



# Department for International Trade

## UK Water Capability Showcase



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# Foreword

Arup was pleased to host the UK's Department for International Trade (DIT) 'UK Water Capability Showcase' on 9 October 2018.

DIT has overall responsibility for promoting UK trade across the world and attracting foreign investment to our economy. It has been estimated by the UK Water Partnership that there is a growing \$500 billion global water business to meet increased demand and water security requirements. The aim of the event was to promote the UK Water offering to representatives of the DIT from 18 countries across the world. The event was centred on engaging with UK Embassy Commercial Officers in the areas that the UK's expertise and supply chain is strong so that they can identify potential business opportunities in their respective posts.

The event showcased the best of what the UK has to offer in water and featured capability such as flood resilience, tunnelling and urban water resilience.



**Martin Shouler**

Arup, London Water Leader



# What can Posts do for UK companies?

- Identify project areas as soon as possible – working with British Water
- Identify potential local partners (Tier 1) for UK companies (including lead developers); assist in match-making
- Position companies in front of key clients
- Move water up your respective hierarchy of sectors!
  - Water is challenging, emotive, and has a socio-political element
  - Complexity/difficulty can reduce its attractiveness to staff in Post
  - **BUT** water is *central*

BRITISH  
expertise

# Flood Resilience



David Wilkes  
UK Flood Partnership

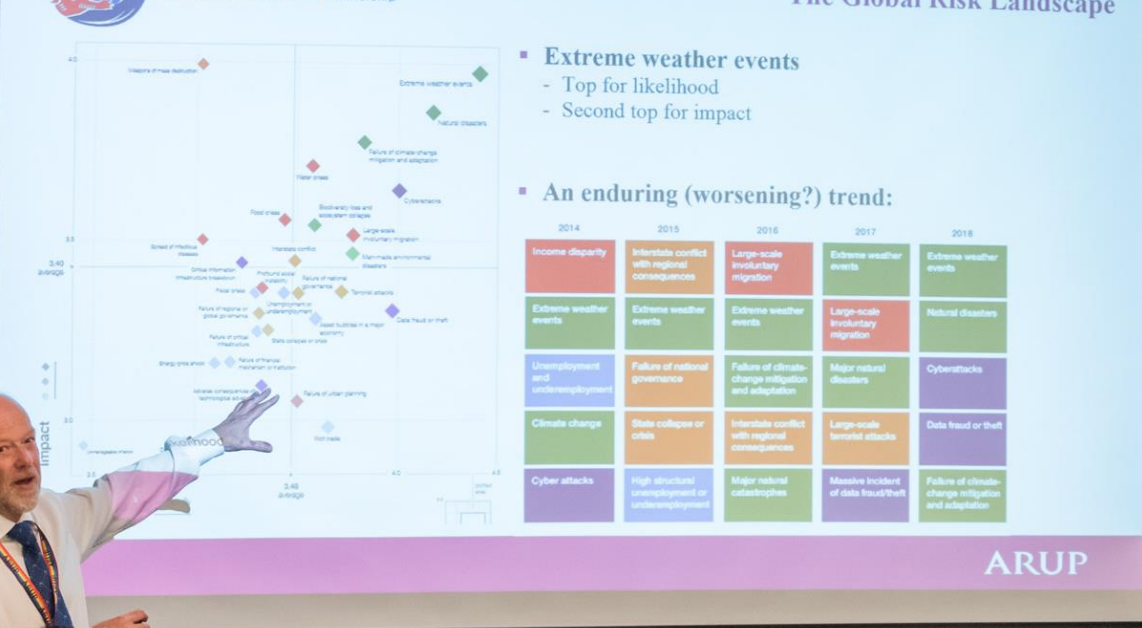
“Some of the most innovative and forward-thinking flood technology in the world is being designed and manufactured here in Britain. Many UK companies are already realising success overseas as well as at home but the opportunity to develop and expand needs to be seized.”

- David Rooke, UKFP Chairman

The UK is equipped at dealing with various types of flooding – coastal, river, surface water and groundwater – and are in a position to lead globally on flood resilience.

David highlighted the importance of working with nature and thinking about catchment scale solutions. He set out a vision for the future of flood resilience and showcased Arup’s ‘Cities Alive – Water for People’ as a means of achieving this vision.





- Extreme weather events
  - Top for likelihood
  - Second top for impact

■ An enduring (worsening?) trend:

2014	2015	2016	2017	2018
Income disparity	Interstate conflict with regional consequences	Large-scale involuntary migration	Extreme weather events	Extreme weather events
Extreme weather events	Extreme weather events	Extreme weather events	Large-scale involuntary migration	Natural disasters
Unemployment and underemployment	Failure of national governance	Failure of climate change mitigation and adaptation	Major natural disasters	Cyberattacks
Climate change	State collapse or crisis	Interstate conflict with regional consequences	Large-scale terrorist attacks	Data fraud or theft
Cyber attacks	High structural unemployment or underemployment	Major natural catastrophes	Moore incident of data fraud/theft	Failure of climate change mitigation and adaptation

ARUP





# Urban Water Resilience



Siraj Tahir  
Arup

“Cities and towns account for over 70% of global GDP and many are facing complex, interrelated challenges including population growth, resource constraints, degraded environments and increasing climate uncertainty.”

- City Resilience Framework, 2014

Water systems are the lifeblood of a city. They constitute a complex ecosystem - an interdependent web of physical and environmental assets, policy, institutions and social capital - whose health and balance are key to the resilience of cities and the communities that inhabit them.

Urban places concentrate and magnify many of the key challenges captured in the 17 Sustainable Development Goals. They are consequently places where we should focus our efforts to shape a better world.

Arup is a leading player in this space having carried out industry-leading research into city water resilience and the circular economy for water. We are well-positioned to front the UK offering in urban water resilience.

# Biosolids



James Newton  
Mott MacDonald

Ongoing global investment in modern wastewater treatment will result in increasing quantities of sludge to be managed around the world.

There are major benefits from effective sludge management – renewable energy, lower greenhouse gas emissions, recovery of valuable resources and operational savings.

Whilst the big manufacturers of sludge assets and equipment are based abroad, sludge management expertise in the UK – from treatment to use – is world leading and provides a strong basis for winning international work.

UK skills in carbon reduction, energy efficiency and asset management can also open opportunities for sludge related work.







# Trenchless Technology



Ian Vickridge  
UK Society for  
Trenchless Technology

Aging infrastructure has become an increasingly crucial issue for both developed and developing countries.

Studies indicate the social costs of urban trenches (traffic delays, accidents, loss of amenity, loss of trade, environmental impacts) far outweigh the direct construction costs.

Trenchless technologies provide a low cost, low carbon alternative means of locating, surveying, repairing, replacing, installing or maintaining underground utility services using minimal excavation. There are many techniques to choose from and not one single trenchless technique that is suitable for all situations.

Trenchless technology has global reach. The UK Society for Trenchless Technology (UKSTT) is one of a number of national societies which are all linked together by the International Society for Trenchless Technology (ISTT). Some of the technology is manufactured in the UK and there are UK companies have a wealth of experience using trenchless technology providing opportunity for selling this expertise overseas.

# Tunnelling



Scott Dickson

Infrastructure and  
Projects Authority

The Thames Tideway Tunnel (TTT) was an excellent example of UK Government innovation in support for big infrastructure development.

There are a number of innovative aspects of the TTT scheme that could be exported to other countries looking to get major projects off the ground. This includes: large scale engineering; procurement model; financing; Government support; commercial structure; project monitoring; and replicability.

UK expertise was key to the development of the TTT delivery model and the UK now has a breadth of experts – Government, Ofwat, Thames Water, financial advisors, legal advisors, technical consultants, equity investors, contractors – whose services we could sell overseas.



# Digital Water



Prof Tony Conway  
UK Water Partnership

The introduction of digital technology and techniques into water and sewage management is creating opportunities for UK companies to significantly increase their global reach especially through collaborating with areas of the digital economy where UK companies have global leadership.

Britain has not been one of the leading players in the global water market in recent years with exports of goods and professional services accounting for 1.5% of the global municipal and industrial market. We are in a position to change this.

Tony looked at some of the commercial opportunities that Digital Water presents for the UK, including:

1. Virtual & augmented reality
2. Irrigation management
3. Minimising maintenance and optimising network performance
4. Flood risk management
5. Heat mapping of leakage
6. Sewer and sewerage monitoring
7. Smart services for developing economies
8. Remote water risk monitoring and management

# BIM4WATER



Jamie Mills  
BIM4Water  
Xylem

BIM4Water supports organizations in the water sector with the adoption of Building Information Modelling (BIM). Their mission is to lead and support organisations in the digital transformation of the water sector.

BIM is an enabler for UK-based contractors to work in other countries by implementing proven methods of digital construction. This can bring improved efficiency of construction and asset management, ultimately reducing total cost.

BIM4Water is a cross-industry group open to all organisations involved in the management and delivery of water and wastewater assets. The group's make up is reflective of the sector, comprising clients, contractors, consultants, suppliers, subcontractors and other bodies. As the UK water industry works towards a collaborative and joined up BIM strategy, and water companies come together to standardise approaches, the UK is a leading global force in this space and is well positioned to export this expertise overseas.

