

# BLUE PLANET

## Berlin Water Dialogues 2022-2023



### BARRIEREFREIES KURZPAPIER ZU BLUE PLANET BERLIN WATER DIALOGUES 2022 UND 2023 IN ENGLISCHER SPRACHE

vorgelegt von:

KWB Kompetenzzentrum Wasser Berlin gGmbH

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## BLUE PLANET Berlin Water Dialogues 2022

On 22 November 2022, the BLUE PLANET Berlin Water Dialogues conference took place, focusing on the theme "Artificial Intelligence: Reshaping the Water Industry," a topic of global significance. More than 600 participants from around the world joined online. Leading international speakers presented on Artificial Intelligence from various perspectives: research, industrial innovations, the needs of water operators, and political and legal challenges. Cybersecurity, implementation challenges, and enhancing climate resilience through AI were particularly discussed. Following an introduction by Julia Braune from the German Water Partnership e.V. and Jochen Rabe from the KWB gGmbH, State Secretary Stefan Tidow opened the conference. He spoke about the rapid development of AI in the water sector and emphasised the importance of the BLUE PLANET Berlin Water Dialogues. He highlighted the significance of sharing the latest knowledge, such as on AI in water and wastewater management, to promote international cooperation and the development of appropriate guidelines that support environmental protection and sustainability while enabling economic growth.

The conference focused on two main topics: the opportunities and challenges of using Artificial Intelligence (AI) in the global water sector. It mainly revolved around innovative applications and the themes of hydroinformatics and cybersecurity.

Experts from Germany and abroad shared their insights from research and practice, discussing key challenges and requirements for the deployment of AI technologies. Sella Nevo from the Google Flood Forecasting Initiative presented machine learning models for predicting floods. He emphasised that we would soon be able to make more accurate predictions with less data and apply these globally. This development is still in its early stages, where machine learning plays a central role. Nicolas Zimmer, CEO of the Technology Foundation Berlin, stressed that AI should be used for the benefit of society and not just be an end in itself.

Dr Riccardo Taormina and Prof Andrea Cominola, both members of the advisory board of the BLUE PLANET Berlin Water Dialogues, introduced the second part of the event. They pointed out that data security and data protection have the highest priority when intervening in critical infrastructures. Rules, resources, and budgets determine data quality. Good data is essential for successful AI applications based on machine learning. Dr Newsha Ajami recommended, in conclusion, integrating reporting into AI tools and linking various models together.

In the first panel discussion, moderated by Dr Richard Vestner from Bentley Systems, experts such as Anja Eimer from Siemens AG, Navaneethan Santhanam from SmartTerra, Alexandre Vallières from Bentley Systems, and Oliver Grievson from Z-Tech Control Systems discussed the use of AI in the water sector. They pointed out that large companies like Siemens, compared to SMEs, have different resources and networks to introduce new technologies, which increases complexity. The panel agreed that there is no one-size-fits-all solution and each case must be considered individually. Members of GWP actively participated in this discussion.

In the second discussion on "Hydroinformatics – New Data Sources" with Ina Vertommen from the KWR Water Research Institute, Dr Antonio Moreno-Rodenas from Deltares, Marten Hutten from Vitens, and moderated by Dr David Steffelbauer from KWB, it was emphasised that the quality and access to data are of utmost importance. According to Vertommen, the Netherlands is proactively working on the development and application of predictive technologies. However, actual implementation into the industry is still a major challenge.

In the breakout sessions, participants gained insights into the benefits of using artificial intelligence for detecting damage in sewage systems. Nic Lengemann from Berliner Wasserbetriebe and Dr Aisha Mamade from Baseform presented the SEMAplus project. This involved developing



a quality-assured model for assessing the condition of Berlin's sewer network and future investment needs. Norman Schweimanns from TU Berlin presented a completed AI research project in the industrial water sector. Dr Nicolas Caradot from KWB mentioned the development of new AI tools that enable more accurate analyses and could be particularly useful for municipalities willing to share data. It was emphasised that data security must be ensured. The start-up Pallon AG uses machine learning to automatically and objectively detect damage in canal inspection videos, enabling network operators to respond quickly. This leads to more efficient and cost-effective work, reducing CO2 emissions and wastewater leakages. Chris Thomas from ISLE Utilities outlined how innovative AI technologies can be connected with end-users and investors. Dr Adam Cartwright from Siemens UK talked about scaling an AI solution for sewer monitoring that could serve up to 5 million people.

The online event platform supported international networking through numerous interaction opportunities before, during, and after the event. It remained active until 5 December 2022, continuing to promote networking. The virtual conference highlighted the importance of international collaboration in the water sector, especially in facing global challenges. Artificial Intelligence (AI) plays a crucial role in monitoring and scaling. The use of these technologies requires modern and secure infrastructures and new thinking. They offer opportunities and challenges – not just for companies.

### **BLUE PLANET Berlin Water Dialogues 2023**

The BLUE PLANET Berlin Water Dialogues took place on 8 November 2023, recording a record attendance. Over 800 individuals from more than 70 countries registered to discuss the theme "Closing the Loop - Circular Water Economy". The event demonstrated the strong commitment to sustainability in the global water sector.

At the opening, Boris Greifeneder of the German Water Partnership (GWP) and Prof Dr Martin Jekel from KWB spoke. Dr Severin Fischer, State Secretary in the Berlin Senate Administration, highlighted Berlin's important role in solving global water problems and called for an end to global inequalities.

The conference offered inspiring keynotes, project presentations, a lively panel discussion, and thematic working groups. Topics discussed included achieving the UN goals for sustainable development (SDGs), principles of circular economy, water stress, technology partnerships, nutrient and heat recovery from wastewater.



Highlights:

- Anna Delgado from the World Bank presented the "Water in Circular Economy and Resilience" (WICER) document, which discusses diversifying water sources, resource recovery, and optimising resource use.
- Dr Anne Kleyböcker from KWB addressed the crucial issue of water scarcity and introduced the Water Europe Marketplace as a potential solution.
- Dr Christian Kabbe of EasyMining Germany discussed cross-sector partnerships necessary for realising a comprehensive water circular economy.
- Timo Paul from Vattenfall Wärme Berlin and Heinrich Gürtler from Berliner Wasserbetriebe showcased the potential for heat recovery from wastewater through the InfraLab Berlin project.
- Samuela Guida from the International Water Association (IWA) presented the IWA and its current initiatives.
- In a panel discussion, led by Dr Christian Remy from KWB, the importance of economic viability and sustainability was deliberated. It was emphasised that clear definitions and standards are necessary, and the role of legislation was considered a critical influencing factor.

The BLUE PLANET Berlin Water Dialogues 2023 emphasised the importance of the circular economy in solving global issues, particularly the need to manage our water sustainably. The various talks and discussions provided an overview of the latest developments as well as future challenges in this area.