

Summary

Executive summary

Metering is a fundamental business enabler for companies in the utility sector. Regardless whether a utility distributes energy in the form of electric power or gas, or water, there is an inevitable need to measure the consumption for each customer. That is the purpose of energy and water meters. Meters continuously register a customer's consumption of electricity, gas or water. At regular intervals, the meter is read by the utility providing the service. Readings are then used as basis for energy and water bills. Traditionally meter reading has been done manually at intervals of up to one year or more. Recently many utilities have to some extent delegated this task to their customers by enabling self reading by phone or Internet. Still readings must however regularly be checked by the utility to prevent fraud. Information technology and data communication networks however eliminate the need for manual readings and enable utilities to design systems that monitor meters constantly. The concept has been developed for several decades and is known as automated meter reading, or AMR.

There are around 230 million electricity meters in the EU member states plus Norway and Switzerland. Around 13 percent of the installed base will have communication capabilities by the end of 2005. Italy and Sweden will become the first countries in the world to complete the transition to remote meter reading in the electricity industry during the coming three to four years. Denmark and Finland display increasing market activity with several large scale projects underway by leading market players. Norway is developing more slowly, but is likely to be heavily influenced by developments in other Nordic countries. In other parts of Europe there has been little activity so far, apart from in the industrial customer segment. Annual costs for reading electricity meters in the EU are estimated to at least € 2.5 billion and possibly much more. Costs for traditional manual meter reading are difficult to assess since there arguably are hidden costs related to the practice. A complete transition to automated meter reading throughout Europe would require investments of over € 20 billion by the utility industry.

AMR systems where meters communicate directly with the utility over mobile data networks can potentially add a higher number of new connections to cellular networks than virtually any other type of wireless M2M application. Each connection however only generates a very low amount of data traffic. Monthly traffic revenues will in most cases not exceed the cost of one data transmission by SMS or similar. The year 2004 marked a major breakthrough for cellular technologies in the Nordic AMR market where GSM/GPRS is now the most popular communication platform. According to existing plans, almost 1 million household metering points in the region will be connected to GSM or GPRS data networks by 2010.

Even though the absolutely largest AMR project in Europe is being carried out in Italy by Enel, the Nordic countries – Sweden, Denmark, Finland and Norway – are attracting the most interest as early indicators of the future European AMR market. While Enel virtually has a nationwide monopoly on the Italian market, the Nordic countries are characterised by an unusually high number of power utilities, which make the market for AMR solutions very competitive. While the market was opened up by the decision in Sweden to require monthly readings of all electricity meters from 2009, it is worth noticing that many of the leading power utilities in the neighbouring Nordic countries have voluntarily decided to introduce AMR on a large scale for its business benefits.

The metering industry value chain comprise a variety of players, ranging from manufacturing companies that produce electricity meters to IT and communication solution companies that integrate metering equipment with utility customer management systems. The European electricity meter market is dominated by four major meter suppliers – Landis+Gyr, Actaris, Elster and Iskraemeco – which have a combined market share of over 60 percent. Power distribution companies are the principal end users of metering solutions. Leading players in the European market include the international energy groups EDF, Enel, E.ON, Endesa and RWE.