

Response to the consultation on Ofwat's emerging strategy: Driving transformational innovation in the sector

IKT - Institute for Underground Infrastructure

Gelsenkirchen, Germany.

Watlington, UK

Dr Iain Naismith

Senior Research Fellow, UK & Ireland Project Manager,

[REDACTED]

www.ikt.institute

Introduction to my response

Thank you for the opportunity to respond to this consultation.

My observations are based on 30 years' experience of delivering applied research to the UK water industry and more recently of the approach taken to evaluating innovation to address industry needs in Germany, through my current role as UK/Ireland project manager for the not-for-profit **IKT – Institute for Underground Infrastructure gGmbH**.

I also chair the **Sewer Rehabilitation Contact Group** comprising sewer rehabilitation planners and managers from 10 of the 13 UK/Ireland WaSCs, meeting 3 times a year to address common issues and currently developing a common specification for sewer rehabilitation linked to the Water UK SIN Group (Sewerage Infrastructure Network).

My experience covers addressing water industry issues concerning environmental performance, drinking water quality, customer education and sewerage infrastructure rehabilitation and, has consequently, provided insight into issues concerning the identification and implementation of innovation across the range of responsibilities of water companies. It has included:

- The International Benchmarking Review - world-wide review of the emerging metric and process benchmarking activities in the water sector – for Ofwat, Thames Water and Ondeo Services (France) 2001-2.
- The evaluation of the performance of unleaded brass vs leaded brass water fittings for addressing lead in drinking water - for dwi & UKWIR, 2012-2015
- Customer Education Strategy for Wastewater on sewer misuse, misconnection and sewer flooding - for UKWIR, 2017
- Current evaluation of the long-term performance of sewer rehabilitation methods, UKWIR.
- Current Partner Project for UK WaSCs to engage with the current EUR 1.5m project in Germany evaluating the performance of lining systems for the rehabilitation of rising mains. <https://www.ikt-online.org/blog/lining-of-pressure-sewers-evaluating-one-of-the-new-frontiers-of-trenchless-technology/>

The responses to individual questions are highlighted in **purple text**.

Q:1 What are the main barriers to innovation in the sector and why?

- Absence of a clear strategy and mechanism for a) water companies to share the costs of identifying and proving innovations that address genuine needs of the water companies and b) mechanisms and funding for ensuring their implementation.

Innovation should not be driven by ideas that need to find a purpose, but rather by genuine needs of the water industry for which solutions are invited. Many innovation service providers appear to be focused on the former rather than the latter. This consultation offers the opportunity to focus on the latter, and build on some exemplary work to solicit innovations to solve problems that some water companies are already generating for themselves.

- An un-focused 'innovation industry'. Building on the comment above - there are a confusing number of organisations, ranging from trade associations to private enterprises, offering the water industry and the supply chain ways to identify innovation and to try to place it in front of the water industry. Water companies have told me they receive 100s/1,000s of unsolicited approaches each year from individuals and organisations offering innovations. From my membership of FWA (Future Water Association) and UKSTT (UK Society for Trenchless Technology) I am aware of perceptions in the supply chain that water company 'innovation departments' consequently exist to protect water company staff from their approaches.
- Expectation on the supply chain to bring ideas to the water companies rather than the water industry telling the supply chain what it actually needs a solution for. Attending conferences and events, I have often been aware of water companies themselves asking the supply chain to bring their ideas to them, rather than the other way around – the water industry telling the supply chain of a problem it wants solved and seeking specific solutions to that. However, this has begun to change with some individual water companies setting up mechanisms where by they highlight an issue they have and call on the supply chain for solutions.
- Expectation of the supply chain to prove an innovation before the water industry will consider its use. Specifications and Standards rightly exist to allow for evaluations of performance and a basis for ongoing quality assurance, but compliance is a major cost for suppliers, which water companies are also reluctant to fund. Innovators complain of having to 'jump through the hoops' separately for individual water companies and to bear the costs. Collaborative approaches by the water industry that include funding evaluations that all water companies will accept would fast-track acceptance of worthwhile innovation.
- Focus in procurement on price rather than quality. For a water company to really achieve value for money and confidence in using a technology or product, it needs to be an 'informed customer' able to select (on both quality and price) the correct technology, identify the right product/service/contractor to deliver, understand how to manage quality during installation/implementation and know what to look for at final acceptance. Conversely, innovators who have invested in meeting water company requirements, specifications and standards do not appreciate being undercut on price when water company procurement departments do not understand what they are buying and purchase

cheaper alternatives - without checking for evidence of performance. An example of this is the current concern about performance of patch repairs for reactive repair of sewers, where suppliers and contractors speak of unit prices being set that are lower than the cost of a patch repair that has been subject to testing against the relevant WIS (UK Water Industry Specification) and BS EN standards. That forces contractors to find cheaper, non-evaluated alternatives.

- An approach taken by [Sewer Network Owners in Germany](#) to innovation is to identify a problem, fully define what it is and the causes, and then undertake a market review of what existing and developing solutions exist to potentially resolve it. From the plethora of solutions identified, these are grouped first into technologies and then representative products/services are selected for evaluation against the actual situations the Network Owners want to resolve (e.g. specific pipe damage scenarios, odour control issues, water quality outcomes). The selected suppliers/contractors are then paid to install on realistic 1:1 scale evaluation rigs and technical performance and quality control are determined. The outcome is used by the Sewer Network Owners to provide their staff with:
 - clear understanding of the benefits and limitations of the technologies to aid their selection process,
 - guidance on producing relevant tender documents and subsequent selection of supplier/contractor,
 - guidance on what to look out for during installation/implementation to ensure correct performance, and
 - guidance on quality checking at acceptance.

This provides confidence in selecting any trying out alternatives to the traditional method or the existing market leader.

Q:2 Do you think that the financial support cited in section three is required to stimulate innovation in the sector? If so, what do you believe is the appropriate amount of funding and why?

The water companies do undertake some formal collaborative research as a whole industry through UKWIR, but this only funds a relatively small number of the essential projects that water companies put forward each year. This alone demonstrates a need for more funding for issues of common interest. Companies do come together in smaller groups to fund some other collaborations.

The water sector has multiple issues and disciplines where innovation needs to be addressed across their functions – resources, treatment, distribution, collection, treatment/reuse, disposal. Within these that are multiple activities - drinking water quality, leakage, pollution prevention, regulatory compliance, capital and reactive maintenance, etc.

Focused funding is needed to properly address all of these areas and funding of the scale proposed in this consultation would potentially enable the majority of issues to be considered and start to be addressed during the next AMP. Evaluation of how this ‘pilot’ has delivered will then provide a clear basis for determining what is appropriate for the next AMP.

Q:3 Do you agree that our proposed draft principles for additional financial support will effectively safeguard the interests of customers?

- *Innovation should be understood to not just be about the development of new technologies. Innovation can also be developed by doing things differently and having the right systems, processes and people to support activities. A wide range of innovation proposals are encouraged, addressing the big challenges facing the sector and taking into account the strategic priorities and objectives of UK and Welsh governments.*

Agreed. To often I have seen the results of research fail to be implemented because the mechanisms and staffing for implementing findings and recommendations on changing approaches and activities did not exist within the water companies.

- *The purpose of any intervention is to drive transformational innovation that companies would not otherwise explore or invest in.*

The key here is to provide funding that individual companies would otherwise not be able to find – or to leverage to make use of joining investments by other industries or national water sectors that would otherwise not be possible.

Currently in Germany a two-year EURO 1.5m project is examining how rising mains can be renovated without the need to excavate and replace – currently excavate and replace is also the common solution to failed rising mains in the UK.

<https://www.ikt-online.org/blog/lining-of-pressure-sewers-evaluating-one-of-the-new-frontiers-of-trenchless-technology/>

Collaborative funding from UK/Ireland WaSCs is enabling them to benefit from this research, which will provide them (and through them their Tier 1 delivery partners and contractors) with confidence about the performance of such trenchless solutions, and to take this forward as ‘informed customers’.

- *Proposals should be just as much about the roll-out of innovations at scale as the early incubation of new ideas and solutions. Funding will be open and flexible and available to projects of all types or scale.*

Scale is an issue – the majority of the current collaborations through UKWIR projects are desk-based exercises, often comprising reviews of existing research and knowledge that cannot afford to commission new practical research or comparisons of the performance of products and technologies.

I would also raise here the fact that Ofwat should consider in the implementation of its innovation strategy a means to identify where innovation already exists from the water industry’s recent efforts that has not been implemented (e.g. UKWIR projects from the past 5 years) and address how that can be rectified.

- *Innovation fostered through these mechanisms must provide value for money for all customers in England and Wales, although the benefits for some customers may in some cases be indirect (e.g. from the sharing of findings across the sector);*

I have noticed as the years have passed that the WaSCs have had less internal staff resources to provide to support collaborative research projects and this includes attendance at UKWIR steering group meetings. Ability to implement the findings is also

compromised as the available funding has not been able to include provision for full dissemination and implementation across companies. It appears to be dependent on the seniority of the member of staff attending the PSG and their ability to influence their peers and superiors, whether recommendations are acted upon. Failure to implement does not represent value for money for customers.

- To cite an example, I undertook a collaborative study of the risks to the public water supply of contamination from miss-connected rain and grey water systems in buildings. At the end, one PSG member provided some extra funding for me to present my findings to his colleagues – half a day at each of two locations where in total some 50 of his colleagues, drawn from across regulation, operations, developer services, customer services, etc heard first hand the findings of the research and could ask their own questions. As he shook my hand at the end, he said words to the effect of: *'Thanks, now I can implement every one of your recommendations as everyone who needs to be involved now understands what we have to do to prevent future miss-connections and risks to the drinking water supply'*.

I would recommend that it should be a requirement for innovation projects undertaken under this new fund to include from the outset a costed and funded plan for dissemination and implementation.

- Companies will be required to fund a proportion of project costs to ensure risks are appropriately shared between customers and shareholders;

This is a model successfully used in Germany where the Ministry of the Environment on North-Rhine Westphalia provides up to 80% funding on research proposed by Sewer Network Owners to improve the prevention of pollution to groundwater, but only if Sewer Network Owners are prepared to invest the remaining 20%. If not the central funding is withdrawn.

- *Mechanisms will be time-limited to the 2020-2025 period. We will review the effectiveness of these mechanisms at least at the end of the period, and as required during the period;*

What is being proposed in the consultation is a 'pilot' for future AMPs. It is entirely appropriate that it is reviewed at the end, in a timely manner so there can be certainty about whether and how it would be carried forward to the next AMP.

- Companies will need to provide evidence of how they are working together and with others (including other water companies, their supply chain, companies in other sectors), and/or a commitment to transparent sharing of progress and findings with others within the sector and beyond;

I have found that water companies are very willing to share and learn from each other, but when it comes to investment in collaborative research only within those that contribute funding. However, in the North-Rhine Westphalia approach, the findings are made public for all 'water companies' to access at the end. The Project Steering Group members (the funders) do still gain specific benefits from their financial investment – being able to guide the work and being fully engaged with their peers, other stakeholders, and the supply chain throughout, and being able to act on what they learn as they go along. Making the findings

public at the end then helps to generate step-changes in the market, which then benefits them and the whole water sector.

- There will be an “open by default” approach to data and learning generated through customer-funded activities, including where projects have been unsuccessful.

This point has been addressed above – transparency. In the North-Rhine Westphalia approach the performance of technologies, products and contractors is published, including reasons why some might have chosen not to engage in evaluations of their technologies/products/solutions.

Q:4 What are your views on the collectively funded innovation competition model which we describe in section three? What other key considerations not highlighted should we take into account in designing/ implementing the competition?

Under this model, companies would need to compete for innovation funding. Funding would be recovered from customers through an increase in company revenues and pooled into a joint ring-fenced pot available to all companies.

Ring-fencing the pot will be necessary to ensure it is used for the purpose intended.

The innovation competition would be run annually, with companies putting forward proposals for innovative projects to be funded through the mechanism. In order to be eligible for funding, companies entering the competition would need to contribute to project costs, and projects and allocation of funding from the ring-fenced pot would need to be assessed by an independent expert entity against our final key principles for financial support. Only companies which are successful in their bids would then be awarded funding.

An annual competition may delay decisions and create uncertainty. UKWIR has already moved away from its former approach which was to put out calls for tender once per year to a more rolling approach throughout the year. Flexibility, to allow projects to begin when they are needed and are ready to go, rather than in one annual tranche should be considered.

What also needs to be avoided is giving an impression that projects might be on one-year duration – when to be effective they might actually need to last for 2, 3 or 4 years – and require funding allocation over such longer periods.

In the North-Rhine Westphalia approach funding is usually committed for a minimum of two years.

Companies would need to develop a framework underpinning the innovation competition. In particular, in the initial set-up phase companies would need to collectively set up and fund a single independent expert entity for the purpose of assessing projects put forward under the innovation competition (or reach an agreement with an existing entity). The chosen independent entity will need to have the required expertise to advise on innovation in the water sector. We envisage that the entity’s relevant work would be funded through the single funding pot described above.

Ofwat will need to establish a means of managing and monitoring this evaluation initiative. This does need to be funded. As the originator of this funding proposal Ofwat should be involved in setting out the objectives (as describe below) and not leave its creation entirely to the water companies. For the reasons described above it should not be too bureaucratic and should itself be an innovation on the water industry’s past approaches to collaborative

funding. Independence is necessary so it can make funding decisions and allocations based on merit.

The companies would also need to jointly develop some of the framework's detail for review and/ or approval by Ofwat, in line with the principles that we set out. This could cover for example:

- *Criteria for funding/ reward (including scenarios for clawing funding back);*
- *Governance arrangements (including appropriate assurance processes);*
- *Approaches to sharing and disseminating of information (including treatment of intellectual property rights); and*
- *A monitoring and reporting framework to ensure the benefits of the competition are captured and understood.*

Agreed

If we decide to introduce a collectively funded mechanism, we will set out clear timings and milestones for the development and set-up of the framework by the companies. Our initial view is that the process of setting up the competition framework should be completed within the first year of the regulatory period. This would allow the competition to run over four years. We expect that a small proportion of the total funding should be available to support the set-up of the competition.

It could take a year to set this up – funding will be needed. But it may be possible to fast-track some work (e.g. by identifying existing innovation initiatives that just need funding to implement now – e.g. from recent UKWIR projects) during the first year so some flexibility will be needed.

We propose that Ofwat would retain appropriate strategic control or oversight over processes and decisions. This will help safeguard customer interests. In addition, we propose that we will review the effectiveness of the mechanism. As a minimum, we propose to carry out a review at the end of the 2020-2025 period. We may also consider a review prior to that to assess progress and to ensure these are effective and of benefit to customers.

Ofwat should do this

Funding arrangements

Companies would recover the funding for an innovation competition from their customers in proportion to the size of the company, based on their projected view of revenue for 2020-2025. This is similar to the approach we use to determine how much each company pays for its licence fee (which is normally based on reported turnover). We will issue a spreadsheet to companies two weeks after the publication of draft determinations which will contain our view of the revenue adjustments which would be made if we introduced a collectively-funded innovation competition.

Although monies will be raised according to size of company – how it is spent should not be allocated by or to companies according to their size – as this innovation initiative is for the greater good of all.

Our initial view

Our initial view is that a collectively funded competition would be an effective way to drive innovation in the sector.

The collectivised element of this intervention enhances competition by offering companies access to a larger pot of funding than they would if it was directly from their individual customer-base.

Agreed - collaborative funding provides leverage on the research investment – and underpins willingness to share the findings.

The competitive element of the model is designed to increase management focus and help ensure only high-quality proposals are put forward. We note that partnerships could also compete for access and that, ultimately, all results would be shared across the sector and beyond. As outlined above, we think a joined-up approach is key to developing solutions to common long-term strategic challenges. Under this model, companies would have both a financial and reputational incentive to work together and with their supply chain to propose innovative projects.

Agreed

While direct innovation funding under the competition could provide companies with greater certainty and should improve participation, setting the right parameters for the competition will be key to ensuring that projects funded are in the interests of consumers and do not displace innovation activities which are already on-going.

We propose to work closely with stakeholders to develop a robust process to underpin the competition. If we choose to introduce a competition, we will put in place milestones to ensure a timely set up. Ultimately, we believe the reputational benefits, in combination with the longer-term opportunities to reduce costs and provide better outcomes for customers through innovation, should provide sufficient impetus for companies to engage in the process.

Agreed

Q:5 What are your views on the end-of-period innovation roll-out reward we describe in section three? What other key considerations not highlighted (e.g. whether it should be collectively funded or individually funded) should we take into account in designing/ implementing the reward?

End-of-period innovation roll-out reward

In addition to the collectively funded competition, we are considering whether an end-of-period innovation roll-out reward, could help increase the adoption of innovations across the sector.

Description

This would consist of an end-of-period reward payment to those companies that have demonstrated the most successful roll-out of successful innovation to the benefit of customers during the 2020-25 period, and have shared their findings with other organisations.

Successful companies would be entitled to additional revenue allowance at the following price control period, PR24. If we went ahead with this mechanism alongside the collectively funded competition it would share in the allocation of up to £200m. We will also consider

whether similar or the same governance framework might apply to the roll-out reward as with the innovation competition.

Our initial view

Our initial view is that an end-of-period reward could be implemented in addition to the innovation competition in order to encourage the adoption and roll-out at scale of innovations. We highlight this as a potential key issue earlier in this document. The introduction of a roll-out reward may be effective in cases where companies have insufficient incentive to turn a successful trial into business as usual.

There is a risk that a roll-out reward could encourage the adoption of suboptimal solutions, or reward companies for implementing solutions that they would have rolled out as business as usual. There is also a potential risk of double-funding, in particular where companies may have been awarded funding under the innovation competition or as part of PR19. Such risks could however be mitigated through the design of a robust assessment and decision-making process.

A reward would focus attention on implementation, which is the most vital ingredient in realising the benefit from innovation.

The risks have been identified and should be addressed in ‘the design of a robust assessment and decision-making process’.

Q:6 What other potential alternative mechanisms for funding/ rewarding innovation not discussed do you think we should be considering?

Ofwat has the model of Ofgem to learn from and, if not already in progress, I would recommend reviewing how innovation is encouraged in other countries. I have explained above how North-Rhine Westphalia approaches finding solutions to the problems experienced by its Sewer Network Owners. This is through collaborative funding and longer (two year) projects aimed at making them ‘informed customers’ who can select the appropriate solution - based on understanding of performance and limitations, generate appropriate tender requirements and ensure quality at implementation and acceptance.

The water companies will need to be able to employ staff for whom their day job will be to manage the company’s engagement with this initiative both to contribute to the projects and to manage their implementation.

Which financial support mechanism or combination of mechanisms should we introduce and why? What would be an appropriate split of available funding/ reward?

The proposal is that having set up the independent delivery body in year 1 the innovation funding runs for 4 years with potentially a reward at the end. Identifying, evaluating and implementing innovation will require the majority of the funding, so a split of:

Year 1 – some funding for establishing the body

Year 2 – 20%

Year 3 – 20%

Year 4 – 20%

Year 5 – 20%

Reward - 20%

However, as initiatives should not be limited to one-year duration this would not mean starting new projects each year totalling the 20% of budget, but using this allocation to both continue projects and start some new ones.

Q:7 Do you think the potential industry activities discussed in section four could help drive innovation? Are there other activities not identified which you think the industry should be considering?

We think there is more the sector could do to promote innovation. In this section, we ask companies to consider what actions they could take to set themselves up more effectively as an industry. These could be either stand-alone activities or complementary to our proposals for an innovation funding competition and/ or an innovation roll-out reward.

Sector-wide joint innovation strategy

In order to further encourage a joined-up approach on innovation in the water sector, the water companies could develop and publish a joint innovation strategy. Any such strategy would need to be developed in collaboration with stakeholders and updated regularly. It could, for example cover:

- *Key challenges/ uncertainties faced by the water sector;*
- *Innovation projects/ activities that the sector is planning to undertake to address these;*
- *Plans for addressing key challenges/ uncertainties not currently being dealt with;*
- *Plans for coordination activities within the sector;*
- *Plans for engaging with the value chain/ innovators; and*
- *Plans for disseminating learning from innovation activities.*

A joint innovation strategy could help focus industry efforts as well as encourage transparency and engagement with the value chain and innovators.

We also think that the introduction of such a strategy could become a key feature of the framework for any additional financial support, if introduced.

Agreed all the above points are valid. There are already good initiatives to build on with the investment made in TWENTY65 and the UKWIR 'Big Questions'.

Also, to identify and consider complementary initiatives in other sectors and countries that provide the opportunity to access relevant information and leverage investment.

Innovation in water centre of excellence

We want water companies to think carefully about how to streamline existing initiatives to ensure efforts are complimentary rather than duplicative.

Within this context, we think the water sector should be considering whether the establishment of a centre of excellence could deliver benefits. Such a centre could, for example, provide expertise, market knowledge and insight, as well as potentially financial assistance, to drive collaboration and cooperation on innovation. The centre could also have incubation facilities and facilities to trial, test and scale innovations and allow innovators access these facilities in order to help develop and scale their products.

Companies could consider putting forward a proposal for this kind of activity for consideration under any mechanism for funding or rewarding innovation, if introduced.

There are a range of organisations with the skills and facilities to support such an approach. What should be considered is a central resource that can facilitate this by identifying on a case by case basis the best available resources for undertaking incubation, trial and scale; and where collaboration with initiatives in other sectors and countries can leverage investment. Avoiding re-inventing the wheel requires such an approach.

Gaining greater insights

We also believe that there is significant scope for the water sector to make better use of information. This may be in the way companies manage and use their own data or the way other organisations interact with water sector data. In 2017, we published a report on unlocking the value in customer data, where we highlight that the better use of data can be used to drive greater customer service and satisfaction, improve efficiency and encourage smarter network management. However, we think opportunities exist to make better use of other types of data, for example asset data, by taking an “open-by-default” approach.

A more open and accessible approach, for example through partnerships with innovators, can create further benefits by allowing third parties to access and analyse data. This can help companies better understand their networks, customers and processes and devise new solutions. For example, companies could find new ways of making faster repairs, delivering bespoke services and optimising their process. There are wider benefits to open data too, for example improved transparency and reduced information asymmetry.

The UK government’s Industrial Strategy aims to put the UK at the forefront of the artificial intelligence and data revolution and we expect the water sector to be part of this. We want to see companies take ownership of this issue and work with each other and stakeholders to explore options for open data. We note that there are some encouraging signs of increased activity by water companies and their suppliers in this space. We may also consider ways in which regulatory tools can be used to accelerate progress, if required.

Open source data is increasingly becoming available in academic research, particularly to allow researchers to validate models and theories. At IKT- Institute for Underground Infrastructure the full results of evaluations of technologies to meet Sewer Network Owners need are made publicly available in order to generate step changes in the market and uptake by the water sector.

Q:8 Do you think the proposals in section five will help drive innovation? Are there other activities not identified which you think Ofwat should be considering?

Regulation as an enabler for innovation

We are considering ways in which we can set ourselves up more effectively to enable innovation in the sector. This could include changing the way in which we engage with regulated entities and other stakeholders on the theme of innovation, or increased liaison with other regulators in the sector.

Setting ourselves up to promote innovation

One way we could do this is by providing informal advice to regulated entities and other parties seeking to get innovative ideas off the ground. This could, for example, follow a

similar model to Ofgem's Innovation Link, which focuses on delivering fast and frank feedback to organisations looking to understand what regulation means for them.

We would welcome views from stakeholders on whether such a service could be of benefit, in particular to those smaller organisations that are considering bringing new products or ideas to the market.

- Such a service might be a distraction for Ofwat and could perhaps be better provided through the proposed Centre of Excellence – with appropriate Terms of Reference.
- However, innovation should be driven by having the water companies to identify and agree common problems or issues first and then finding innovative solutions for that problem by identifying and evaluating the benefits and limitations of them.
- The process should not be driven by ideas that need to find an application.
- Identify where innovation would be useful and let that drive innovation – not the other way around.
 - o For example, the current holder of the UKSTT Innovation Award (as of September 2019) is Wessex Water for its pipe re-rounder. Having identified that it could make substantial financial and carbon savings if it could find a way to re-round deformed sewer pipe to a state where trenchless re-lining was feasible, it investigated heart surgery stent technology and has then developed a pipe stent with the supply chain.
- This approach has been applied in North-Rhine Westphalia to good effect where the Sewer Network Owners identify a common issue
 - o An example of this was the need for effective local repair of damage to main sewers to prevent infiltration, and see solution. Faced with a range of competing products on the market and some emerging solutions a review of them led to identification of three 'technologies' from which representative products were selected for 1:1 scale comparative evaluation of them in test rigs designed by the Sewer Network Owners to be representative of the actual damage scenario that they wanted to address. The exercise identified the benefits and limitations of the technologies, enabling them to develop their solution selection processes, include QA requirements in the tender documents and selection of contactor/product, understand what needed supervising during installation to ensure performance and to determine how to assess quality during the warranty period. As a result of that project, 4 of the 12 representative products installed onto the rig that were found to underperform against the sewerage undertakers' requirements were withdrawn from the market by the suppliers. In a separate exercise to compare odour controlling manhole covers the Sewer Network Owners required the manufacturers of all six products in the evaluation to make improvement to their products.

I believe Ofwat should be focused on identifying where innovation is needed based on what the water industry needs (e.g. a replacement to phosphate for controlling lead pipe leaching) and create the opportunities for the market to respond. It should be driving clear identification of innovation

needs, rather than responding to ideas by trying to help organisations that think they have an innovation to find an application for it.

Creating a collaborative evaluation proposal from the water industry, identifying the existing and new innovations and satisfying the water industries of the benefits and limitations (so they can be informed customers) then creates the opportunity for 'those smaller organisations that are considering bringing new products or ideas to market' to engage and prove their worth.

Increased coordination on innovation across regulators in the sector

The Department for Environment, Food and Rural Affairs (Defra), the Welsh Government, Ofwat, the Environment Agency (EA), Natural Resources Wales (NRW) and the Drinking Water Inspectorate (DWI) have a range of responsibilities to ensure that water companies meet their customers' water needs in a safe, resilient and efficient way, while protecting the natural environment and ensuring the needs of other water users can be met.

The recent partnership between Ofwat, EA and DWI, the Regulators' Alliance for Progressing Infrastructure Development (RAPID), which will also work with NRW, highlights the significant scope for cross-regulator work to benefit customers and the environment. We think there may be further opportunities for coordination on the innovation front across the economic, environment and drinking water quality regulators in both England and Wales.

Activities we could explore could include increased liaison to ensure new products or approaches can be effectively trialled, in particular where regulation may create potential barriers. Similar arrangements already exist in other sectors, for example Ofgem's Innovation Link, already discussed above and the Financial Conduct Authority's regulatory sandbox. We welcome views on whether such an approach could be worth exploring, in particular in terms of facilitating the roll-out of proven technologies. For the avoidance of doubt, arrangements of this nature cannot not be used to undermine regulatory performance commitments.

Agreed