Water – the next frontier for M2M?

Machine-to-machine (M2M) communications and the Internet of Things (IoT) continue to dominate the telecom world and will certainly continue to be a growing trend to industry and government for the next 5 to 10 years. However, with changes comes challenge.

Agriculture Water Monitoring

Presently there is a lot of focus on how M2M and IoT advances sectors such as smart cities, transportation, smart grid, and consumer technologies because of the benefits that include cost and operational efficiencies as well as an improvement in the way we live. With good reason these are regarded in special favour, but there are other areas that also gain the same benefits with M2M. Here lies the challenge. With an infinite number of things to choose, which should be the priorities in this timeframe? When looking at infrastructure sectors, many are focussed on the benefits for the electricity market but it is also vital to closely monitor and meter water.

Water Loss – a big problem for the EU

According to the European Commission (EC) water leakage from distribution networks is as high as 50 percent in certain parts of Europe while the European Water Partnership believes the number is closer to 70 percent in some areas. Unfortunately, there is no room for waste at this scale. Water scarcity affects at least 11 percent of the European population and 17 percent of EU territory. Since 1980 the number of severe droughts in Europe has increased dramatically and has cost an estimated € 100 billion.

Solving the water supply issue requires a multi-faceted approach. Infrastructure needs to be updated and public perception and usage patterns need to be altered. M2M technologies also have a role in supporting better management and improving efficiency.

Cutting losses with leak detection and meter readings

Leakage detection technologies are available to utilities to reduce water loss. These include acoustic, thermal or electromagnetic equipment to detect water escaping a pipe. Another way to detect leaks is to measure the flow of water using meters within customer buildings and detect unusually high water meter readings. Utility managers can also compare water volumes discharged from treatment facilities with the volume passing through system zone meters and customer meter readings to detect leaks. M2M communication technology embedded in water meters allow actual consumption to be sent regularly in real-time and analysed. If there is a discrepancy, utility managers can more easily pinpoint the location of the leaks and repair.

The market potential for water monitoring and metering is big. Frost & Sullivan estimated that the European market could be worth up to $13.4 billion by 2020. While much of this revenue will come from meters and installation, data and network management will also contribute to the revenue numbers.

Agriculture – promoting technologies for efficiency

Looking at the relationship between water and agriculture is another way to balance the water equation. According to the EC, on average, 44 percent of Europe's total water abstraction is used for agriculture.

M2M solutions that use leaf and soil moisture sensors allow growers to make informed decisions about when and for how long to irrigate fields. Wise water consumption allows for better yields and lower operating costs. Data can also be used to optimize fertilizer and pesticide application and reduce water pollution from leaching.

Sustainable water management is possible with M2M technologies. Prioritizing the connection of water meters, agriculture sensors and other utility assets is essential for our survival.

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