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THE ROLE FOR EARTH OBSERVATION AND IOT INTEGRATION IN THE FUTURE
MANAGEMENT OF WATER UTILITY "SMART GRID" INFRASTRUCTURE

Abstract

Adoption of "Smart Water" meters is currently transforming how water resources are used, billed and conserved across the Water Value Chain.

In this sense both digitisation and digital sensor technologies are set to enter rapidly accelerated growth. The adoption of the "Smart Water meter" technology based on an Automated Meter Reading (AMR) systems as well as Advanced Metering Infrastructure (AMI) replaces the analog meters with computerized systems that report usage, pipeline asset condition and leakage levels over interconnected digital datastreams and interfaces.

Already now, at the early stage, these smart water technologies offer game-changing advances in the ability to control resources, manage utility businesses and operate large scale networks. As the water utilities industry is upgrading its networks to advanced levels of system intelligence, real-time network visibility, energy efficiency, and customer management, this digital transformation, coupled with the advancement of IoT and sensor networks will open new opportunities for the satellite services providers to integrate their solution with the AMI technology systems.

In particular what is promising are the benefits of digitisation of the water network infrastructure for leakage management. Integrated systems can help utilities reduce Non-Revenue Water (NRW) by allowing them to accurately pinpoint leaks and potential theft. This can result in tremendous saving of billions of litres of water and operational cost savings by water utilities (estimated to costs governments and utilities approximately 14billionannually).

This paper will discuss the state of art in using the AMI "smart water" sensor technology, demonstrate the added value of satellite applications (EO and communication) to complement ground sensors networks as well as provide the analysis of the market entry barriers for EO data analytics suppliers including lack of integration of data supply chains within existing data infrastructures of the water utilities.