

Jointly Organised by



British  
High Commission  
Singapore

**22<sup>nd</sup> November 2021**

**SGT 16:00hrs / UKT 08:00hrs**

*e-Roadshow*

# **WORLD WATER-TECH INNOVATION SUMMIT 2022**

***Presenters:***

**Mike Collins**

Head of Infrastructure APAC  
Department for International Trade, Singapore

**Charles Shacinda**

Technical Officer - Stakeholder Engagement,  
British Water

**Eddie Malone**

Water Lead  
Department for International Trade

**Jenny Moss**

Managing Director  
Rethink Events

*Moderator*

**Mike Collins**

Head of Infrastructure APAC  
Department for International Trade



Mike is an experienced international sales and strategy professional, with a particular focus on construction in emerging markets, having spent the past 12-years on a variety of international assignments, with a deep knowledge of infrastructure projects gained from working in collaboration with the supply chain on projects in Kenya, Tanzania, Russia and the UK.

## *Welcome Speech*

# **H.E. Kara Owens CMG CVO**

British High Commissioner to Singapore



Ms Owen has been the British High Commissioner to Singapore since June 2019. Ms Owen graduated from the University of Sheffield with a BA in History, holds a MSc from LSE in Diplomacy and International Strategy and a MSc from Cranfield University in International Human Resource Management. Alongside her diplomatic work, she has focused on diversity and inclusion and organisational development.





# Welcome Address

**H.E. Kara Owen CMG CVO, British High Commissioner to Singapore**

Ms Owen has been the British High Commissioner to Singapore since June 2019. Prior to that, she was Director for the Americas at the Foreign and Commonwealth Office and has served as Deputy Head of Mission at the British Embassies in Paris and Hanoi. She has been awarded a CVO (Commander of the Victoria Order) and CMG (Companion of St Michael and St George) by HM The Queen for services to diplomacy.

Alongside her diplomatic work, she has focused on diversity and inclusion and organisational development.

*Presenter*

**Eddie Malone**

Water Lead

Department for International Trade



Eddie has worked for the Department for International Trade (DIT) for seventeen years, including overseas Trade Roles in India and China. As Head of Water for DIT, Eddie proactively engages the UK water sector and its supply chain to best represent UK export priorities and capabilities. Coupled with Eddie's extensive overseas experience and market insights he works to align overseas need with UK export strengths.



# UK Water Industry

## **Eddie Malone – Water Sector Manager, DIT**

Eddie has worked for the DIT for seventeen years, including overseas Trade Roles in India and China. Prior to joining the Infrastructure Team in 2017, Eddie was Head of the Aid Funded Business Team. He has been since Sept 2019.

As Head of Water for DIT, Eddie proactively engages the UK water sector and its supply chain to best represent UK export priorities and capabilities. Coupled with Eddie's extensive overseas experience and market insights he works to align overseas need with UK export strengths.

# Global Water Challenges

Climate  
Change Imp

Inadequate  
funding

## Research and Development

UK is a global leader in R&D for the Water Sector

Some links:

[Ofwat Innovation Fund](#), [Spring](#), [Twenty65](#), [UKWIR](#)

( <https://www.pub.gov.sg/innovationchallenge/Pages/CarbonZero.aspx> )

Water  
from Pipes

Leakage  
Management

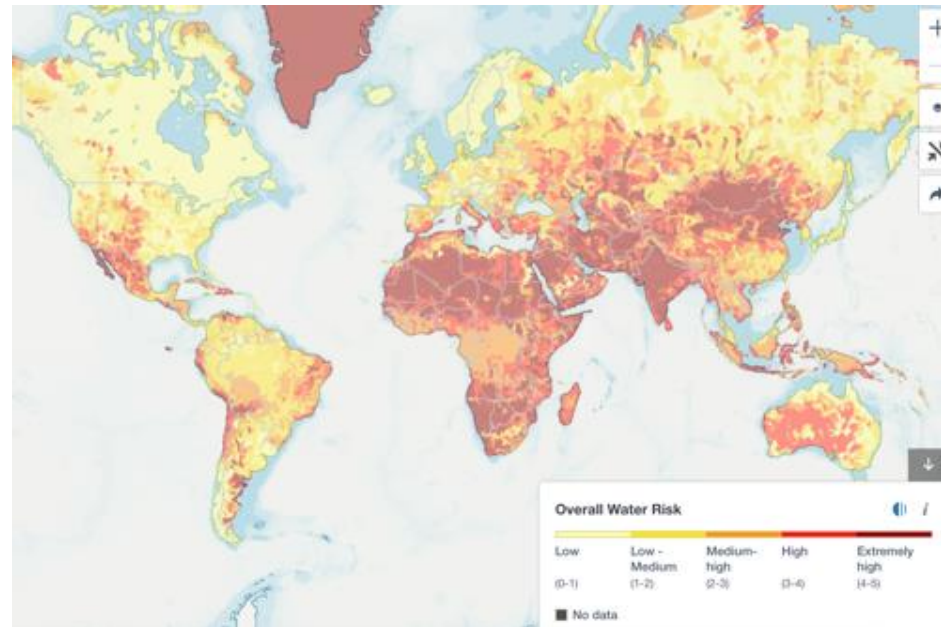
Effluent Control



## Water Sector Priority

The **combined effects** of growing populations, urbanisation, climate change, rising incomes and expanding cities will see **demand for water rising exponentially**, while supply becomes more erratic and uncertain

A [World Bank Report](#) suggests that Water scarcity, exacerbated by climate change, **could cost some regions up to 6% of their GDP**



**Water Risk Atlas - World Resources Institute**

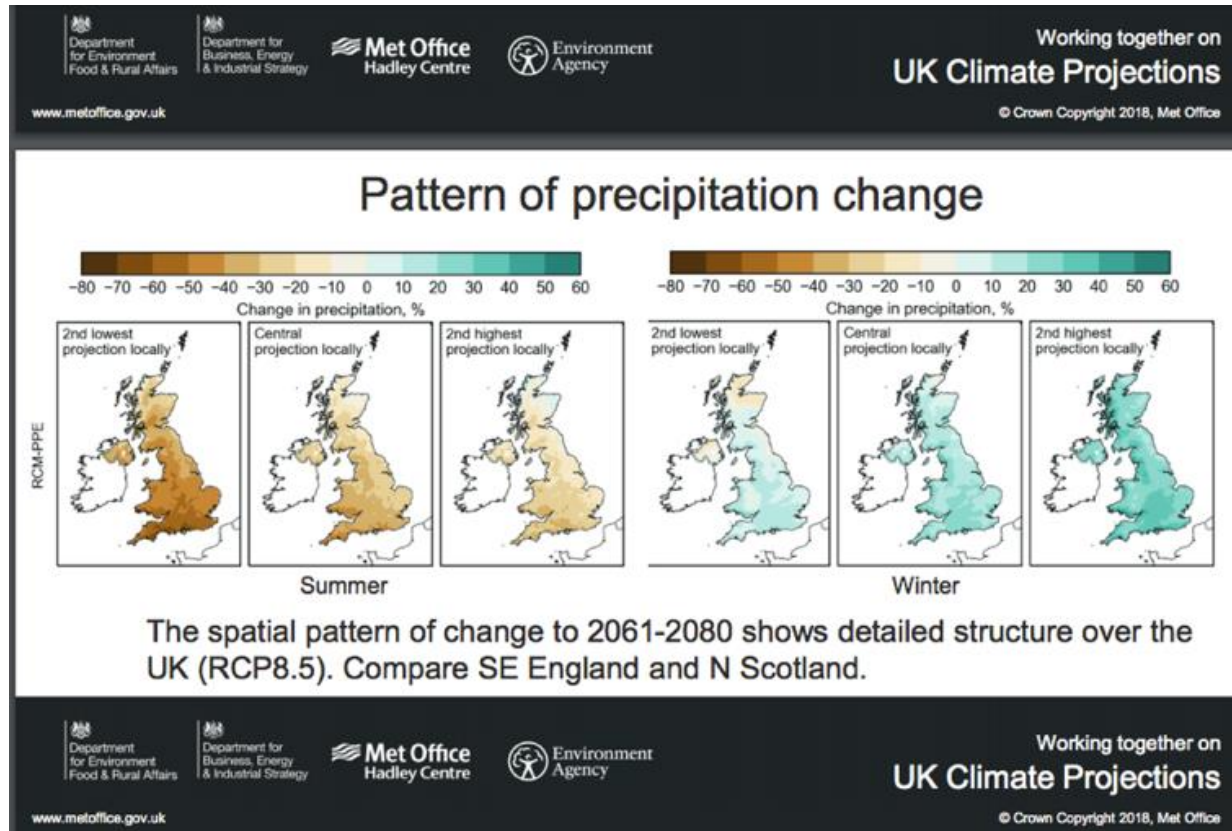
To put this in a different context, this [IFC / World Bank report from 2018](#) suggests the investment potential on Climate Smart Water is \$1 Trillion up to 2030





# Climate Change and Clean Growth Agenda

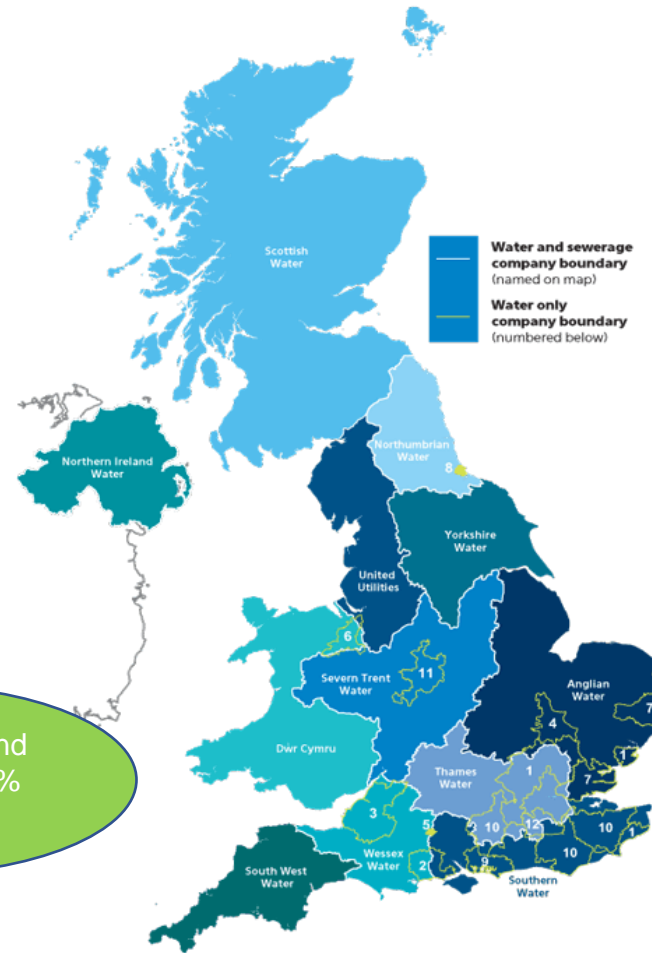
## UK Context



<https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/index>

# UK Water and Wastewater Companies

- 10 private water and wastewater companies in England and Wales
- Boundary for each company based on river drainage basins
- 12 private water only companies
- Scottish Water and Northern Ireland Water still government owned and operated



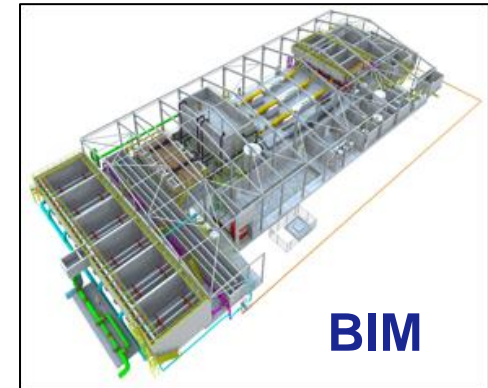
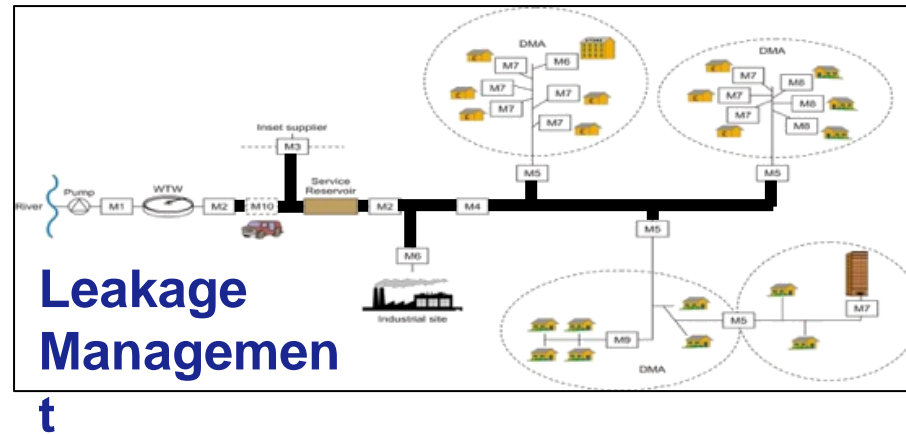
5 year AMP  
(Asset  
Management  
Planning) cycle

25 year  
Strategic plans

Private sector has  
driven efficiencies  
into the industry

£8B annual spend  
60%CAPEX/40%  
OPEX

# Water Strengths in the UK





# Technical and Advisory Strengths





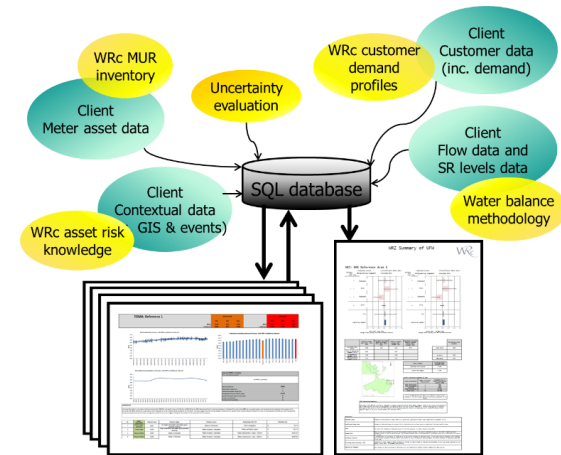
# Supply and Distribution of Quality Water - Leakage



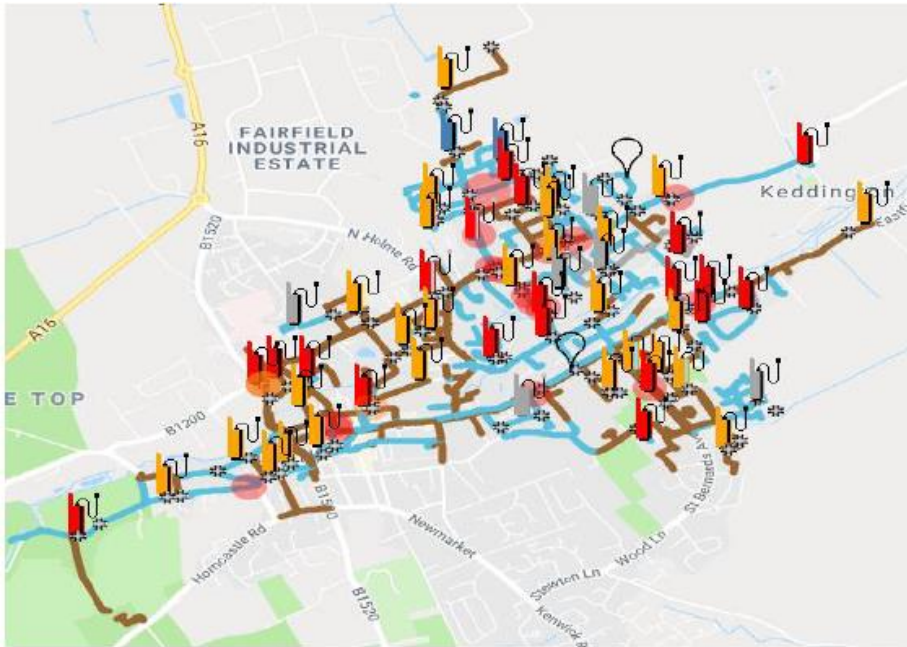
**i20**, a UK developer of smart pressure management solutions for water distribution networks, **helped Manila Water reduce leakage** by 580m<sup>3</sup> per day using its Automatic **Pump Pressure Optimisation system** to manage its complex multi-pump set-up

## Upstream Network Investigation – UK Water Company

WRc was appointed to investigate their upstream network as there was a lack of confidence in the 300 Trunk Main Areas (TDMAs). The output included individual TDMA action plans outlining the improvement steps required, along with estimates of cost, to accurately measure and report losses



# Supply and Distribution of Quality Water - Leakage



- less 'false positives',
- zero theft
- lower leakage levels
- accurate leak locations over distances of up to 4.6 kilometres

## Fixed Correlating Noise Loggers

58 units of **Primayer Enigma3ms** were deployed every 750m in the Lincolnshire area.

- Multi-point correlation via 3G/GPRS communications
  - Accurate time synchronisation for leak position
  - Simple installation – no above ground radio repeaters required
  - Logger GPS location stored
  - Data available at any location via PrimeWeb
- Remote leak detection for confirmation of leak noise



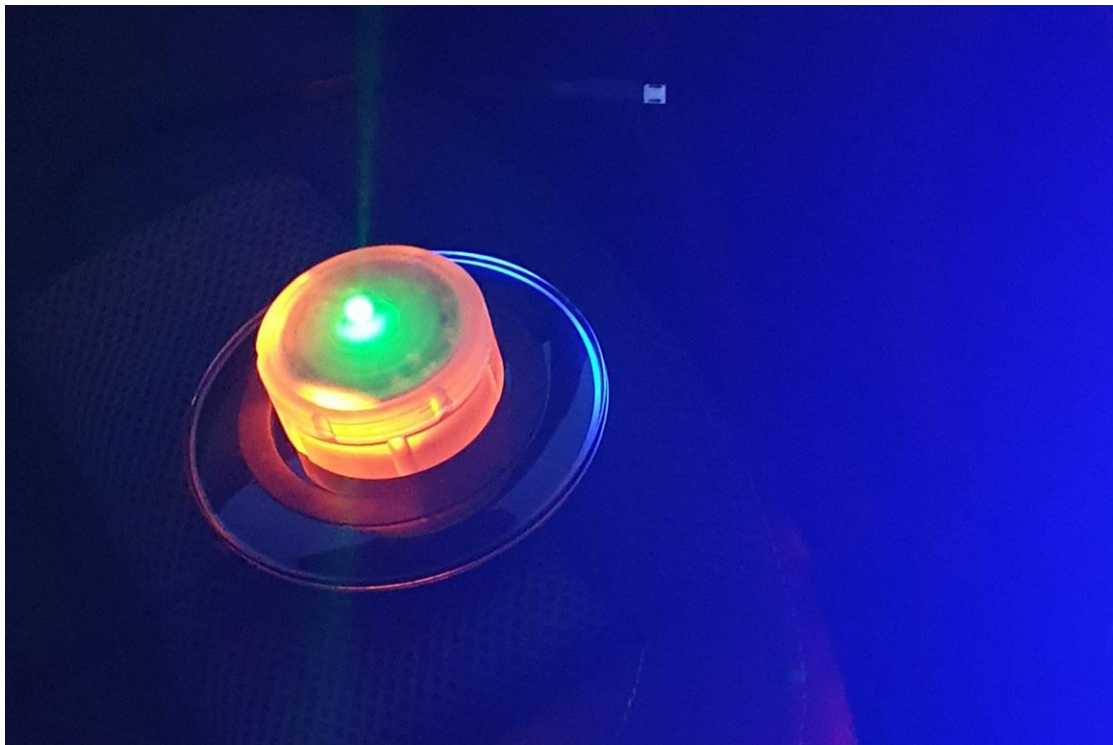
Anglian Water have reduced leakage by 20% since 2010 and have committed to a further 23% reduction by 2025, and a further 80MI/d reduction by 2045



Department for  
International Trade

# FIDO AI water leak detection and leak sizing

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Instant straight to dig water leak  
detection through automatic super  
accurate audio and kinetic file analysis

- >92% accurate
- Prioritises leaks by size
- Leak location
- Cuts leak run time and water loss
- Hardware, platform and material agnostic (works on any network)
- No capex, software-as-a-service
- Eliminates false positives and human error



# Camnexus – Smart Infrastructure

**SMART INFRASTRUCTURE FOR RESILIENT CITIES AND REMOTE OPERATIONS**



-  **Large area low power coverage connectivity**
-  **Environmental monitoring sensors**
-  **Water level sensors**
-  **AI-enabled chatbot connecting workers in the field**



**camnexus.io**



# Camnexus – Water Management

End-to-end IoT solution with low-power and long-range sensors for efficient water management

Flow and pressure meters

Data loggers for multiple inputs

Smart meters

Level measurement (CSO)

Real-time monitoring (turbidity, maintenance, surveillance)

LPWAN

LoRaWAN

2G/3G/4G

5G



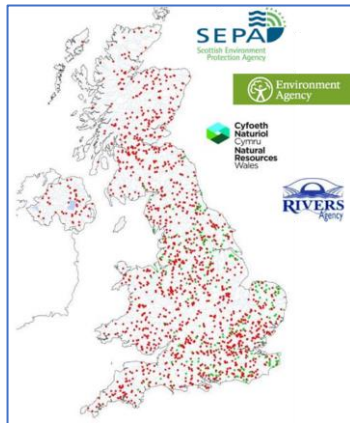
Chatbot integration via Telegram for real-time alert notification



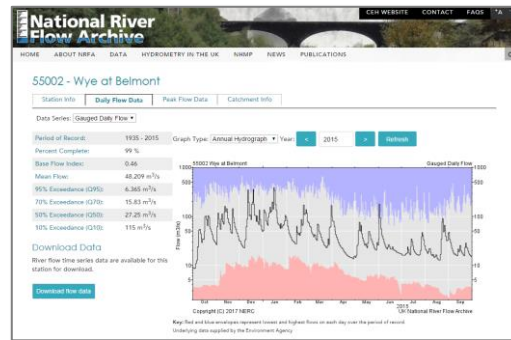
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camnexus

# Research, innovation and training - CEH



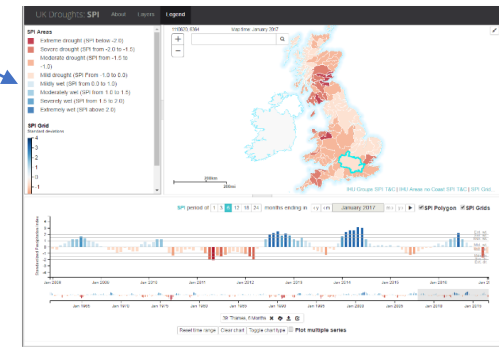
Extensive network of monitoring stations



Data Archive

<http://nrfa.ceh.ac.uk>

The Centre for Ecology & Hydrology (CEH) is a world-class research organisation focusing on land and freshwater ecosystems and their interaction with the atmosphere.



Online access to drought early warning system

•CEH make use of the UK's extensive network of hydrological monitoring stations, pulling the data together into the National River Flow Archive and analysing those data in order to provide an early warning system of where and when droughts may occur. This information then supports decision making in the water sector.

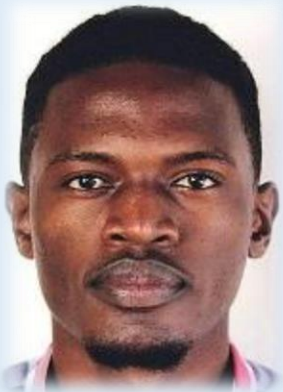
# Core General Strengths

- **Quality Products and Services**
- Collaborative culture
- **Global expertise**
- Large project experience
- High ethical standards
- End to end capability
- Delivery on time
- Environmental and sustainability culture
- **Innovative industry**

*Presenter*

**Charles Shacinda**

Technical Officer – Stakeholder Engagement  
British Water



Charles is responsible for building British Water's stakeholder engagement and the delivery of the International Forum programme of activities and services. Charles is a WaSH Civil Engineer with experience in planning, designing, coordinating and delivering small to medium scale urban, peri-urban and rural civil, water and structural engineering related projects.





# Overview of British Water

**Charles Shachinda, British Water**

Charles is responsible for building British Water's stakeholder engagement and the delivery of the International Forum programme of activities and services.

Charles is a WaSH Civil Engineer with experience in planning, designing, coordinating and delivering small to medium scale urban, peri-urban and rural civil, water and structural engineering related projects



# Introduction

- British Water was launched in 1993
- Formed by joining 2 pre-existing trade bodies
- Largest and leading trade body & business development organisation
- Varied membership of nearly 200 companies
- Global remit and wide range of activities – to promote British Expertise Worldwide



# Membership

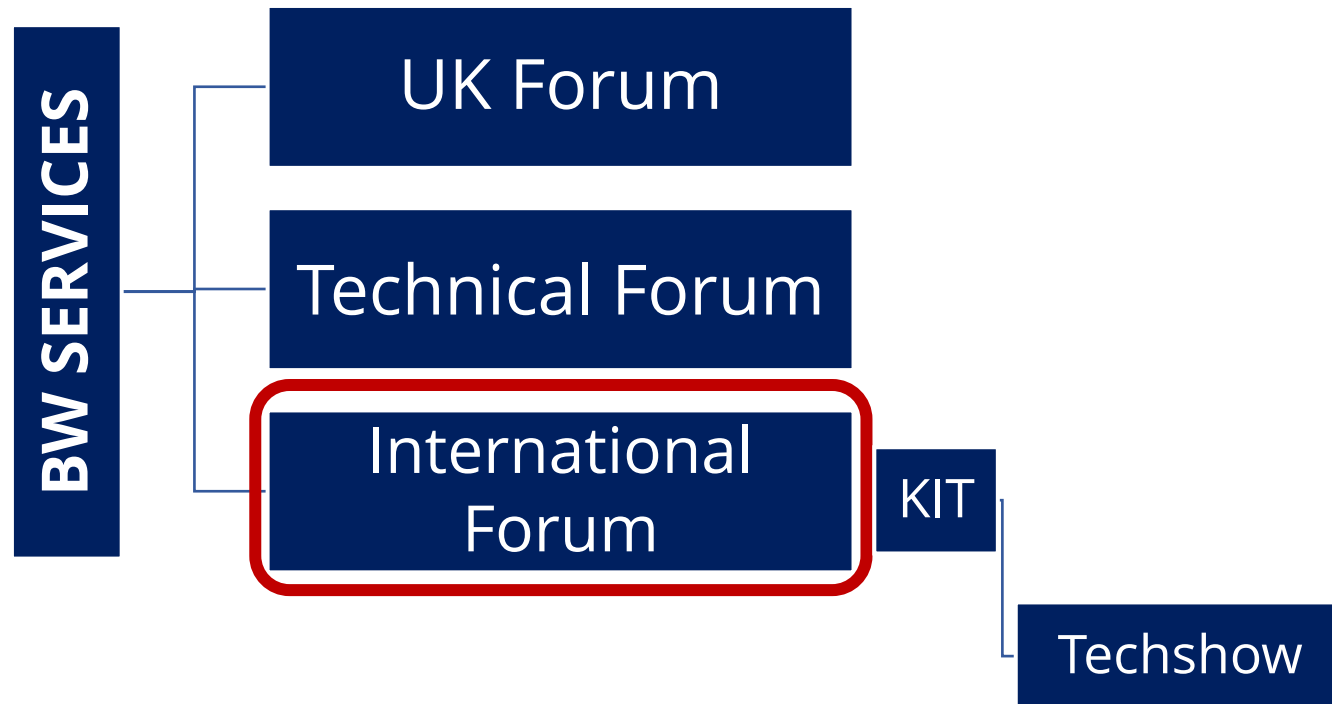


## Business Nature

- Technical/Software/Digital
- Sensors/Monitoring
- Sludge/sewage treatment
- Water purification/filtration
- Waste to energy
- Piping systems/valves
- Tanks/Pumps
- SUDS/SUWM (Green solutions)



# Services





# UK Water Explained

*policy. regulation.  
supply chain.  
water. clients.  
water companies.  
wastewater.  
procurement.  
AMP 7. SRC21. PC21.*

## THE UK WATER MARKET EXPLAINED

Wednesday 19 January 2022, 9.00am - 12.15pm

UNLOCKING THE UK WATER MARKET

BRITISH  
WATER Institute  
of Water

# Programme for PUB/SWA – 21 & 25 Feb 2022



## Time Programme (21 Feb 2022)

- 10:00** Welcome address by UK Minister  
Opening remarks Natalie Black, HM Trade Commission to APAC  
Opening remarks by Alan Ryder, CEO, RSK
- 10:15** COP26 and its implications for the Water sector
- 10:30** **Knowledge sharing session 1: Decarbonisation**  
Topics:
- UK experience on Net Zero challenge – outcomes, learnings Ofwat
  - Presentation by UK Water Utility – Journey towards net zero and interventions implemented
  - Carbon accounting for water sector, RSK
- 12:00** Lunch
- 13:00** **Knowledge sharing session 2: Coastal Protection**  
Topics:
- UK experience on Coastal Protection and Boston Barrier case study - Environment Agency
  - Nature based solutions
  - Panel discussion

## Time Programme (21 Feb 2022)

- 14:30** **Knowledge sharing session 3: Digital Transformation**  
Topics:
- Automation of water assets
  - Robotics
  - Digital Twin
  - New technologies
- 16:00** Networking

## Time Programme (25 Feb 2022)

- 10:00** Pitching Session by innovative UK water tech companies
- 12.30** End

# Programme – 22 - 24 Feb 2022



Day	Programme
22 Feb 2022	World Water Tech Innovation Summit
23 Feb 2022	World Water Tech Innovation Summit
24 Feb 2022	Site Visits to UK Water Assets organised as part of World Water Tech Innovation Summit



*Presenter*

**Jenny Moss**

Managing Director  
ReThink Events



Jennie is a leading conference producer and manager, with thirteen years' experience gained in London and New York. She began her career at the CWC group, where she was head of the Middle East division, launching energy and investment conferences in Saudi Arabia, Iran and Egypt. She subsequently set up and ran the Finance IQ team for IQPC in New York, returning to the UK to develop renewable energy events for a series of clients including the Financial Times and Green Power Conferences. Jennie founded Rethink Events in 2011 to pursue her passion for promoting clean technologies.





# World Water Tech Innovation Summit

## **Jennie Moss, Managing Director, ReThink Event**

Jennie is a leading conference producer and manager, with thirteen years' experience gained in London and New York. She began her career at the CWC group, where she was head of the Middle East division, launching energy and investment conferences in Saudi Arabia, Iran and Egypt.

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# Why Attend?

11<sup>th</sup> Annual: An established annual meeting place for the international water industry

Not an Expo: A senior-level meeting (approx. 300 in the room) for peer-to-peer discussions

Curated content structured into thematic panels: No presentations/sales pitches

Roundtable Discussions: Sit round a table with others who share the same problems

1-1 Meetings: Two full days in parallel to sessions = No time wasted

Networking Drinks Reception: Opportunity to connect informally with full delegation

“Innovation in Action Tour”: Thursday Feb 24, visit Affinity Water / HR Wallingford



# Key Themes: Climate Resilience



**Global Water Strategy**  
**Post COP26:** the Impact  
of New Targets and  
Commitments

**Net Zero Strategies:**  
Scaling Carbon Neutral  
Water Technology

**Flood Resilience:**  
Merging Technology &  
Nature to Mitigate  
Extreme Weather  
Events

**Drought Resilience:** The  
Future of Water  
Transport, Desalination  
& Reuse

**Policy Implications:**  
Regulation as a  
Stepping Stone to  
Innovation

**Drinking Water Quality:**  
Digital Tools to Address  
Evolving Contamination  
Challenges

**Open Data Platforms:**  
Exploring the Value of  
Data Sharing & Barriers  
to Adoption

**Green Financing:**  
Designing New Finance  
Models to Accelerate  
Disruptive Innovation

**Smart Sewers:**  
Employing a Data-  
Driven Approach to  
Wastewater  
Management

**Resource Recovery:**  
Building a Circular  
Water Economy

**Leak Forecasting &  
Reduction:** Harnessing  
Predictive Technologies

**Success through  
Failure:** Fostering a  
Learning Culture

# Who Will You Meet?



## Innovation Ecosystem

### Utilities and Municipalities



### Investors, Accelerators and Consultancies



### International Agencies and Government



### Technology Solutions and Equipment Providers



### Engineering Firms and Consultancies



### Associations, Media and NGOs



### Academics





**21<sup>st</sup> ~ 25<sup>th</sup> February 2022**

# **WORLD WATER-TECH INNOVATION SUMMIT 2022**

## ***TECHNOLOGY MISSION***

In conjunction with World Water Tech Innovation Summit 2022, SWA is organizing a 5-day mission to London from 21 to 25 February 2022 as part of our continuous effort to enhance our members' competitiveness through exploring new markets and technology adoption.

World Water-Tech Innovation Summit (WWTIS) is the UK's flagship water forum for international stakeholders focused on advancing the commercialisation of advanced water and wastewater solutions. Utilities, regulators, engineering firms, technology giants, start-ups, and investors come together to exchange insights, be inspired, and identify future partners. It is one of the largest gatherings of water industry professionals – a fantastic opportunity to meet and share ideas with experts from all over the world – 2021 saw participation from delegates from 46 countries. Visit <https://worldwatertechinnovation.com/> for more details.

### **Thematic Knowledge Exchanges :**

**Net Zero strategy / Sustainability linked business transformation / Digital Transformation /  
Resource recovery (energy and nutrients) / Smart sewers & robotics / Forecasting / Desalination  
/ Waste recovery / Tunnel monitoring**

**21<sup>st</sup> ~ 25<sup>th</sup> February 2022**

# **WORLD WATER-TECH INNOVATION SUMMIT 2022**

## ***TECHNOLOGY MISSION***

- Meetings with UK Water Utility & OFWAT
- Site Visits to UK Water Assets
- 2 International Lunches
- 1 Welcome Networking Dinner
- 3 days Coach Provision for site visits

**\$1598/pax (SWA Member)**  
**\$1998/pax (Non Member)**

*\*Air, Accommodation and PCR Test on own arrangement\**

Registration Closing Date: 15 January 2022  
Email registration to [kenny@swa.org.sg](mailto:kenny@swa.org.sg)



British  
High Commission  
Singapore

*Supporting Partners*

**rethink.**  
CELEBRATING 10 YEARS

**Enterprise  
Singapore**

## Registration Form

We are registering \_\_\_\_\_ participants at \$1598/Pax (SWA member) / \$1998/Pax (Non-member)

**Submitted by:**.....

Name:		Designation:	
Company:			
Tel No (office):		Tel No (HP):	
Email:		Company Stamp / Signature:	

**The following is the list of participants registered for the trip:**

Name 1:		Designation:	
Email		Contact No. (HP):	
Name 2:		Designation:	
Email		Contact No. (HP):	



## ADMINISTRATIVE DETAILS

- All participating fees MUST be made by **15 January 2022** latest.
- Cheques (indicate your company name on the reverse of cheque), should be made payable and mailed to:  
**Singapore Water Association 84 Toh Guan Road East #05-06 Singapore 608501**  
or via bank transfer to **DBS Bank** account no. **054-901339-0**
- Cancellation or withdrawal will not be allowed upon confirmation from SWA.
- SWA has full right to amend, postpone or cancel the event without prior notice. However, the changes shall be done based on the best advantage for delegates.
- For more details, please contact: Mr. Kenny Seong - Tel: **8163 9945** / E-mail: [kenny@swa.org.sg](mailto:kenny@swa.org.sg)

## Travel Advisory:

- Participants **MUST BE FULLY VACCINATED**.
- [National Health Service \(NHS\) COVID Passes](#) downloaded from the NHS mobile app.
- Arrived at UK: A post-arrival PCR test on Day 2 (requires pre-booking).
- Test can be booked via <https://www.collinsongroup.com/en/covid-19-testing/british-airways> at the airport or <https://www.traveltesting.eurofins.co.uk/>
- For departure (returning to Singapore), PCR test is to be done at least 1 day before as it is a VTL flight from London

## Air Ticket & Accommodation Recommendation (booking through [huiling\\_tay@chanbrothers.com.sg](mailto:huiling_tay@chanbrothers.com.sg), quote SWA)

- SQ **308** K 20FEB SINGAPORE LONDON 0900 1520 20FEB  
SQ **317** K 27FEB LONDON SINGAPORE 1055 0750 28FEB (VTL flight)  
**Price: Air-ticket: \$918 per person, Airport taxes: \$294.90 per person, total \$1,212.90 per person**  
|
- ***Mercure London Bridge – Twin - \$355 per room per night with breakfast for 2 person,  
Single - \$335 per room per night with breakfast for 1 person***

**Air and Accommodation rates are provided as of 10 Nov 2021, rates are for reference only and may subject to change upon booking.**



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**22<sup>nd</sup> November 2021**

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# **WORLD WATER-TECH INNOVATION SUMMIT 2022**

## **Q & A**

# UPCOMING EVENTS

***2<sup>nd</sup> Dec 2021***

**Singapore Water Industrial Nite (Special Edition) – MOU signing ceremony with NTUC U SME (Hybrid Event)**

***11<sup>th</sup> Jan 2021***

**MOU signing ceremony with Singapore Environment Council (Hybrid Event)**

***13<sup>th</sup> Jan 2022***

**SWA Industrial Water Series - Funding and Project Opportunities by Asian Development Bank**

***24<sup>th</sup> Feb 2022***

**SWA Industrial Water Series – Investment and Project Opportunities by Sami Saad Group**

***21<sup>st</sup> – 25<sup>th</sup> Feb 2022***

**Technology Mission : World Water-Tech Innovation Summit 2022, London**

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**22<sup>nd</sup> November 2021**

**SGT 16:00hrs / UKT 08:00hrs**

*e-Roadshow*

# **WORLD WATER-TECH INNOVATION SUMMIT 2022**

**Kindly complete a 1-min poll**



**[enquiry@swa.org.sg](mailto:enquiry@swa.org.sg)**

**T: (65) 6515 0812**