Satellites to help predict and detect leaks in clean water pipelines

- Telespazio UK awarded ESA contract on Earth Observation
- Telespazio UK is one of the organisations through which Leonardo engages with the UK market
- The project will engage UK water supply companies, major civil engineering water service companies, regulators, and agencies

Telespazio UK, a subsidiary of Telespazio – a joint venture between Leonardo (67%) and Thales (33%) – has been awarded a European Space Agency (ESA) contract for the use of Earth Observation to predict and detect leaks in clean water supply pipelines. Telespazio UK will lead a team with Earth-i and Alqami.

The project focuses on the development of three complementary new space-enabled services to support a more robust, repeatable, accurate and independently verifiable performance metric in relation to clean water leakage.

The three space-enabled services to be implemented as a joint solution are:

1. Predictive analysis of water pipeline structural health
2. Early warning related to water pipeline interference

Both optical imagery and synthetic aperture radar (SAR), as well as other data such as soil moisture indices, will be collected and analysed to investigate the feasibility and viability of such services.

The project is engaging all UK water supply companies, major civil engineering water service companies, regulators, and agencies. Overseas stakeholders will also be engaged in the project.

The proposed services aim to deliver better-informed and effective protective services than are currently available by providing water companies with a service into their operational framework for managing their strategic water leak reduction targets at or above 15% by 2025 (OFWAT), and allowing focused infrastructure upgrades based on greatest needs prioritisation, hence better management of maintenance costs and capital investments.

This project kicked off in May 2020 and runs for nine months until February 2021. Subject to the project proving the viability and feasibility of the services, the aim will be to run a more comprehensive demonstration project, co-funded by ESA and the project partners, to lead onto a commercial service offering.

Marco Folino, CEO of Telespazio UK, said: “We are excited to be part of this new and evolving way of using space-enabled data. We are proud to be collaborating with ESA and the UK water industry in developing a more robust and accurate way of detecting early, clean water leakages.”

Telespazio is uniquely positioned to leverage its wider geoinformation group competencies and data analytics thanks to the know-how and experience of e-GEOS (a joint venture between Telespazio and the Italian Space Agency) and to the COSMO-SkyMed satellite constellation for earth observation (funded by the Italian Space Agency and the Italian Ministry of Defence).

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