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INNOVATION IN THE WATER INDUSTRY: UNLOCKING OFWAT'S £200 MILLION FUND

The multitude of challenges facing the water industry, including leakage and flooding, are being amplified by the regulatory funding squeeze that is reducing customer bills by an average of £50 over the next five years. To address this, water companies need to change the way they operate. AECOM's **Ian Small** says the answer could be as simple as finding ways to get more ideas out of both the workforce and supply chain.

Water industry regular Ofwat¹ has confirmed a £200 million² funded competition to encourage innovation, a recognition of the urgent need for change. Without it, the clean water and treated sewage we take for granted could be at risk, not to mention the increased possibility of flooding.

Implementing the sorts of “transformational innovation” Ofwat is looking for is not easy, especially in a highly regulated sector working with infrastructure that has been developed over centuries. But there is no choice:

leakage, pollution, climate change and a growing and increasingly urban population are all putting huge pressure on resources.

To date, the industry's track record on innovation has been mixed. It has invested large sums in research and development but has sometimes failed to turn that knowledge into value. My experience championing innovation at AECOM suggests that often the answer can be found internally by finding ways to get more ideas out of your people. Ask your teams where they would like to see investment and how that could improve the way you do business. ➔



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THE INNOVATION CHALLENGE

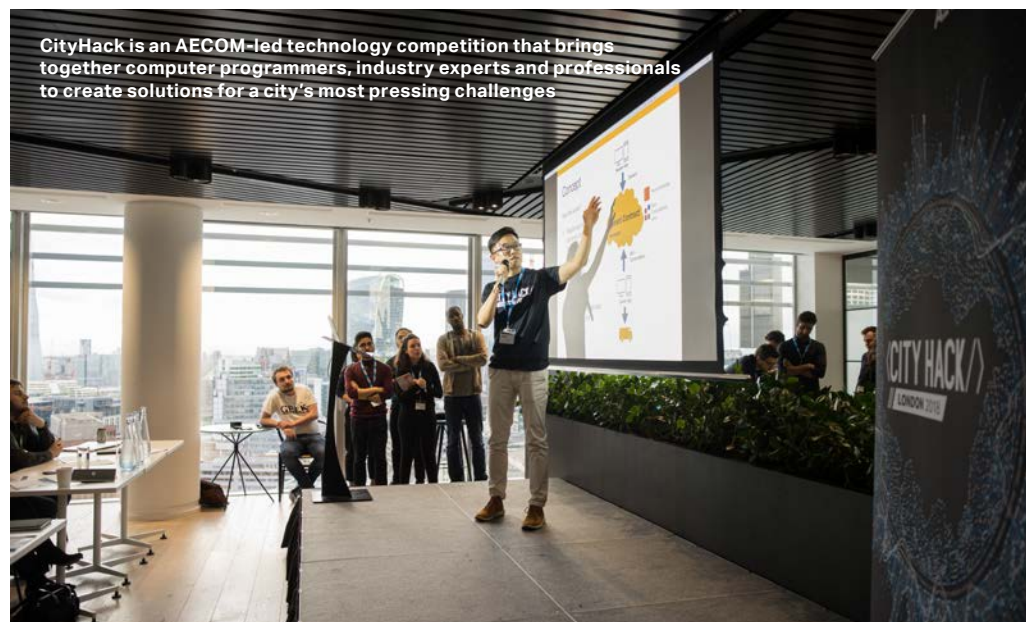
Ofwat has made it clear that business as usual is no longer an option. In April 2019, the economic regulator of the water sector in England and Wales challenged the business plans of fourteen out of seventeen water companies, saying they had to do more to “deliver for customers”. The regulator wants companies to switch their focus from just cost-cutting — which has been the typical solution to challenges such as rising energy prices and water scarcity — to transformational change in order to simultaneously improve service to customers and the wider society at a lower overall cost.

Following the consultation in July 2019 on an innovation fund, the regulator announced as part of the final determinations that it will hold a collectively-funded competition. It will be held at least once a year and will be open to the 17 water and wastewater companies, supported by their supply chains.

The May 2020 consultation is looking to resolve the outstanding policy issues, including intellectual property rights, the design of the competition and safeguarding of the funding. An interesting development is the proposed pilot competition where third parties will be able to pitch directly to the companies for funding.

Ofwat is looking for improvements in natural, social and human capital, as well as looking at financial impacts. The consultation document also specifies that it wants companies to “work more effectively together and with their supply chain”.

I would also argue that projects should be judged on how any investment will generate value, such as new sources of revenue (turning waste products into money for example) or tackling water companies’ heavy dependence on energy. There is no A-Z guide to developing a successful culture of innovation, itself an imperfect science. Some companies turn to external providers – but such options can be costly and aren’t always successful. A balance needs to be struck between understanding and implementing the management vision, together with talking to the doers about what is needed and what is possible.



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The most innovative companies are those who find effective ways to get ideas out of their people, then act on and implement the changes that make sense. It’s also helpful to get people in different parts of the business to talk to each other.

At AECOM — where I’ve led innovation in the water division and now champion innovation across civil infrastructure — I’m always thinking about how to improve what I’m doing, which is the area I’m most qualified to judge. Figuring the same was probably true of my colleagues, I launched Mindblazer, a tool designed to encourage ideas that support technical excellence, innovation and collaboration on AECOM projects.

Every three months we launch a call for ideas through Mindblazer – with a two-week window for submission. Winners can be anyone in the company. They are initially awarded 40 hours or the cash equivalent to build something; if this proves successful the idea is linked up with a team to develop the technical idea, build the business case, commercialise and scale. We focus on projects that address a burning need, rather than things that would be nice to have.

Jeremy Hilderley, a data and GIS specialist in our water asset management team is always looking for ways to automate processes to make them more efficient. Wastewater modelling has a lot of time-consuming tasks, and Jeremy noted that his modelling colleagues were often having to repeat some of these tasks

in order to deliver a suitable model. Across the business there are many colleagues doing the same sorts of things for different water companies. He approached Mindblazer with a proposal to apply machine learning to the modelling process for the sewer network. This allows modellers to speed up repetitive tasks, leaving more time to problem solve and explore solutions. After winning the prize, he developed a prototype ‘rapid model build’ tool which is being developed further for Wessex Water.³

My job at AECOM is both to encourage colleagues to be innovative and to ensure that innovation is effective. There is no point innovating unless it improves the way we operate, and we also have to be careful when changing what we do that we aren’t exposed to undue risk.

We also help our clients innovate. We do this by generating ideas and solutions through a range of group events, either internally for clients — as we’ve done with Highways England⁴ and the Environment Agency⁵, or in partnership with other companies, such as the CityHack18⁶ competition; an AECOM-organised event aimed at finding ways to make London healthier, more liveable and connected. We also facilitate design thinking-led ideation workshops, competitions and more traditional consultancy approaches, such as scenario planning, and advise on ways to embed innovation in businesses. By doing this we help clients improve performance — the ultimate goal of innovation. →

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INNOVATION IS ABOUT HAVING THE RIGHT PEOPLE IN THE RIGHT JOBS, LISTENING TO THEM AND ENCOURAGING THEM WHEN THEY MAKE THE CASE FOR CHANGE.

Informed by our experience, here are a few recommended ways to entice ideas out of your workforce:

Challenge statements

Identifying specific challenges is a good way of setting out what innovation needs to achieve. The challenge statements should be shared widely, both within the project team and to the wider organisations.

Sources of ideas

This process should be as open as possible: ideas can come from anywhere and anyone. They need to be shared, reviewed and refined to make sure that they will meet the project requirements. No idea should be immediately rejected, and a record of all ideas and their pros and cons should be kept as these can often trigger new or hybrid ideas that will be more effective than the original.

Delivery team

Ideas that meet the criteria for further investigation and investment pass through into the delivery stage. This will require a wide range of skills, which are unlikely to sit entirely within one person. We advocate a team of at least three people, who could be classified as follows:

- / The idea owner, and often the originator of the idea
- / The Chief Technology Officer, responsible for providing the technical skills to turn the idea into reality
- / The integrator. Often overlooked, the integrator turns the idea into a business by connecting the dots — and making it happen.

The team can be larger than this, and the roles and responsibilities are often blurred in an effective and mature team.

A November 2019 survey by UKWIR⁷ (UK Water Industry Research) of industry executives showed that innovation is important or extremely important for everyone (100 per cent said so). I don't know how the questions were worded, but I saw very little reference to culture or organisational flexibility in the findings. In my experience, these are the crucial ingredients for creating an innovative culture: without them the technology barely matters.

In short, innovation is about having the right people in the right jobs, listening to them and encouraging them when they make the case for change. When it makes sense, companies should be open to implement these suggestions. **WI**