

Summary

Executive summary

The registration and collection of water meter data has historically constituted a highly resource-consuming manual task, requiring professional meter reading personnel to visit each individual metering point to optically register meter consumption values on a periodical basis. Automated meter reading (AMR) solutions which enable wireless walk-by or drive-by meter reading operations have over the years automated the work of meter reading personnel to some extent and are today commonplace within water metering operations. Throughout the past two decades, advanced metering infrastructure (AMI) solutions aimed at addressing the shortcomings of AMR by instead leveraging a fixed communications network infrastructure have evolved. By enabling high-frequency readings of detailed meter data while also allowing for direct two-way communications with the utility backoffice, AMI solutions open up entirely new possibilities for water utilities to make substantial enhancements of operational efficiency, reduce non-revenue water (NRW), and greatly improve water conservation schemes. Today, the term smart metering has become a buzz word within the water sector that is to be considered synonymous with the concept of AMI.

North America today constitutes the leading market for both AMR and AMI solutions globally and had at the end of 2019 an installed base of 76.3 million active water utility AMR and AMI endpoints, representing a penetration of around 73 percent. AMI accounted for 32.7 million of the installed endpoints, equalling an AMI penetration of around 31 percent. Berg Insight forecasts that the number of water AMI endpoints in North America will grow at a compound annual growth rate (CAGR) of 13.5 percent to reach 70.1 million units in 2025. Large-scale deployments of AMI started to gain traction in the region some 10 years ago and have since grown steadily with multiple projects covering more than 100,000 endpoints now completed.

Europe is meanwhile the second largest market for AMR and AMI solutions and had at the end of 2019 an installed base of 56.1 million active water utility AMR and AMI endpoints, translating into a penetration of approximately 39 percent. Less mature than the North

American market, Europe had in 2019 a total of 13.4 million AMI endpoints installed, representing an AMI penetration of around 9 percent. The number is however forecasted to grow at a CAGR of 18.3 percent to reach 36.7 million units in 2025. France and Spain have historically been the primary markets for water AMI solutions in Europe, but markets such as Italy, the UK and the Benelux are now also emerging as major water AMI markets.

A variety of proprietary and open-standard communications technologies are today used for water AMI deployments. In North America, proprietary RF networking platforms have completely dominated the market and accounted for more than 97 percent of the installed base of AMI endpoints in 2019. Meanwhile, various proprietary and open-standard RF technologies based on the EN 13757 standard accounted for around half of all AMI endpoints installed in Europe. The category includes Wize, which constitutes the single most deployed technology for water AMI in Europe. Other proprietary RF technologies that are not based on EN 13757 accounted for another 42 percent of the European deployments. Optimised for cost-sensitive and mission-critical IoT applications, LoRaWAN and 3GPP-based LPWA technologies are now also emerging as real contenders within the water AMI markets – particularly LTE-M in the US and LoRaWAN and NB-IoT in Europe. At the end of 2019, open-standard LPWA technologies such as LoRaWAN and Sigfox connected 0.8 million AMI endpoints in Europe and this number is forecasted to grow at a CAGR of 53.0 percent to reach 10.4 million in 2025. Cellular communications meanwhile accounted for around 2 percent of the installed base in both regions and is also forecasted to see massive growth throughout the forecast period, primarily driven by 3GPP-based LPWA deployments.

The water AMI and AMR markets in Europe and North America are largely served by local or regional players and only a few companies such as Itron, Sensus (Xylem), Honeywell, Kamstrup, the Arad Group and the Minol-ZENNER Group have managed to establish a major presence in both regions. As of mid-2020, the top 5 water AMI endpoint vendors in North America in terms of installed base were Sensus, Badger Meter, Itron, Aclara (Hubbell) and the Neptune Technology Group (Roper Technologies). The top 5 water AMI endpoint vendors in Europe comprised Diehl Metering, Birdz (Veolia), Itron, Sensus and Kamstrup. The SUEZ subsidiary SUEZ Smart Solutions also constitutes a key player in the European water AMI market by having been instrumental to the development and deployment of Wize technology.