EU-India WaterTech Event

Draft Programme

Mumbai, 29-30 January 2024

Venue: XXXX Hall, Indian Institute of Technology Bombay (IITB),
IIT Area, Powai, Mumbai, Maharashtra 400076, India
Mode: **Hybrid Event**
In person, with possibility to join virtually

Context

The EU and India have already established robust cooperation in Research & Innovation (R&I) to address the pressing global water challenges. Building on past experiences, both sides initiated seven joint research & innovation projects in 2018, with the goal of addressing issues related to drinking water, wastewater treatment, and advanced water quality monitoring technologies.

After about five years of joint collaborative efforts, it is time to showcase the results and the new technologies, products and business methods emerging from these projects. This will be done at the EU-India WaterTech Event, scheduled on 29 and 30 January 2024 at IIT Bombay, Mumbai. The event is jointly organized by the European Commission (EC), the Department of Science and Technology (DST), and the Department of Biotechnology (DBT). It will provide a platform to meet with the scientists, innovators and industrial partners, assess the outcomes of the work, and discuss next steps, in particular regarding market uptake.

On the first day, each project will provide a comprehensive overview of its achievements, detailing the journey from laboratory prototypes to real-life applications.

The second day will focus on market uptake, exploring the maturity of the emerging technologies for deployment, requirements for market rollout, and how public and private stakeholders can facilitate this process. Additionally, discussions will address the significance of regulatory requirements, including standards, to prepare technologies and products for the global market.

Day two aligns with the Trade and Technology Council (TTC) established between the EU and India in February 2023. TTC Working Group2 on Green and Clean Energy Technologies aims to unlock trade in these technologies through increased R&I efforts. The TTC WG 2 is co-chaired by the Principal Advisor of India and Directorate General for Research and Innovation (DG R&I) in the European Commission, Brussels, Belgium.

Through targeted discussions and specialized sessions, the primary objective is to formulate actionable strategies and initiatives. These efforts not only aim to mitigate existing barriers but also contribute significantly to the sustainable and widespread adoption of innovative water solutions in the specific context of India. The event stands as a testament to the commitment of both the EU and India to address water-related challenges through cutting-edge research and collaborative innovation.

Objectives:

1. Explore and discuss the insights and achievements of the seven joint water projects.
2. Showcase and communicate technologies and knowledge for potential uptake.
3. Address identified barriers and constraints related to the market uptake of water solutions in India, and identify what more is necessary for market uptake
4. Foster collaboration and exchange of knowledge on how to tackle water /waste water treatment through increased R&I collaboration.

Through these objectives, the event aims to provide a comprehensive platform for stakeholders to actively contribute, discuss, and derive actionable strategies for the successful adoption of innovative water solutions in India.

Key Features:

- Comprehensive exploration of 68 cutting-edge technologies.
- Transition of technologies from Technology Readiness Levels (TRLs) 4-8.
- Anticipated commercial readiness (TRL 8) for 15 technologies by the project's culmination.

Background

Funding and Collaboration: Initiated in November 2017, the joint call on research and innovation in water cooperation between the EU and India resulted in seven joint research projects with a total budget of about Euro 40 million, contributed through the Horizon 2020 Framework Programme for the EU and matched by funding from the Government of India-Department of Science and Technology (DST) and Department of Biotechnology (DBT).

Achievements and Impact: By 2024, the seven awarded projects aspire to cast a substantial impact on technology development and implementation in drinking water treatment, wastewater treatment, and water quality monitoring.

India-EU Water Partnership (IEWP): launched following the EU-India Summit in 2016, the IEWP recognises the importance of research and innovation and supports its deployment in pursuit of the IEWP overall objectives.

Target Groups:

- Businesses, entrepreneurs and investors
- Experts and researchers
- Governmental representatives
- Stakeholders in the water management sector

Agenda a bird's eye view:

Day 1: Monday 29 January - Focus on Project Knowledge and Technology Achievement

- Overview of achievements from each project, followed by Q&A sessions.
- Technology Readiness Levels (TRLs) exploration and the journey from laboratories to real-life prototypes.

Day 2: Tuesday 30 January - Focus on Technology Showcase and Market Update

- EU-India Trade and Technology Council: unlocking trade in water technologies through R&I
- Insights into the EU-India Water Partnership.
- Technology market uptake presentations by each project (INDIA-H2O, LOTUS, PANI WATER, PAVITR, PAVITRA GANGA, Saraswati 2.0, and SPRING).
- Discussions on market uptake
- Next steps, and closing.

DRAFT AGENDA

Day 1: Monday 29 January: Focus -Project Knowledge and Technology achievement

09:00-09:30	**Registration**
09:30-10:15	**Welcome:** ◦ IITB ◦ DST/DBT **Opening Remarks** ◦ DST - Head - International Cooperation Division, DST ◦ DBT - Head - International Cooperation Division, DBT ◦ EC - DG RTD ◦ EC - REA ◦ First Counsellor & Head of Research, EU Delegation to India
10:15-10:45	**Co-Chair (IND): | Co-Chair (EU):** **Project 1: INDIA-H2O** Overview of project achievements (20 min) - EU and Indian Coordinator Q&A (10 min)
10:45-11:15	**Project 2: LOTUS** Overview of project achievements (20 min) - EU and Indian Coordinator Q&A (10 min)
11:15-11:30	**Tea/Coffee break**
11:30-12:00	**Co-Chair (IND): | Co-Chair (EU):** **Project 3: PANI WATER** Overview of project achievements (20 min) - EU and Indian Coordinator Q&A (10 min)
12:00-12:30	**Project 4: PAVITR** Overview of project achievements (20 min) - EU and Indian Coordinator Q&A (10 min)
12:30-13:00	**Project 5: PAVITRA GANGA** Overview of project achievements (20 min) - EU and Indian Coordinator Q&A (10 min)
13:00-14:00	**Lunch break**
14:00-14:30	**Co-Chair (IND): | Co-Chair (EU):** **Project 6: Saraswati 2.0** Overview of project achievements (20 min) - EU and Indian Coordinator Q&A (10 min)
14:30-15:00	**Project 7: SPRING** Overview of project achievements (20 min) - EU and Indian Coordinator Q&A (10 min)
15:00-15:30	**Wrapping up and next steps** ◦ ***Co-Chair (IND): Prof. Rajendra Prasad,+ Co-Chair (IND): DBT*** ◦ ***Co-Chair (EU): RTD/REA*** ◦ ***REA on the Results Pack and other project follow-up aspects***
15:30-16:00	**Closing - EC/DST/DBT**

Day 2: Tuesday, 30 January 2024: Focus-TTC - Technology Showcase and market update

09:00-09:30	**Registration**
09:30-10:00	**Opening Remarks** ◦ DST ◦ DBT ◦ PSA office ◦ EC- DG RTD international cooperation ◦ EC- Head of water Cooperation, DG RTD ◦ First Counsellor & Head of Research, EU Delegation to India
10:00-11:30	**Co-Chair (IND): | Co-Chair (EU):** **Support for uptake of technologies**
11:30-11:45	**Tea/Coffee break**
11:45-12:10	**Co-Chair (IND): DST | Co-Chair (EU): RTD/REA** **Technology Market Uptake in INDIA-H2O** Q&A (5 min)
12:10-12:35	**Technology Market Uptake in LOTUS** Q&A (5 min)
12:35-13:00	**Technology Market Uptake in PANI WATER** Q&A (5 min)
13:15-14:00	**Lunch break**
14:00-14:25	**Technology Market Uptake in PAVITR** Q&A (5 min)
14:25-14:50	**Co-Chair (IND): DBT | Co-Chair (EU): RTD/REA** **Technology Market Uptake in PAVITRA GANGA** Q&A (5 min)
14:50-15:15	**Technology Market Uptake in Saraswati 2.0** Q&A (5 min)
15:15-15:40	**Technology Market Uptake in SPRING** Q&A (5 min)
15:40-16:00	**Tea/Coffee break**
16:00-16:45	**Building synergies to support market uptake** ◦ *Moderated by IN Representative and DG R&I* ◦ *REA may contribute with a short intervention on feedback-to-policy and project follow-up*
16:45-17:30	**Closing : Discussion on potential next steps on Research, Innovation and business uptake** ◦ Head of Sector Water, DG R&I ◦ Senior Policy Officer, DG RTD, European Commission ◦ DST/DBT/ MWR/PSA Office

Day 3: Wednesday, 31 January 2024 – visit to a demonstration site (for EC Officials)

10:00-11:00	**Meeting and transfer to the demo – SARASWATI 2.0 in Mumbai (TBC)**
11:00-16:00	**Visit of the demonstration site** ◦ Project coordination team - IN ◦ Project coordination team - EU ◦ Demonstration site representative
16:00-17:30	**Transfer back to hotel/airport**

Annex

EU-India Joint Projects

India-H20: Bio-mimetic and phyto-technologies designed for low-cost purification and recycling of water.

The overall aim of India-H2O is to develop, design and demonstrate high-recovery, low-cost water treatment systems for saline groundwater and domestic and industrial wastewaters. The focus for developments will be on the arid state of Gujarat, where surface water resources are very scarce. Cost-effective technologies and systems are proposed to lower energy costs through dramatic improvements in energy efficiency, new bio-based approaches to water recycling, and the use of renewable energy. Reject waste streams will be minimised or reduced to zero, thus protecting the environment.

LOTUS: Low-cost innovative technology for water quality monitoring and water resources management for urban and rural water systems in India. The LOTUS solutions are based on a multiparameter water quality nanosensor. Once deployed in the field in India, the sensor will be used to provide tailor-made decision support for a range of applications. The LOTUS sensor leverages an electronic tongue based on functionalised carbon nanotubes. The chemical sensor array is packaged with different casings and connectivity solutions to match the diversity of the Indian context

PANI WATER: Photo-irradiation and adsorption-based novel innovations for water treatment.

PANIWATER is developing six technologies for water treatment suitable for the removal of CECs. The overall goal is to increase the availability of safe drinking water to the minimum level recommended by the WHO (at least 7.5 L/person/day) in the target communities, and to obtain a total wastewater treatment capacity of at least 10000L /day, producing irrigation-grade, CEC-free, treated water.

PAVITR: Potential and validation of sustainable natural & advanced technologies for water & wastewater treatment, monitoring and safe water reuse in India.

PAVITR will validate and develop cost-effective & sustainable solutions to tackle water challenges and ensure the provision of safe water reuse, rejuvenate water quality of rivers, and restore degraded ecosystems in India. This will be achieved by deploying & developing water-wastewater technologies, and the use of sensors for emerging and traditional contaminants. Furthermore, it also aims to develop management & planning strategies to enable better monitoring of pollution levels in real-time modes. Through our ambition, new methodologies, deployment of novel technologies and their validation under Indian conditions will help to address drinking water and wastewater challenges.

PAVITRA GANGA: Unlocking wastewater treatment, water reuse and resource recovery opportunities for urban and peri-urban areas in India.

To achieve the goals of PAVITRA GANGA, we have set several specific objectives: Create policy and social support for innovative technologies through the engagement of stakeholders, suggest water government solutions and support

policymakers. Map, evaluate and improve promising wastewater treatment and reuse technologies, that can efficiently address Indian challenges. Deliver actionable, robust, smart, and comprehensive solutions for quality and quantity monitoring, control and management of water resources. Validate the selected innovative technologies for real water challenges in Indian settings at open-innovation test sites. Establish long-lasting cooperation in capacity building and knowledge sharing. Establish future market uptake and post-project exploitation of the demonstrated innovations.

SARASWATI 2.0: Identifying the best available technologies for decentralized wastewater treatment and resource recovery for India.

The overall objective of SARASWATI 2.0 is to identify the best available as well as affordable technologies for decentralized wastewater treatment with the scope of resource/energy recovery and reuse in rural and urban areas of India.

The project also addresses the challenge of real-time monitoring and automation. The previous SARASWATI project has shown that several decentralized wastewater treatment plants in India do not perform properly and that few plants would meet the more stringent standards as those proposed by the Indian Government in 2015.

SPRING: Strategic planning for water resources and implementation of novel biotechnical treatment solutions and good practices.

The overall aim of the SPRING project is to present an integrated water resource management for reliable water supply for all needs that involve developing innovative simple to operate bio-oxidation systems for treatment of polluted water bodies (stagnant and flowing), cost-effective real-time monitoring tools and implementing good practices in water planning for treatment, supply and usage. SPRING aims to both improve and develop technologies for the elimination of pollutants from water using a bio-remediation approach.