

The experience is being developed in collaboration with the leading mobile telephony operators and meter manufacturers

Canal de Isabel II develops pilot project for standardising remote reading of water meters

- This project is based on the use of the communications standard, NarrowBand Internet of Things (NB-IoT)
- It will enable the hourly monitoring of water consumption in different areas of the Community of Madrid
- Customers of the public company will be able to obtain full and detailed information regarding their consumption

01AGU18 – Canal de Isabel II is developing a pilot project to assess and standardise a system for the remote reading of water meters using the communications technology, NarrowBand Internet of Things (NB-IoT). This is the first experience of this scope and with this depth of study to be developed in Spain, and involves the leading communications operators and meter manufacturers.

This initiative forms part of the Canal de Isabel II Strategic Plan 2018-2030 and will allow the public company to offer its customers full and detailed information about their consumption, detect possible incidents or water leaks in interior installations and increase efficiency in the management and operation of its distribution network.

The pilot project came about in early 2017 when Canal placed a public announcement for the collaboration of communications operators and meter manufacturers to test the use of the communications technology, NB-IoT (NarrowBand Internet of Things), a recent standard, as a solution for the remote reading of water meters compared to other options. The process ended with the signing by Canal de Isabel II of three collaboration agreements with Contazara as the manufacturer of meters and with the three major telephony operators: Vodafone, Telefónica and Orange.

At present, the largest pilot project is being developed with the communications operator, Vodafone, and the meter manufacturer Contazara. This has enabled the hourly remote reading of almost 1200 meters around the different geographical districts of Madrid. The information collected by these meters is transmitted by wireless through the public mobile telephony network using NB-IoT technology. In this respect, this technology significantly improves energy consumption with the wireless transmission of information and increases the capacity of the system and its spectral efficiency. This is particularly useful in the so-called «deep cover»: increased scope and penetration of

cover, more suitable for basements, meter rooms or other locations that are not easily accessible using radios and the current technologies, as well as permitting the batteries powering the equipment to last for years. Tests are due to take place shortly with the other participating mobile telephony operators: Movistar and Orange.

This project is included in one of the major strategic lines of the company for 2018-2030, and is in fact one of the star plans of these strategic lines, specifically seeking to strengthen commitment to and proximity with the user. Until now, the lack of standardisation in the remote reading systems available on the market has prevented Canal de Isabel II, who has to ensure the maximum possible participation in its tender procedures, from developing a project of this nature.

CUSTOMERS WILL HAVE FULL AND DETAILED INFORMATION ABOUT THEIR CONSUMPTION

The ultimate objective of this project is to offer customers more detailed and fuller information about their consumption habits, helping them to detect possible incidents in their installation which might lead to a water leak and, consequently, reducing the impact of this type of incident on their water bill, as well as encouraging a more environmentally-friendly and efficient consumption. But this system also provides Canal de Isabel II with more information in order to achieve the most efficient management and operation of the distribution network possible. The objective is to guarantee the sustainable management of an essential and limited resource such as the water of the Community of Madrid. For more than a decade, the public company has been studying the use of advanced remote reading technologies which improve their commercial operations and the services provided to their customers in the Community of Madrid.

For Vodafone, this agreement is one step further in the development of applications using the NB-IoT technology. «The results obtained in recent months, with respect to the success in the reception of meter readings and battery consumption, would indicate that NB-IoT is a feasible technology for use in this area. The application of this technology will lead to the improvement of processes which not only affect the metering of the consumption and operation of the water network, but also the relations with customers and a better understanding of the use made of this resource», says Daniel Barallat, IoT Country Manager for Vodafone España.

With the emergence of the NB-IoT technology, which is a communications technology led by the 3GPP organisation, in which the communications infrastructures are managed by the commercial telecommunications operators, this aspect will be resolved. In addition, initially this technology offers better and bigger cover, by increasing the degree of penetration in interiors, and reducing the energy consumption of the devices. These aspects are essential for when the water meters are in complex locations such as basements or underground meter rooms, without the possibility of an electricity supply.

Canal de Isabel II was founded more than 165 years ago to supply water to the city of Madrid, and currently more than 2500 employees work to provide a service of excellence to more than 6 million people in the Community of Madrid. It is an innovative company, a leader in its sector, and internationally recognised for its management of the integrated water cycle. It operates 13 reservoirs; 78 spring tapplings; 14 drinking water treatment plants; 17,556 kilometres of conveyance and distribution channels; 131 pumping stations for drinking water and 133 for waste water; 14,956 kilometres of sewage networks; 65 storm tanks; 157 waste water treatment stations; and 588 kilometres of reclaimed water channels.

Press release