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## **SWIG Workshop: Sensor-driven artificial intelligence for the water industry**

**30 November 2022**

Sandy Park Rugby Club, Sandy Park Way, Exeter EX2 7NN

Water companies are major users of instrumentation, telemetry/ SCADA, big data and analytics and other increasingly advanced data technologies. Today's 24/7/365 operational control centre is beginning to provide true, end-to-end water and wastewater network control and optimisation. It is a centre for risk, incident and crisis management and business continuity, and it acts as a focal point for operational information and a communication hub for the operational business. The data revolution in the water sector is providing better insight into process/network behaviour and understanding in real time, enabling more effective, risk-aware decision making and increasing operational capability to respond proactively.

However, water companies still face significant challenges in delivering improvements to customer service, the environment and cost efficiency, particularly in moving from reactive to more proactive management of service-impacting issues and further improving compliance and asset optimisation opportunities. This means anticipating performance, condition and cost avoidance opportunities and improving preventative capability, improving network agility and resilience and achieving calmer (water) networks with fewer interventions, assessing risk in real time and improving coordination and control of all system interventions. It is expected that AI will play an increasingly important role in achieving these goals.

The workshop will explore:

- The different approaches to AI with respect to different types and sources of data.
- The current status and future plans/aspirations for the use of AI in the water industry,
- Specific opportunities/applications for the use of AI, and business benefits.
- Barriers to successful implementation (e.g. business readiness/data management capability, changes to business processes and people/culture).
- Research and AI solution development to meet future water industry requirements.

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**Chairs: Richard Luxton, IBST, UWE and Andy Nichols, University of Sheffield**

**09:30 Tea, Coffee & registration**

10:00 Introduction – what is AI? **Richard Luxton, IBST, UWE**

10:30 Water control room perspective. **Mark Webber, South West Water**

11:00 Water control room perspective. **James Barton, Affinity**

**11:30 Tea & Coffee**

12:00 Presentation TBC. Speakers TBC **ATi & AI partner** – water company case study? How to optimise data quality from sensors feeding into modelling systems?

12:30 Presentation TBC. **Emma Harris, Welsh Water**

**13:00 Lunch**

14:00 Maintaining CSO performance through AI. **John Gaffney, Siemens & Will Shepherd, University of Sheffield**

14:30 Future developments, presentation TBC

15:00 Presentation TBC **David Butler, University of Exeter**

**15:30 Panel discussion and afternoon summary led by chairs**

**15:50 Close**

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**REGISTRATION:** The cost of attending the Workshop is £110 inc VAT for SWIG members in person or online. £210 inc VAT for non-members in person or online. £27 for students. Literature may be distributed for a fee of £85 and a limited number of table top displays are available at £210 each. Registrations can be made by Tel 01934 830658 or to [rosa.richards@swig.org.uk](mailto:rosa.richards@swig.org.uk) or using the [on-line booking form](#). **Please advise of any special dietary requirements at time of booking.**

**Cancellation policy:** Refunds can only be made if cancellations are notified at least 5 days in advance of the Workshop date.