



**Costain Limited Response to Ofwat**



**Ofwat Innovation funding and competition:  
Further consultation on design and  
implementation**

**June 2020**

Costain Limited is a pan-sector process and technology innovator, delighted to be given the opportunity to share our thoughts and ideas on Ofwat’s published Innovation Funding Strategy.

## Section 1: Outstanding Policy Issues

### 1.1 Intellectual Property Rights and Royalties

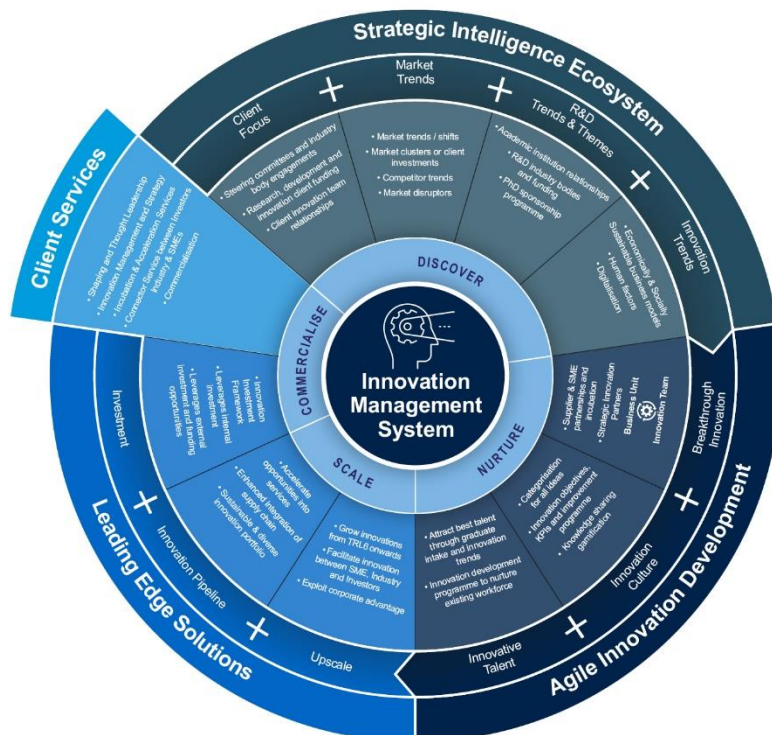
**Q1: Do you agree with our proposed default arrangements for managing IPR and royalties? Do you think these arrangements work for different types of projects and activities (e.g. new technology vs. process innovation, roll-out activities etc.)?**

With reference to the proposed background Intellectual Property Rights (IPR) intentions, we would endorse the guidelines as set out within the brief - enabling the licensing of existing IPR for the purpose of new innovation project development and this would be covered by the necessary legal documentation to support it.

With regards to the foreground IPR proposals, we propose a slight amendment. We do not recommend that this IPR is provided to all companies, as this will reduce the ability of the business who owns the IPR to access the wider market directly, hence constraining the supplier’s ability to grow their innovation and subsequent business.

However, we would suggest that the Company that is supporting the development of the innovation is granted access to this foreground IPR. The access to any IPR, whether jointly created or otherwise, should be discussed prior to the parties entering into a contract to ensure complete openness and transparency about the development, whether current or in the future.

We have attached our own internal Innovation Management Plan (IMP) for Ofwat’s reference. This outlines our proposed stance on IPR management and is in line with the rest of our Innovation Management System (IMS), which has been developed in line with ISO 56000, the Innovation Management Standard. A graphical overview of our IMS (shown below) is also attached.



Content provided in our IMS will provide Ofwat with some additional insight into how we manage and maximise the benefits of innovation.

IPR and Royalties should remain within the innovating parties’ organisations to drive the development, intellectual and commercial behaviours as the value to the companies should come from the innovation’s exploitation and application in the wider market.

## Q2: What alternative arrangements should we be considering for IPR/royalties?

For provision of royalties to the companies, we propose an alternative arrangement which may enhance the likelihood of innovations being accelerated through the scale-up process, for exploitation in the wider market. Under this arrangement, royalties should lie with the leading water company(s) for the first two years after completion of the funded project. Should that leading water company's team then fail to accelerate and exploit the development, the Ofwat partner innovation company will own all foreground IPR and royalties from any future development. Should the partner innovation company then go on to exploit the innovation and secure other contracts to take the project to market, the IPR and royalties agreed at the outset will be honoured by the water company(s).

This will ensure that the leading water company(s) sponsoring the initial project has a vested interest in maintaining a close relationship with the project beyond the project's completion date. This will ensure that the water company(s) supports the wider team to continue to develop the innovation in line with the value proposition, and will result in a higher likelihood that a suitable minimum scalable product will be developed.

The above IPR and royalty arrangements generally align with the InnovateUK guidelines, which most of the participating supply chain will be familiar with. These will be accepted by most entrants and states that the IPR returns to the funding party if not exploited within 24 months, i.e. in this case the IPR would be returned to Ofwat or the innovation owning company.

## 1.2 Open Data and Information

### Q3: Do you agree with the principle that data generated through the innovation competition should be open by default?

We refer Ofwat to the UK Rail Sector's 2018 publication 'Joint Rail Data Action Plan', which outlines the intentions for enabling open data for the support of innovation products and competitions. It also supports the wider benefits of pursuing such strategic pursuits as a National Digital Twin and other nationwide initiatives, as well as the removal of barriers to information sharing.

Open data from assets enables digital companies and data insight companies to develop desktop and scale proof of concept models and Minimum Viable Products. This ensures that when the innovation is ready to start its second phase of development, the solution is already addressing the need and the transition is, therefore, more efficient. The Rail Industry has also benefited from various hackathons and other competitions where the provision of data has enabled faster and more focused innovations to be achieved.

However, open data needs to be controlled. The Rail Industry has undertaken this with varied levels of success through provision of "NR Data Feeds" and "NR Supported Hackathons", such as those managed by HackPartners.

These demonstrations of open data show the value that this step could bring to the water innovation space and is endorsed by Costain.

### 1.3 Risk Sharing

**Q4: Do you agree with our proposed approach and that we should consider alternative arrangements beyond company contributions?**

We agree that alternative funding arrangements should be considered beyond the 10% minimum company contribution. Additional or alternative funding can be secured via research funding bodies as well as venture capital funding to support specialist start-up companies.

From our own experience across the Utility and Construction sectors, commitment to innovation projects can be demonstrated through partnerships with academic institutions, professional bodies, start-ups and venture capital organisations as well as other private companies, where the combined expertise will provide greater value to the outcome.

**Q5: Do you agree that a guideline minimum company contribution of 10% is appropriate in this context?**

We are in broad agreement with this principle. We also agree with the proposition that this can be challenged should companies have specific concerns about the percentage or propose to enable the percentage by utilising partnerships or other financial models, similar to those discussed in our answer to Question 4.

As an example, there are existing innovation partnerships that branch across sectors and use standard commitment models for organisations to contribute to funding pots. This model is already well established in other sectors that Costain is familiar with.

### 1.4 Types of Projects Funded

**Q6: Do you agree with the overarching approach we set out here?**

It is not unusual to see the water sector wanting to advance innovation, but funding, risks, priorities and people are usually the reasons why every UK water company wants to be the **‘first at coming second with new innovation’**.

These reasons are fundamentally why innovations are slow to move, fail or remain localised with no or little betterment to the wider sector. We believe that the concept of innovation should be led by both the known challenges as well as the unknown or future predicted challenges within the water sector. Innovation should drive to improve safety, enhance the customer experience, improve carbon reduction, simplify ways of working and facilitate cost savings. As a result, the Ofwat Innovation Funding should be designed to deliver on these key specifics whilst driving for ‘collaboration & pan-sector knowledge sharing’.

We fully agree with Ofwat’s four parameters set out in the strategy, but strongly advise that the “specific issues” should lead these parameters. As a result, there should be a lean towards early upfront feasibility studies and detailed research in the short term. These feasibility studies undertaken during the pilot year could then support the main innovation competitions in subsequent years. This key step approach is to enable improved certainty of positive results in later developments during the five-year cycle Ofwat propose.

We eagerly anticipate the review of the Draft Joint Strategy under development and would embrace some specific direction towards up-front research.

As a means of comparison, internally we map our research and development needs over three horizons – namely: +5yrs, +10yrs and +20yrs. Our first phase is based around our short-term approach and is aligned with our 5-year sector related business plans and looks to convert our

current innovations and developments into service offerings within 2-3 years. Our second phase incorporates the research and feasibility studies being undertaken by internal staff and sponsored academia. We believe that on review of the Ofwat consultation document there is 'limited discussion' around the medium-term needs and feasibility studies to ensure stronger and more robust innovation developments, and we suggest this area will require more defined input.

Our third phase helps us to understand what trends and themes may be emerging in the future that we could positively influence, for example: our PhD programme, our future business plans, and sector challenges. Similarly, this process could be undertaken in the short-term with similar cycles.

Consideration should also be given to investigate and develop the up-front need vs outcome, whilst completing research for the later phase of the spend period. The mapping of the later phase could be focussed at looking towards the start of the next spend period, thus enabling early development to be undertaken for a seamless springboard into PR24 / AMP8. This approach could also help shape the sector into a leading edge and progressive thinking collaborative environment.

From our multi-sector experience, we are of the opinion that the continued issue of addressing and embracing innovation should be at the heart of how innovation competitions are led. All parties need to clearly define and jointly agree the 'challenge' and its perceived parameters. Water companies and their supply chains need to be open and mindful 'together', whilst constructively challenging the standards and parameters. This type of approach could be executed through the "one-stop shop" Innovation Team per Innovation Competition.

**Q7: What are your views on introducing separate, proportionate, arrangements for small-scale projects? How might we define small-scale projects for the purposes of the innovation competition?**

From our experience, small scale projects should be enabled to promote competition and collaboration within the supply chain, whilst addressing similar issues across the water sector. It's becoming more apparent within the water sector that a number of small pilot trials are coming to market involving a number of key stakeholders and vendors, with a vested interest in creating a platform together that can be scalable across one or more water company.

However, some 'small-scale' projects rely on multiple vendors with the customer at heart. The engineering challenge, the customer and the cost benefit outcomes are typically identified early on and then collaboration begins on developing a solution. We see quite regularly these 'quick turnaround' small-scale projects become tightly funded trials with no further scalability other than the localised geography or wider host water company region. In addition, there is limited scope or commercial incentive to 'lift and shift' these concepts to neighbouring water companies with similar challenges. Therefore, sadly, the project becomes defunct, stakeholders lose invested time and money and any potential revenue, interest, and desire. As a result, the sector becomes starved of 'innovative enthusiasm' which is so much needed.

Costain is a firm believer that small-scale projects with open collaboration at the heart will ensure that multiple vendors (incl. SMEs) are embraced and enabled to develop products or services that address the challenges of the entire sector, whilst bringing the capability and mindset of the international supply chain into play. This approach must support the wider water sector strategy, and it also compliments and embraces the supply chain, bringing a wider benefit and challenge focussed community to support our water customers.

**Q8: Do you agree with our proposal for ensuring roll-out is at the heart of the innovation competition? How might we reward both leaders and fast followers in?**

We agree with Ofwat's proposal for ensuring roll-out is at the heart of the innovation competition. The water companies involved will need to be at the focal point for enabling this. They must work with the supply chain innovators to ensure a steady platform is in place. This is to assemble a good problem-solution that is 'sector fit', to ensure that the products/services and the innovation participants are suitable to scale, as well as demonstrate the appropriate behaviours to challenge and the sector itself.

Reward to leaders and fast followers would likely be most beneficial through financial incentive/performance incentives, as well as recognition and accreditation. This also compliments our comments regarding enabling IPR and royalty management. Scaling the innovations is fundamental to the long-term success of this innovation programme. Other sectors we have worked in have varying models where this is not always delivered. Therefore, fair and robust measures must in place to deliver the 'art of the possible'.

Another method of reward to leaders and fast followers is to look at mechanisms of how their combined solution can be scaled across the sector, commercialised as an 'off-the-shelf' product offering or sellable within the private sector (including the international water market).

## **1.5 Protecting the Innovation Funding**

**Q9: What practical arrangements should we introduce to ensure adequate ringfencing of the innovation funding?**

The ringfencing of innovation funding is crucial to successful implementation. To achieve this, we would recommend the use of project-based accounting (and related) software. This assists with ensuring that all related costs accrued from an innovation project are captured and reported outside of the Water Company's regular financial reporting system.

By focusing only on the amounts related to a project, this provides Ofwat and those managing the innovation process with a clear indication of the resource requirements and costs of that project.

Capturing innovation investment and understanding whether a return is being realised on it, are clearly of importance to all participants. In fact, the question of innovation performance is so fundamental that it should not be necessary to use a special tool to bring this knowledge to the surface. Now that business information and accounting systems are increasingly cloud-based, updates to ensure that relevant data is obtained and analysed should be easier to introduce and distribute.

## **1.6 Partnerships and Collaboration with Third-Parties**

**Q10: Do you think the proposed innovation challenge approach will help better enable partnerships and collaboration between companies and third-parties, in particular smaller innovators? Are there alternative approaches we should be considering? How can we make sure this approach works in practice?**

The UK Water Sector has generally adopted 'collaboration and partnership' across many of its contracts delivering major projects and frameworks, but it can be further deployed.

We believe that the Innovation Strategy will reinforce the new mindset that Ofwat is engendering within the sector in developing true innovation, collaboration, and client benefits. The next major step is to encourage individual Water Companies to work alongside their peers to achieve real change.

Water company maturity has grown in recent years, and the water sector concludes that it does not have all the 'innovation' answers within its own workforce. Through domain knowledge and experience, and the addition of technical innovators working amongst the water companies as supply chain partners, collaborative partnerships are beginning to gain credibility and traction. However, the sector must not lose sight of the many SMEs on the international scene that are integral in bringing new technology and solutions to this sector.

Northumbrian Water and Anglian Water Innovation Festivals are a clear demonstration that there is an appetite to engage with large and small innovators. Another example is United Utilities' Innovation Lab, which facilitates a culture of true collaboration with SMEs. Therefore, some collaborative partnerships are already in place with the bigger supply chain partners, and in some cases with the new smaller innovative SMEs. The downside is that these are all regional activities with little or no cross-border collaboration.

Water companies being the 'enabler' will ensure consistent engagement if a 'rule book' is applied. Standardisation is how the sector operates. Therefore, standardisation of the Innovation Competition will have all involved operating on a level platform with the same 'line of sight'. This approach can only deliver improved innovation delivery results if parties of all shapes and sizes can operate equitably. This should also promote inter-company innovation collaboration and sector improvement.

Importantly, this will also help to de-risk some of the areas normally seen as blockers to smaller businesses and SMEs, thus helping to drive engaged and enthused collaboration. One suggestion could be that some of the smaller innovation challenges are addressed and managed by using Tier 1 Supply Partner(s) (from Framework Agreements) acting as Strategic Innovation Partner Advisors to the water companies to ensure a wider spread and deeper 'reach-back' into the supply chain.

The above will also support the innovation developments by enabling trials and demonstrations in lower risk environments, controlled by Contractors with significant domain experience. These could be operational innovations and could be deployed in a controlled manner, such as upgrade works. This would also allow 'reach-back' into other sectors, for example Costain has experience in Oil, Gas, Highways, Rail, Aviation, Nuclear and Power etc. as a Tier 1 Partner.

## 1.7 Protecting Customers' Interests

**Q11: Do you agree with our proposed approach to returning funds to customers? Are there any other circumstances, not considered here, under which we might consider returning funding to customers?**

We agree with Ofwat's recognition that innovative initiatives will not always succeed, and that funding would not need to be returned to customers under normal circumstances. To drive improved efficiency, it is important that companies are incentivised to take managed risks which could result in partial success or potential failure.

Consideration is recommended to avoid deterring companies from significant innovation arising from higher risk initiatives. Once the successful innovation is proven, benefits could be realised through future regulatory periods for both the innovators and customers. Costain agree that any unused funds should be returned to customers.

The opportunity to sanction companies by making adjustments in the event that funds have either been misspent, or companies have not complied with funding conditions, is aligned with good business practice.

## 1.8 Interactions with the Price Review

**Q12: Do you agree with our proposed approach for managing interactions with the price review?**

Costain fully agrees with the proposal for managing interactions with the price review.

Ultimately, the water companies must be held responsible for delivering on their ODIs and managing risks in rolling out projects and programmes. Therefore, the water companies are best placed to select pilot projects for innovation and to manage the risks on these projects, balancing risk and opportunity.

As a supplier to the UK Water Sector, Costain has visibility of the existing opportunities to innovate with the water companies outside of the innovation fund, of which there are numerous. Costain is therefore well placed to manage the risk to outputs. The main difference between these projects and those funded by the innovation competition is that the fund allows for much greater collaboration and innovation with no geographical boundaries.

## 1.9 Updated Principles

**Q13: Do you agree with our proposed amendments to the principles? Are any further amendments to the principles required to reflect our approach to outstanding policy issues outlined in this document?**

The challenge requiring the water companies to commit to transparent sharing of progress and findings will ensure that sufficient water companies choose to be true innovator leaders rather than early or late adopters.

However, it must also be recognised that the institutional capacity within the sector varies and that some of the smaller companies and WoCs will not have the same appetite or capacity to pursue innovation at certain levels, and may not benefit from the scale of return of a larger WaSC.

Costain, as a national water sector supply partner, recognises that the water companies have a great opportunity to get more value from their data to drive more efficient business processes and systems. We recognise that significant barriers exist to implementation and establishing innovation as business as usual, therefore a focus on institutional and behavioural change to embed business improvements will also be a very important part of the process.

We agree that a long-term view should be taken in terms of funding decisions and by recognising that benefits may take time to materialise (including pay-back). In addition, we agree with the principle of requiring data to be made open-source by default.

## Section 2: Design and implementation of the competition

### 2.1 Piloting the Innovation Competition and Innovation Activities (2020-21)

**Q14: Do you agree with our proposed focus, major strategic themes and overall approach for the competition?**

Following a full review, we agree with the three areas of consideration and, from experience, believe that these are the correct ones to pursue.

As suggested in our comments to Question 6, some additions to the content around desktop research, pilot studies and feasibility studies in the lower Technology Readiness Levels would be beneficial in focussing the latter years' innovation projects. In support of this, given the Covid-19 situation, it may be more appropriate to re-focus some elements of the Main Competition for the





following year, with feasibility studies conducted in support of those developments during the pilot year.

**Q15: What is the appropriate split of available funding between the Innovation in Water Challenge, the main competition and enabling activities?**

We would recommend that the funding available for the Year 1 Innovation in Water Challenge be at least 30% of the overall committed expenditure to enable both Water Companies and Third Party businesses (either in collaboration or individually) to fine tune/raise the profile of current and developing innovations. This would create a real community of innovation and hopefully secure some significant successes early on. In addition, the front loading of the funding would attract SMEs and out-of-sector businesses to invest their time and resources in competing throughout the funding period.

The main competition should encompass at least 60% of the funding with the remaining focussed on enabling activities. This ensures a decent throughput of projects and sufficient funding for support and additional activities.

**Q16: What are your views on the feasibility of running all three types of activities in the pilot year, and on the proposed timings in Annex 3?**

Please refer to our comments about adjusting the scope in our response to Question 14.

In addition, we feel that with the staggered issuing of frameworks and contracts within the UK Water Sector, the running of all three types of activity within the pilot year could be feasible within reason. This is our own insight as a domain experienced and leading innovation development organisation, and how Costain would align to these 3 main principles.

It is worth noting that following engagement with our water customers, and from their recent feedback on this subject, we see a desire from them to not only address AMP7 challenges through innovation and new ways of working, but also use this time wisely to create a vehicle that allows innovative solutions to develop and mature in the coming years - thus allowing them to flow freely into PR24 and beyond.

What is apparent is the maturity of our water clients to collaborate with each other and their respective supply chains to 'co-develop' solutions and innovations that create benefits to the wider sector. Therefore, we have already seen a step change in both mindset and desire to try and achieve this, and the collaboration between several parties (including Costain) has begun.

Covid-19 has had an impact not only on the water businesses, but also the supply chain. We are now seeing some return to normality within the sector. However, health & safety of staff and their working practices will remain a high priority for us all, and the timescales and focus on innovation may suffer as a result. We would need to be mindful of this when setting out the 3 main activities in the pilot year. New ways of working and collaborating, for example using Microsoft Teams, has brought a new dimension to communication and teamwork. However, the test will be at the point of development and any physical trials on site could pose a challenge during the pilot year.

What is interesting, as mentioned above, is the desire of the sector to collaborate, and this collaboration approach may facilitate the ability of organisations to share tasks and activities in order to achieve all 3 activities within the pilot year.



## 2.2 Key Implementation Considerations

Q17: Do you agree with our proposed approach to key implementation considerations outlined here?

We are in broad agreement with Ofwat's proposed approach with certain amendments. The principal additional point to consider is the creation of a 2yr statute on IPR for the innovating party. If there has been no real traction achieved within 24 months, that IPR reverts to all eligible parties.