehicles
- Commercial telematics: mobile connected vehicles
- Healthcare: Monitored Individuals

It is clear from the outset that each of these vertical markets is at a different stage of development and some will move faster than others. Several other industries such as vending, retail and banking, ATMs (Automatic Teller Machines), point of sales services (POS), agricultural applications and a host of applications that are here now or will be invented over time.

A Market in its Own Right

The M2M industry holds significant potential if it is considered as a stand-alone opportunity with different characteristics from the standard mobile business. Though operators are beginning to “take ownership” of the M2M area, which has until now been the domain of resellers and MVNOs (Mobile Virtual Network Operator) there are major potential stumbling blocks for operators, not least the challenge involved with establishing reliable links with thousands of devices from a large universe of device manufacturers.

Nevertheless, this is in fact where the operator has a unique advantage: most operators if not all, through their network of roaming agreements, have a virtually global presence. Many, like Vodafone, have an existing list of corporate customers to up-sell M2M services.

For most applications, the provision of pure connectivity, however, will not be enough to generate revenues in any volume, since traffic volumes are often very small. Mobile carriers therefore need to establish a revenue stream from new services that surround basic connectivity such as service enablement and device reporting. It is even better if they can achieve a slice of the revenue from the service which is being offered.

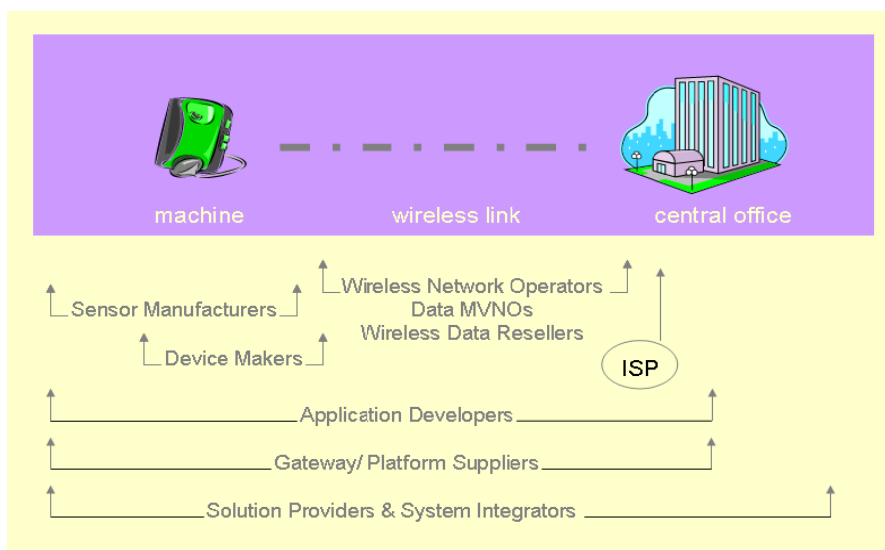
Market Fragmentation

Market fragmentation could turn out to be a significant inhibitor to the M2M industry. The M2M marketplace is fragmented in two respects:

- Vertically, there are opportunities in a wide range of industries
- Horizontally, the complexity of the supply chain necessitates a range of specialist skills which means that no one supplier can deliver an entire solution on its own.

Figure 1 shows which supplier types are involved in the different parts of the supply chain.

Figure 1: The M2M Supply Chain



Source: Juniper Research

Because it is only a question of time before all industries will be using some form of M2M to a lesser or greater extent, vendors are likely to choose to specialise in providing integrated solutions for a single industry segment, expanding their capabilities to cover more of the supply chain. Secondly, vendors could choose to specialise in the one area they know. In both cases, the overall M2M market will remain fragmented. This in turn could make it harder for M2M to become main stream in the foreseeable future.

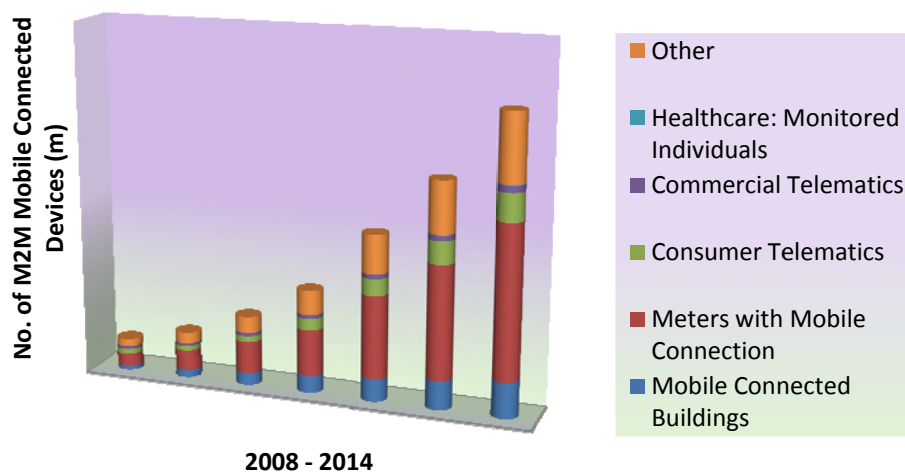
The possibilities for M2M are only limited by the practicalities of installation and theoretically any machine can be linked to a communications network and report on its state. A September 2008 report entitled the “Internet of Things”, by the European Union refers to “a vision of the future Internet where connecting physical things, from banknotes to bicycles, through a network will let them take an active part in the Internet, exchanging information about themselves and their surroundings. This will give immediate access to information about the physical world and the objects in it – leading to innovative services and gains in efficiency and productivity.” While we are some way from this Nirvana, M2M is the basis on which this vision will be born.

M2M Forecasts by Category

Juniper Research believes that the number of mobile connected devices will rise to almost 412 million by 2014 with several distinct markets accounting for the increase in their number.

The markets include: utility metering, mobile connected buildings, consumer & commercial telematics and vending, retail & banking connections. These areas will all show substantial growth in both device numbers and in the service revenues they represent, while healthcare monitoring applications for individuals will begin to reach the commercial roll out stage from 2012.

Figure 2: Number of Mobile M2M Connected Devices (\$m) Split by M2M Category 2008-2014



Source: Juniper Research

Order Full Report

This whitepaper is taken from the **Embedded Mobile & M2M Strategies Healthcare, Telematics, Metering & Connected Buildings 2009-2014** report which provides providing extensive market intelligence and forecasts for five key sectors within the M2M marketplace: Smart Metering and Industrial M2M Applications, Telematics and In-vehicle Applications, M2M in the Healthcare Sector, Connected Home and Buildings, Other M2M Areas such as Retail and Banking.

Key forecasts include: penetration rates of smart meters, number of consumer vehicles with on-board M2M systems, service revenues from health monitoring, M2M connected buildings revenues and revenues from connected device in retail and banking.

As well as detailing market developments across key M2M industries, the report details operator and vendor initiatives in the M2M market place as well as the market status, drivers, inhibitors, trends and recommendations for the industry as a whole.

Key questions the report answers:

- How are operators addressing the mobile M2M market?
- Which areas of the M2M market will be responsible for the greatest number of connected devices?
- Which areas within the M2M market will hold the greatest revenue potential?
- Why is M2M reaching the top of the agenda for mobile operators now?
- What role will technologies such as NFC, Zigbee, WiFi and Bluetooth play in the M2M landscape?
- What different strategies can operators employ when addressing the M2M market?

For more details on this report visit the website www.juniperresearch.com or phone +44 (0)1256 830002.

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