Summary

Executive summary

M2M is an abbreviation for machine-to-machine, or technology that supports wired or wireless communication between devices. The abbreviation is also sometimes used to stand for man-to-machine, meaning communication between a man operated device and a machine. Wireless M2M comprises all wireless network technologies, even though the term is generally used in reference to systems connected to cellular networks. This report is exclusively aimed at describing and analysing wireless M2M based on commonly used wireless wide area network technologies such as GSM/GPRS/EDGE, UMTS, Mobitex, Paknet and TETRA.

There are billions of devices in Europe that could potentially be networked using fixed or wireless technologies. Generally, the cost of connecting a device to a GSM/GPRS network must be justified by the perceived value of the information it communicates. The most obvious cases are remote monitoring of mission critical equipment or tracking of very valuable assets. This type of applications however tends to be deployed in relatively small volumes. Mass market opportunities only exist in segments where valuable information can be generated by a large population of devices. Examples of this are found in the utility, transportation, security and retail industries. Europe has 336 million energy meters, 219 million passenger cars, 31 million commercial vehicles, 7 million monitored alarm systems, 6 million POS-terminals and 3 million parking and vending machines. Altogether these segments represent a potential market of over 600 million wireless M2M connections.

The European wireless M2M market is to a large extent driven by massive deployments in the energy, transportation and security sectors. Meter reading is the leading high volume application with demand driven by regulations and growing competition on the European energy market. The Nordic countries are leading the way with requirements for monthly reading of all electricity meters due to take effect in Sweden by 2009. Leading energy companies in Sweden, as well as Denmark, Finland and Norway, are increasingly looking

towards GPRS as the main technology for communication with residential utility meters. Vehicle telematics constitute the second largest market segment for wireless M2M communication in Europe. Telematics is gradually being adopted for a range of different applications, so far primarily in the commercial vehicle segment. Germany's GSM/GPS based Toll Collect motorway toll system is the largest deployment of vehicle telematics in Europe, covering 500,000 heavy trucks. Pay-as-you-drive insurance and car anti-theft are the first applications to become successful in the passenger car segment. According to a proposal by the European Commission, an eCall GSM/GPS safety device could become mandatory in all new cars sold in the EU from as early as 2009.

Siemens Wireless Modules is the world leading supplier of wireless modules for M2M applications. Wavecom has reinforced its second place in the market with the top spot within reach, following the acquisition of Sony Ericsson's M2M business in early 2006. Meanwhile, Telit has emerged as the main challenger on the European wireless modules market with an aggressive growth strategy.

Mobile operators are positioning themselves differently in the M2M value chain. Most of them are actively or passively limiting their role to provide network connectivity services. T-Mobile and Vodafone consciously pursue this strategy on most of their markets. France Telecom and Orange have a broader approach to M2M and are looking to establish their group as a complete end-to-end solution provider at the European level. Several MVNOs and MVNEs have also established themselves as providers of wireless M2M connectivity services and solutions on the European market. Many of them, including Netsize, RAM Mobile Data, Wireless Maingate and Wyless are filling in a gap left by operators on the international or national markets. Others such as BT Redcare provide complete M2M solutions for specific segments.