

Summary

Executive summary

Metering is a fundamental enabler for the utilities industry. At the beginning of 2009, there were approximately 253 million electricity meters; 109 million gas meters and 3 million district heating meters in EU23+2. Electricity reaches virtually every household and business in the whole of Europe, while gas is most widely used in the Netherlands, the UK, Italy, Germany, France and Poland. District heating is a significant energy source in the Nordic countries and Central Eastern Europe. The residential sector is the second largest final user of energy, accounting for about 30 percent of consumption.

As part of the efforts to build a sustainable energy system, the traditional mechanical utility meter must be replaced by a smart device. These so called smart meters are a core element in the vision for smart grids – intelligent energy networks that contribute to improved efficiency and reliability in energy distribution and better optimisation in allocation of resources and utilisation of assets. Smart metering solutions may incorporate a wide range of applications in the fields of remote meter reading, customer relationship management, demand-side management and value added services. Remote meter reading is the core application, providing the data recorded by the meter to the metering system operator, which could be the DSO or an independent party. Smart metering solutions can also be used to support customer relationship management and demand-side management (DSM), as well as enable various value added services in for instance home automation.

The adoption of smart metering in Europe is to a large extent driven by regulations. A majority of the countries in Western Europe have adopted a policy of regulation-driven introduction of smart meters. Sweden was first, followed by the Netherlands, Ireland, Norway, France, Italy and Spain. The UK and Finland were the latest countries to announce regulated rollouts in October 2008 and February 2009 respectively and Denmark seems likely to move in the same direction. Furthermore nationwide projects led by publicly owned energy companies are underway in Portugal and Malta. Except for Italy where the rollout is already almost complete,

the larger countries have long timeframes. France and Spain have deadlines at the end of the 2010s, while the UK has set the target date to 2020. The common energy policies of the EU, based on the 20/20/20 targets, play an important role in this development. The 3rd Energy Package, approved by the European Parliament in April 2009, proposes that – subject to an economic assessment – 80 percent of all electricity customers should have smart meters by 2020. Furthermore it defines guidelines for supplier-changes, energy consumption information and service quality level monitoring which are very difficult to meet without smart meters.

Italy was the first European country where smart meters were deployed at a massive scale in the first half of the 2000s. By 2011 all Italian electricity customers will be covered by the technology. Sweden however became the first country to achieve 100 percent penetration in July 2009 following a regulation driven rollout. The other Nordic countries are following with Finland and Norway looking to introduce smart metering legislation by 2013, while Denmark has seen strong uptake of the technology without any regulatory requirements. Spain and Ireland are expected to display high volumes from 2011, with France and most likely Portugal following in 2012. By 2013 these countries alone will account for more than 70 percent of total shipments. Elsewhere in Europe the market prospects are more uncertain. The UK is likely to see the start of large-scale deployments of smart meters within the next five years given that no unexpected events cause delays. The Netherlands appeared to be on track for a nationwide rollout starting already in 2010 but with the recent political setbacks the implementation of smart meters is now delayed until 2013 by the earliest. Germany is not likely to see any major market developments in the short term but it appears likely that some of the large DSOs will go ahead with large-scale installations by the mid-2010s, regardless of the regulatory situation. The market prospects in Central Europe are uncertain, but there are good reasons to believe that the pilots and early deployments seen today will evolve into major projects by the mid-2010s.

Summary

Executive summary

Telematics is a broad term that may be applied to a wide range of automotive IT solutions. Berg Insight's definition of a car telematics solution in this report is an automatic system designed for passenger cars which incorporate some form of wireless communication via a wide area network. The history of car telematics can be traced back to the first stolen vehicle tracking systems based on RF communication using unlicensed frequency bands, which appeared on the market in the 1980s. Subsequently mobile networks have enabled true online connectivity with two-way communication at the same time as GPS technology has been commoditised to the extent that high-accuracy satellite positioning can be integrated into virtually any device. Today a standard telematics unit features GPRS, GPS and frequently also some kind of interface to the electronics systems of the vehicle. This kind of device may be used as a platform for one or several types of applications.

Several categories of car telematics applications are today offered on a commercial basis. These include eCall and driver assistance, SVR, connected navigation, motor insurance telematics, road charging, leasing and rental fleet management and vehicle diagnostics. eCall and driver assistance applications deliver value in the form of improved safety and better convenience when travelling. SVR facilitates recovery of the car in case of theft and frequently entitles the owner to insurance benefits. Connected navigation enables access to up-to-date map data and other online services. Motor insurance telematics combines SVR with innovative business models such as PAYD (Pay-As-You-Drive). Road charging is gaining momentum as a new method for financing privately operated motorways, raising tax revenues and tackling congestion. Leasing and rental fleet management gives owners better control over hired-out vehicles and enables new forms of contracts. Vehicle diagnostics allows car manufacturers, dealers and workshops to improve their service offering to car owners.

The automotive industry has two traditional tracks for new innovations to reach the market. One is the car manufacturers (OEMs) who can offer new functionalities as factory-installed standard or optional features. The other is aftermarket vendors that develop products which can be installed by car-owners regardless of brand or model. In many cases there is a parallel development of both OEM and aftermarket products. After many years of dominance for aftermarket products there now seems to be a shift in Europe towards OEM solutions, driven by eCall and developments on the international market. There is now for the first time a good rationale for automotive industry players to create global telematics platforms for a host of applications that can be easily adapted for the requirements in different regions.

Until now OEM telematics propositions have so far largely failed to make a significant impression on the European market. Availability is still restricted to a handful of brands and models on selected markets. PSA and BMW are the most active players in the market, bundling telematics services with navigation, audio and Bluetooth handsfree products. Recently they have upgraded and extended their offerings to cover most of Western Europe. PSA is also the first car manufacturer to have announced the introduction of an eCall device as a standard feature on selected models from 2010. Fiat, Volvo Cars and premium brands such as Porsche, Jaguar and Land Rover have also been active on the market for some time. In 2010 and 2011, Berg Insight anticipates that additional brands will launch OEM telematics solutions on the European market in response to the eCall initiative within the EU. The European Commission has a strong commitment to introducing eCall as a standard feature in all new cars and recently set 2014 as the new target date for realising this vision – through regulations if necessary.

The aftermarket telematics market has felt the impact of the economic crisis and the decline in new car sales. Particularly SVR sales are linked to the demand for exclusive cars. The adoption of motor insurance telematics has also slowed down as the initial success in Italy proved difficult to transfer to additional markets. Insurance providers are however now established as an important distribution channel for aftermarket telematics providers and MetaSystem/Octo Telematics, which first developed it, is firmly established as the leading supplier.

Summary

Executive summary

Fleet management is an ambiguous term used in reference to a wide range of solutions for different vehicle-related applications. Berg Insight's definition of a fleet management solution is a vehicle-based system that incorporates data logging, satellite positioning and data communication to a backoffice application. The history of fleet management solutions goes back several decades. On-board vehicle computers first emerged in the 1980s and were soon connected to various satellite and terrestrial wireless networks. Today mobile networks can provide ubiquitous online connectivity at a reasonable cost and mobile computing technology delivers very high performance, as well as excellent usability. All of these components combined enable the delivery of vehicle management, transport management, driver management and mobile workforce management applications linking vehicles and enterprise IT systems. Furthermore the same technology platform can also be used for electronic toll collection.

Commercial vehicle fleets play an essential role in the European economy. According to official statistics there were 33.9 million commercial vehicles in use in EU23+2 in 2006. The 6.0 million medium and heavy trucks accounted for more than 75 percent of all inland transports, forming a € 250 billion industry. Approximately 0.7 million buses and coaches stood for 9.3 percent of all passenger kilometres. Last but not least, the greater part of the 27.2 million light commercial vehicles (LCV) in Europe was used by mobile workers and for activities such as distribution of goods and parcels.

Berg Insight is of the opinion that the European fleet management market has entered a growth period that will last for several years to come. However the market is not unaffected by the global economic downturn and there is a widespread concern in the industry that decreasing investments will slow down the adoption of new technology. Decision makers are more likely to delay projects and require even shorter payback periods on capital

investments. A growing number of companies may not have the organisational or financial resources needed for successful implementation of a fleet management solution. Furthermore many existing telematics users, for instance in the construction industry, will be forced out of business. Fortunately for the industry, there will however be an even stronger focus on cost efficiency and the companies that fare best in the hard times are likely going to be those that master advanced technology.

Berg Insight expects that the penetration rate for fleet management will continue to increase 2009 and 2010, although at a slower pace than previously anticipated. Individual markets may however suffer temporary setbacks, depending on the local economic developments. The number of fleet management systems in active use is forecasted to grow at a compound annual growth rate of 20.5 percent from 1.1 million units at the end of 2008 to 3.3 million by 2013. The penetration rate in the total population of non-privately owned commercial vehicles is estimated to increase from 3.1 percent in 2008 to 9.3 percent in 2013.

A diversity of international aftermarket solution providers compete for the top positions on the European market. These include specialists such as Cybit, Minorplanet, Navman Wireless and Trafficmaster from the UK, Masternaut from France, Digicore and MiX Telematics from South Africa and Punch Telematics and Transics from Belgium, as well as the large corporations GE and Qualcomm. The navigation vendors TomTom and Garmin are also active on the market, employing strikingly different strategies. Trimble is a new entrant on the European fleet management market but has a leading position in North America following the acquisition of @Road in 2007. Masternaut is ranked as the largest player overall in terms of installed base with 100,000 units deployed, mainly in France and the UK, while Transics is ranked as number one in the heavy trucks segment with about 55,000 units installed.

All major truck manufacturers on the European market offer OEM telematics solutions as a part of their product portfolio. Mercedes-Benz, Volvo and Scania launched their first products in the 1990s and followed by MAN in 2000, Renault Trucks in 2004, DAF Trucks in 2006 and IVECO in 2008. The products are all supporting the FMS standard and can generally be deployed in mixed fleets even if some functionality can be brand-specific. A major trend in 2008 has been the announcement of solutions for remote downloading of digital tachograph data.

Summary

Executive summary

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 360 million energy meters, 255 million motor vehicles, 8 million security alarm systems and 6 million POS-terminals. Altogether these segments represent a potential market of over 600 million wireless M2M connections.

Berg Insight estimates that the number of active SIM-cards in use for wireless M2M applications in EU23+2 will reach 14.1 million at the end of 2008. This means that the total number of mobile network connections used by machines now equal that of a medium-sized European country. Until 2013, the number of wireless M2M connections is forecasted to grow at a compound annual growth rate of 33.0 percent, reaching 52.0 million at the end of the period. Currently energy meters are estimated to account for the largest installed base, ahead of private and commercial vehicles. By 2013 the automotive sector is projected to account for 61 percent of the number of wireless M2M connections Europe. Energy meters will remain the second largest application area ahead of security alarms and POS-terminals. Growing adoption of remote equipment monitoring will also generate a substantial number of wireless M2M connections for other types of assets and products from virtually all manufacturing industries. In light of the recent economic turmoil it is however important to note that the wireless M2M market is sensitive to fluctuations in shipments of products such as motor vehicles, energy meters, security alarms, POS-terminals and miscellaneous machinery and equipment.

Adoption of wireless M2M has been growing rapidly across Europe in the recent years. Berg Insight estimates that the number of active SIM-cards in use for wireless M2M applications in EU23+2 was 12.3 million at the end of Q2-2008. This corresponded to 2.2 percent of the total number of SIM-cards in the region. Sweden and Finland stood out from the rest of the European countries with M2M accounting for 13.4 percent and 7.7 percent respectively of all mobile connections. Other countries with high ratios of M2M connections were Denmark with 3.8 percent and Spain with 2.7 percent. All other countries were in the range of 1–2 percent. In absolute terms, Italy constituted the largest geographical market with 1.9 million connections, followed by Germany and the UK with 1.8 million and 1.7 million respectively. Other markets with one million connections or more were Sweden, Spain and France.

Even if wireless M2M is a B2B market in the sense that products and services are sold to enterprise customers, the underlying demand is in fact to a large extent driven by consumer markets. That is particularly true for the largest projects that involve hundred thousands of devices. Nine out of the ten largest wireless M2M deployments in Europe are consumer-oriented. These include smart metering projects in Sweden, Finland, Italy and the Netherlands; pan-European vehicle tracking solutions for private vehicles; OEM car telematics solutions from major car brands and the largest solution for monitored security alarms in Europe. Only the German truck road charging system Toll Collect cannot be classified as a consumer-oriented application.

Berg Insight believes that the wireless M2M network service value chain will undergo a significant transformation in the coming years. Until recently the world's largest mobile operator groups have shown limited interest in M2M. Top global players such as Vodafone, Telefónica and Deutsche Telekom have not yet formulated any official group strategies for exploiting the new market opportunities. Current business development and marketing efforts are primarily being made by relatively small teams on individual markets. One notable exception is Telenor which is actively addressing the international M2M market through the new business unit Telenor Connexion, launched in October 2008.