

A common vision for European Water Innovation



Dear WssTP friends,

The month of October has gone by fast, with WssTP busy on a number of fronts! Let me start with WssTP's active role in several key events of this month, as the European Week of regions and cities, the EU Conference on "Nature-based Solutions: From Innovation to Common-use", the Watersus Congress 2017 and the G-STIC Conference 2017 on which a detailed article follows below.



Urban Water Pollution: Emerging challenges and scenarios

By Jan Hofman, leader of
the WssTP WG Urban
Water Pollution



Same time, we are also getting ready for the first meeting of the newly elected WssTP board that will be held from the 2nd to the 4th of November at KWR premises in the Netherlands. Among the top items on our agenda is the next Framework Programme for Research and Innovation (FP9) and WssTP's strategy to make water clearly visible in FP9 as a key global challenge. With our new WssTP Vision 2030 and SIRA as a solid ground to step on, WssTP has set the shaping and positioning of water in the future FP9 among its main tasks for the next three years.

In parallel with this, the new Horizon 2020 draft Work Programmes 2018-2020 have been published on the [EC's website](#), with the value of water being clearly reflected in these preliminary versions. Such news cannot but make our diligent and continuous work at raising the profile of the water topic well worth the effort. At this stage, WssTP has analysed the draft Work Programme 2018-2020 and has identified 90 water-relevant calls which will be presented at Water Knowledge Europe (WKE) 2017.

That being said, the preparations are heating up for our annual H2020 Brokerage & Working Group Event (WKE) that will take place on 29-30 November in Brussels. A compelling agenda of three key sessions is now taking its final shape, enabling participants to get a thorough analysis of the calls, present their own project ideas and establish new partnerships through the targeted matchmaking session. On the 30th of November, WssTP Working Groups will be in the limelight presenting their latest advances of their Working Groups, their current activities, as well as their annual work plan for 2018.

This week, WssTP will make its presence felt at the Amsterdam International Water Week conference, where I am going to moderate the workshop 'New tech ventures and upscaling'. The workshop aims at identifying success factors that allow the use of a technology to be replicated in different locations, ensuring, at the same time, that the right skills are developed through capacity building. The new WssTP Water Vision 2030 will be also distributed on-site. I am looking forward to meeting you there!

Tomas Michel
WssTP President

Water is central to the development of urban areas. Water quantity and water quality are, in all aspects, related to how people live in the city and how water is managed. The Working Group Urban Water Pollution has its focus on water pollution in urban areas, either groundwater or surface waters. Urban water pollution can have many causes: combined sewer overflows, hard surface run-off, accidental spills and industrial activity are all well-known causes for urban water pollution and obviously, the Working Group pays attention to them. Nevertheless, we can look beyond these obvious pollution causes. Two examples are given below:

The first example of a less obvious, but increasingly important aspect on urban water pollutions is the effect of forest fires. Large forest fires are in the news all the time, especially during hot and dry seasons. Fires are reported on a large scale throughout Europe. In 2017 Portugal, France, Spain, Greece, Italy, Montenegro, Croatia, Bosnia but also The Netherlands were hit in the past summer season. Forest fires can have a big impact on water quality, also for urban areas. Smoke and particles contain many organic pollutants (Soot, PAHs etc) that can be deposited in urban areas and urban waters. Changed soil characteristics after a fire, can increase the mobility of all kinds of minerals, leaching into the water. Also, when the vegetation alters, erosion and sediment transport may significantly change after a fire, changing hydrological effects in a whole region. The effects of forest fires on urban waters and their pollution is of increasing importance with increasing pressure from climate change.

A second example is where urban water pollution can be used to monitor public health in a city. New 'water fingerprinting' technology developed by researchers at the University of Bath to test a city's water could soon be mitigating infectious disease, limiting the spread of antibiotic resistant "superbugs" such as E. coli, and enabling authorities to monitor the overall health of the public. This will enable government health professionals to identify early on any risks to public health and therefore attempt to mitigate potential widespread crises such as pandemics and infectious diseases.

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Connecting the early warning system to sensors and ICT could deliver a very sensitive way to monitor and improve public health.

These two examples indicate that urban water pollution goes beyond the obvious run-off pollution one thinks in the urban context. The Working Group is inviting for further discussion on these or similar innovative topics and finding ways to establish a solid research programme around them. Find out further information regarding meetings on this topic at the Water Knowledge Europe event, 29-30 of November 2017. For more details, please contact the [WG Urban Water Pollution](#).



WssTP representatives shared their insights on the topic through the session 'Smart Water perspectives from UN members countries' on the second day of the event.

Andrea Rubini, WssTP Scientific and Policy Manager spoke about the Digital water agenda of the EU water sector, laying stress on the Digital Water concept from the new WssTP Water vision 2030, while Gaetano Casale from IHE Delft, leader of the WssTP WG 'Water Beyond Europe' presented the new WssTP Water vision and Afrialliance project. Among the top messages arising from the session on Smart water were that:

- In-situ and remote sensing data collection are complementary technologies. Both are needed. Combining them with predictive models enables reliable information and reduces the need for assumptions.
- Provide an enabling environment to encourage cities, agriculture and industry to adopt new business models – safeguarding the human right to water. Governance structures and multi-stakeholder partnerships are needed to recognize and embrace the true value of water.
- Water is an essential part of solutions towards smart cities, tackling climate change and implement circular economy loops. The nexus needs recognition and action planning.

To learn more details about G-STIC Conference, please click [here](#).



WssTP at G-STIC Conference 2017! What are the take-home messages?

The first edition of G-STIC (Global Science, Technology and Innovation Conference) was successfully concluded last week in Brussels, bringing forward innovative technological solutions that can potentially have a large impact on the achievement of the SDGs and climate change goals. The activities in G-STIC 2017 were organized and structured in 12 thematic areas, including 8 thematic clusters, of which WssTP is glad to have actively contributed to two core ones: 'Wastewater as a resource' & 'Smart Water'.

Wastewater collection and treatment as we know it, is increasingly no longer fit for purpose. One of the key messages of the conference was the need for new models and technologies that can significantly reduce the demand for resources, generate fewer emissions and produce less waste. In this regard, Durk Krol, WssTP director highlighted the first day of the conference that the value IN water remains largely unexploited and that we need to capture it in order to have good quality water available for all its societal functions, and to reduce our pressure on fresh water sources. The development of a circular water economy that exploits heat, energy, nutrients, minerals, metals, chemicals, etc. in used water was also emphasized, making us realise, once again, that circular economy can turn problems that cost money into solutions that are cost-neutral, or that may even generate profits.

When it comes to Smart water, the G-STIC conference concluded that ICT is a basic prerequisite to realise the SDGs and create opportunities that support sustainable lifestyles and production processes.



EU project **Screecap** demonstrates resource efficient sewage treatment with finescreens!

The EU funded Screecap project (2014-2017) demonstrates for the first time at full scale a promising finescreen technology to recover suspended solids from waste water on the basis of particle size. The demonstration takes place at the WWTP Aarle-Rixtel of Waterboard Aa en Maas (the Netherlands).

Finescreens have potentially significant advantages in comparison with existing solid separation technologies based on density differences. These benefits include a significant reduction of chemicals and energy demands and the opportunity to recover energy and other resources (primarily cellulose) for subsequent valorisation.

The WWTP Aarle-Rixtel has two identical treatment lanes that can be operated independently. This setup allows an accurate comparison of the impact of the finescreens on the downstream processes.

Questions about this newsletter? Contact us: durk.krol@wsstp.eu
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Join WssTP!

Would you like to become one of the key players in the European water sector, make an impact on the EU Water RTD&I strategy or collaborate with a pan-European network of leading water organisations? With 178 members currently on board and a constant growth since its creation in 2007, WssTP is the platform to join! As a WssTP member, you can benefit from our key services areas:

- **Fostering collaboration** through Working Groups activities and meetings, Brokerage events, Water Innovation Europe Conference & online tools;
- **Intelligence for members:** Policy Watch, Member's newsletter, WssTP Observatory, Help Desk Function;
- **Communication and Dissemination** with monthly newsletters, website, social media, press releases, SME awards;
- **Advocacy for public funding and water:** advises EC on drafting funding calls, strategic policy work for water, WssTP Water Vision and SRA, Management body for MEP Water Group.

First results after almost a year of operation showed that approximately 12% less aeration energy is needed and approximately 6% less surplus sludge is produced, while the sewage treatment performances and effluent quality are comparable in both WWTP purification lanes. First results after almost a year of operation showed that approximately 12% less aeration energy is needed and approximately 6% less surplus sludge is produced, while the sewage treatment performances and effluent quality are comparable in both WWTP purification lanes.

The Screencap consortium (KWR, CirTec and Waterboard Aa and Maas) together with a network of European partners is currently exploiting this first full-scale demonstration as a reference for further application of the Screencap technology in Europe and beyond. To learn more, please visit [Screencap's website](#). For more, please contact with [Kees Roest](#).



Welcome New Members

POLITECNICO MILANO 1863

Politecnico di Milano, Italy

The department of Civil and Environmental Engineering has recently been set up by a group of professors willing to share their knowledge in the fields of land surveying, hydraulics, hydraulic and costal constructions, health and environmental engineering, analysis and design of structures and infrastructures, engineering geology, applied geology, earthquake engineering and the conservation of heritage buildings. Its aim is to put forth the knowledge of Civil and Environmental engineering, so that the problems of the sectors can be dealt in an integrated way. The department has also experience in teaching and research (experimental & modelling) on the following broad topics: Water-Energy-Food nexus, Climatic extreme events, water and ICT, Water quality: sensors and biosensors, wastewater: sludge dewatering and solid liquid separation etc. For more information, please click [here](#).



Kajaani University of Applied Sciences, Finland

KUAS prepares, hosts and contributes to several RDI projects related to water management and novel technology solutions about on-line monitoring and water purification solutions. Its core expertise areas are 1) industrial water monitoring and treatment, 2) fresh water supply monitoring and management and 3) novel monitoring solutions for waste water and sludge management incl. anaerobic digestion. For more information, please click [here](#).

AGENDA

30 October-2 November 2017
Amsterdam International Water Week

7-11 November 2017
ECOMONDO- The green technologies
Expo

8-9 November 2017
2017 InfoDay on Horizon 2020 SC5

28 November 2017
Project Dissemination Workshop Hybrid
Grey-Green infrastructures

29-30 November 2017
Water Knowledge Europe 2017
(WssTP H2020 Brokerage Event)

12-14 June 2018
Water Innovation Europe 2018

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