Artificial Intelligence in the service of urban flooding prevention [1]

One of the most widespread impacts of climate change will be the increased frequency and severity of urban flooding due to peaked storms with intense rainfall. This has the potential to impact thousands of citizens throughout Europe.

Horizon 2020 CENTAUR project provides an innovative solution to this problem through the cost-effective technique for alleviation of urban flood risk that has developed. CENTAUR™ is an intelligent, autonomous, localised system which uses existing drainage network storage capacity for urban flood risk reduction and similar applications.

It uses data driven approaches to develop real time control strategies to activate existing in sewer storage at the local scale. Sophisticated computational techniques are combined with specially designed flow control devices to reduce flood risk.

Award winning technology

- It uses storage capacity within existing infrastructure at low cost or in situations where space

and capital are not available. This capacity is targeted at reducing flood risk, environmental impact, and/or energy consumption.

- Short deployment times that require little planning permission, avoiding the disruption of large civil engineering schemes.
- It is self-managing and autonomous. System operation can be observed on the web, showing live system status and integrity.
- The system is modular and extensible. It can be implemented gradually where several CENTAUR™ systems form an intelligent wastewater network.
- The system has been designed with multiple fail-safes. This results in net reduction of risk rather than transferring risk upstream.

The CENTAUR™ system has been successfully installed and working in Coimbra, Portugal, managing peak flows and reducing flood risk in an important area of the city.

This technology was recently awarded the 'Most Innovative New Technology of the Year' at the 2018 Water Industry Awards, a prestigious event that celebrates and rewards outstanding achievement and innovation in the UK water industry.
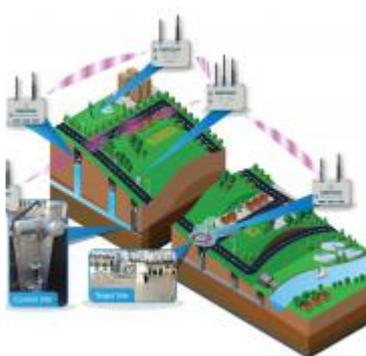
As the project approaches its end date, a dissemination event will take place on the 11th July 2018 in Paris at Veolia premises.

Register for the event. [2]

Background information

CENTAUR [3] is a three-year research project (Innovation Action) funded under Horizon 2020 that started its activities on 1st September 2015. It involves 2 Universities (University of Sheffield and University of Coimbra), one research centre (EAWAG Aquatic Research), 2 SMEs (Environmental Monitoring Solutions and Steinhardt GmbH) and 2 water utility companies (Veolia and Águas de Coimbra E.E.M).

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[4]

[5]

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