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LAUNCH of SPACE-O, the decision support platform

The Space-O platform will be launched as part of the showcase event "Using Space Enabled Water Quality Forecasting in Decision Making" (ref:8122) during World Water Week in Stockholm.

- **Wednesday 29 August 2018**
- **12.00-12.45h**
- **Room: NL 253**

Convenors: International Water Association, Swedish Meteorological and Hydrological Institute, EMVIS Consultant Engineers S.A., EOMAP GMBH & CO KG, EUROPEAN DYNAMICS BELGIUM SA, CONSIGLIO NAZIONALE DELLE RICERCHE, Organization for the Development of Crete S.A., Ente Acque della Sardegna.

Space technology for wise water management

- ***Closing the knowledge gap with space technology for wise water management***
- ***An international multidisciplinary research consortium develops a digital support platform powered by a satellite system for water quality forecasting***

Stockholm, Sweden, 29. August 2018. The Space-O project (https://www.space-o.eu/) funded by the European Union's Horizon 2020 Research and Innovation Programme is launching a decision support platform connecting physical and digital worlds by combining satellite technology with advanced hydrological, hydrodynamic and ecological modeling, in-situ monitoring and citizen science.

According to the FAO, global fertilizer use is likely to rise above 200.5 million tonnes this year[1], it contributes significantly to freshwater pollution and impacts the full water cycle. SPACE-O provides tools for water quality forecasting including turbidity and algal blooms in reservoirs. This information can then be used to optimize drinking water treatment operations. Obviously many other water quality dependent activities from recreation to aquaculture to hydropower can benefit as well.

From Space to tap: A platform combining satellite technology with local knowledge

Starting in 2016, an international team of experts from EMVIS Consultant Engineers., Swedish Meteorological and Hydrological Institute (SMHI), EOMAP, European Dynamics, Consiglio Nazionale Delle Ricerche (CNR), and the International Water Association (IWA) joined together to harness technology and tackle drinking water challenges through the SPACE-O project. The tools developed were tested in two pilot sites through the local utilities of Crete and Sardinia (Organization for the Development of Crete S.A., and Ente Acque della Sardegna).

[1] Source: http://www.fao.org/documents/card/en/c/db95327a-5936-4d01-b67d-7e55e532e8f5/

SPACE-O uses from Copernicus –the European Union's Earth Observation Programme– satellite imagery to develop tools that are useful and *usable* by local water utilities worldwide. These tools include:

- **Water Information System** Combines in situ measurements, satellite images and modeled hydrological, hydrodynamic and ecological data to fill in the information gaps of water quality in space and time and to produce short term water quality forecasts (up to 10 days) with high spatial and temporal resolution.
- **Early Warning System** - Indicates incidences of water quality deterioration that potentially have high impact on downstream water utility services.
- **Water Treatment Plant Optimization** - Provides specific water treatment options based on forecasted raw water quality and advanced machine-learning algorithms for improving efficiency in both drinking water quality treatment and financial performance.
- **Catchment Risk Assessment** - Provides a method for water managers to identify hazards within the upstream catchment area and asses the level of risk to their water systems.
- **Improve my Water** - A citizen science platform to report, administer and analyze local water issues.

"Water managers can use these tools to take proactive action such as blending water from other connected reservoirs so as to mitigate or moderate evolving algae bloom events" says Ms. Maria Antonietta Dessena from ENAS.

SPACE-O, a free digital solution in the water sector challenges the mind-set

The Space-O platform is open source and free of charge. The utilities only need to invest in tailoring it to their needs. Sophisticated technologies are available just not always accessible: "The costs are not the main limiting factor when you want to achieve a digital transition. The challenge is the change of mentality" says Alkiviadis Giannakoulias, software engineer from European Dynamics,. Space-O streamlines available but complex technologies to make them actually accessible to those that need them.

"Bringing breakthrough technology and pioneering initiatives to the water sector is IWA's aim by supporting this innovation", states Kala Vairavamoorthy, Executive Director at IWA. "We strongly believe that the joint effort is the model that will help to foster and enhance wise water management not only in the pilot countries but worldwide."

ENDS

Access the Space-O platform (in English): https://portal.space-o.eu/portal/
Download information about the tools and pilots: https://www.space-o.eu/

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The International Water Association is a global knowledge hub for water professionals and anyone concerned about the future of water. It has a sixty-year heritage connecting water professionals worldwide to find solutions to the world's water challenges as part of a broader sustainability agenda. As a non-profit organisation with members in more than 130 countries, the IWA connects scientists to practitioners and communities so that pioneering research delivers sustainable solutions. It further fosters technological innovation and drives best practice through international frameworks and standards.