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## Chapter 10

# Innovation

## Summary

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**We innovate to support the delivery of our service now and to create a resilient water future for customers in the South East of England. Our innovation programmes are illustrated in this chapter, with examples such as our *Target 100*, *DataWell*, and bathing water enhancement programmes, along with innovations in catchment management, water and sewer networks. This chapter also explains the steps we are taking to encourage a culture of innovation throughout our organisation.**

This is a time of change and challenge in the water sector, arguably the most significant ever. Therefore, we see innovation as essential to meet the challenges of the future. We can bring our preferred future to life faster and more efficiently if we are open to new ideas, new ways of working, and new practices from any sector, from anywhere in the world, including innovations in market mechanisms. The innovative projects featured in this chapter could not be delivered without innovation being part of the culture of the business.

This chapter summarises our approach to innovation; our current actions; and our proposed new approaches to catalyse additional innovation and the benefits that it provides for customers and other stakeholders, the economy and the environment.

## Chapter headlines at a glance

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- **Our definition of innovation aligns to Ofwat’s priorities and ensures we both improve and transform our business**  
Ofwat is seeking meaningful innovation that leads to new benefits for customers, other stakeholders and the environment. We define innovation as “the process of identifying and implementing something new, and/or something better, that delivers value to our customers, other stakeholders and our organisation.”
- **We have engaged extensively with customers and other stakeholders to understand their views on innovation**  
Over the course of AMP6, a transformation programme has significantly improved how we engage with customers and other stakeholders – and then use that insight to put them at the heart of our business. As a result, we have a deeper understanding of their priorities and the areas where innovation can make the biggest difference to the services we provide, now and in the future.
- **Our approach to innovation is already delivering significant benefits**  
Innovation without practical and effective application will not change our business or deliver customer benefit. Our plan is built around a focus on incremental innovation (doing things better and more efficiently every day) while at the same time investing to assess, and where relevant, to develop and implement, transformational and radical innovation (doing things

differently). We are establishing a fresh approach to innovation to speed up the process of change and drive the actions we need to take. Examples of the steps we have already taken, and the benefits that we are already delivering for customers, the environment, and the broader economy are set out later in this chapter in the form of 10 case studies.

- **Our approach demands collaborative action at scale**  
By engaging more staff and customers in innovation, recognising their potential as a source of new ideas, and reducing the barriers to collaboration, we are confident we can drive a step change in the culture of innovation associated with our business.
- **Some of the challenges of the future will require radical innovation**  
Central to our AMP7 strategy is *bluewave*, a new approach to transformational and radical innovation at Southern Water. *bluewave* combines lean start-up and design-thinking approaches in a dedicated, physical innovation space. It includes methods to engage all employees in innovation, active collaboration and joint creation with customers and stakeholders, and the building of new partnerships and ecosystems to enable us to exploit new technologies within our research and development (R&D) programme.

Table 1: Our core innovation investment for AMP7

Southern Water's core innovation profile in AMP7	
Investment commitment	£20-25 million Totex investment in AMP7
Enabled savings	£50 million in AMP7
Core team	Building to a dedicated team of 20 in AMP7 (including <i>bluewave</i> innovation and R&D)

## 10.1 Our definition of innovation aligns to Ofwat's priorities and ensures we both improve and transform our business

Ofwat is seeking meaningful innovation that leads to new benefits for customers, other stakeholders and the environment. The expectation is that innovation contributes to resilience through better management of risks and opportunities, and that it is embedded in the culture, the processes and the people of the company.

Ofwat expects innovation to embrace new technology, new services, new ways of encouraging customer participation in service design and provision, and new and more collaborative ways of working with customers, communities, the supply chain and other stakeholders. It anticipates the redesigning of business processes using technological development to deliver better outcomes at lower costs, further development of markets and new catchment management approaches.

Aligned to Ofwat's expectations, we define innovation as "the process of identifying and implementing something new and/or something better that delivers value to our customers, other stakeholders and our organisation." Our approach to innovation therefore is not only concentrated on "radical" innovation and doing things differently. We focus hard on "incremental" innovation, doing things better and more efficiently every day.

Figure 1: The Innovation Spectrum



We deliver incremental innovation through a relentless discipline of being customer focused and **brilliant at the basics** to drive continuous improvement. At the same time, we develop and implement “transformational” innovation through new programmes, approaches and technologies. Finally, we invest in assessing “radical” innovation, looking far into the future for long-term changes (also known as megatrends) that will change the way we do business and searching across global geographies and industries for new ways of working to respond to radical change.

## 10.2 We have engaged extensively with customers and stakeholders to understand their views on innovation

In our extensive customer engagement programme (described in Chapter 4), we found that customers consistently highlighted innovation as one of the key enablers to address their priorities. Households, businesses and customers of the future feel technology should be used to drive innovative solutions to improve efficiency, decrease water usage, assist with repairs and reduce leaks. In our engagement, stakeholders told us where they saw a crucial need for innovation to change behaviour or increase resilience. These ideas included using renewable energy and promoting water re-use, improving the timing in our investment plans in strategic wastewater infrastructure to support growth, and maximising energy production as a by-product of the water treatment process. All of these areas and suggestions helped shape our AMP7 plan and initiatives.

Most importantly, we have observed that improvements in customer services beyond the water industry have led consumers to have much higher expectations about service levels and price points. The introduction of competition in the utility sector has also highlighted how customers are much more knowledgeable when choosing utility providers. This means that we will need to innovate and collaborate to remain aligned to customers’ expectations.

This insight has set the scene for our approach to innovation in AMP7 as we address the increasing expectations and requirements that customers place on us.

## 10.3 Our approach to customer insight and innovation is delivering significant benefits as we become **brilliant at the basics** and roll out our transformational programmes

Insight without action or innovation, without practical use, will not change our business or deliver a customer benefit. We have therefore established a fresh approach to innovation that has involved a step change in catalysing action. The steps we have already taken, and the benefits we are

already delivering for customers, the environment, and the broader economy of our region, are highlighted in the form of 10 case studies below which include a strong focus on transformational and radical innovations.

Numerous examples of incremental innovation in customer service and experience can be found in Chapters 8 and 9. These include:

- working closely through AMP6 with regional partners to found, create and lead a cross-regional network of support for customers facing both financial and non-financial vulnerability
- using speech analytics software in our call centres to proactively resolve issues
- making 'Keep in Touch' notifications to customers, to understand their ideal bill timing and frequency and to produce a tailored communication to cater for different customer requirements
- collaborating with South East Water (SEW) on the “One Bill, One Team” project to ensure SEW customers who receive our wastewater services receive only one bill.

Examples of innovative market mechanisms include:

- successfully testing community rewards to promote water efficiency
- incentivising farmers to reduce the risk of metaldehyde infiltrating our water sources
- developing a joint project with Portsmouth Water to strategically share 23 megalitres of water throughout AMP7.

Other examples of market mechanisms can be found in the case studies below. Throughout AMP7, we will be conceiving new market mechanisms through our **bluewave** programme.

## 10 examples of innovation in action:



### Case study



### Bathing Water Enhancement programme

Work on our innovative programme to improve bathing water quality is well underway.

Our region boasts more than 700 miles of beautiful coastline which is the lifeblood of many communities, through tourism, business and leisure.

In recent years, we have invested millions of pounds to reduce the impact of our wastewater network on bathing water quality. However, bathing water is also affected by contaminated rainwater running off roads and agricultural land, wastewater from privately-owned treatment works, boats, animals on the beach and seabirds.

Our Bathing Water Enhancement programme investigates these issues and sets out a plan to collaborate with those with the power to fix them.

Customers have backed this plan and have told us they are willing to pay a little extra through their water bills to fund the improvements. We have earmarked £32.9 million for the programme – approximately £2 per customer over the five years between 2015 and 2020.

**We have:**

- completed a large portion of work to fix misconnections across seven bathing waters and will have completed the corrective work in all locations in 2018
- announced that a further 17 bathing waters have been selected to receive additional funding, 14 of which were initially in the running for inclusion in the Bathing Water Enhancement programme. The work in these additional locations will include misconnections surveys and any correction work necessary, signage to encourage dog owners to clean up after their pets and various measures to reduce the impact from birds.

- been working very closely with our local authority partners, who have been very supportive of the project and we are really proud of what we have achieved together. This includes our “Beauty of the Beach” campaign
- launched “Beachbuoy” – a free portal which allows people to find out more about coastal water quality, part of our drive to ensure that clear, transparent information is provided to customers. This voluntary service will enable people to access up-to-date information about the potential impact of Southern Water’s wastewater operations may be having on coastal water quality.



Case study



### Target 100

From a current average consumption of 129 litres per person per day, our **Target 100** programme aims to support customers to use 120 litres per person per day by 2025 and 100 litres by 2040.

These are ambitious targets, supported by customers. As leaders in water efficiency, we're confident of success – we were the first company in the UK to introduce Universal Metering, which has cut consumption by 16% which the Environment Agency described as "a bold and progressive move".

We now have a host of industry-leading innovations which will reduce that figure further – vital in the water-stressed South East where population is rising.

We believe the best way to ensure that the water flows when the tap is turned on is to show customers what we are doing to save water – that most precious of natural resources – and then ask them to work with us. We talk to them about our innovations to reduce leakage, building new reservoirs, grey water recycling, novel methods of catchment management – and then incentivise them to join forces with us.

For example, we give free swimming lessons in return for improved water efficiency, as we did in the River Itchen Challenge, where consumption reductions of up to 8% were achieved. Future incentives include giving free coffee, shopping vouchers or membership of sports clubs when targets are met by a catchment. We are not aware of any other water company that does this.

A further example of innovation is the plan to offer free connections to developers who build new housing estates designed with water-efficient features, such as low-usage toilets and showers. Again, we believe this is a water company first.

We plan to incentivise 1.6 million customers during the next five years, with the message: "Work with us and we'll share the benefits with you because together we can ensure that the region has sufficient supplies."

**Our Target 100 programme is based on four pillars:**

- the first two are incentives and behavioural change, where we shift society's views to value water more highly
- the third is face-to-face home visits to conduct water audits and leakage tests at customers' homes. We are on target to achieve 28,000 visits by 2020 and a further 100,000 visits by 2025
- the fourth pillar is smart metering, but our own novel version of it. Nearly 90% of our customers already have a meter. Instead of the expense and inconvenience of installing smart meters and masts, as other companies wish to do, we can simply clip a low-cost device on top of the existing meter and connect a receiver

to the Wi-Fi in a customer's home so that they can track their usage from a portal, saving water, energy and money. Again, we are the first company in the UK water industry to adopt this approach.

We're working with Cisco, IBM, Siemens, Vodafone and the University of Southampton on a new intelligent city at Fawley, Southampton. 1,500 new homes, commercial units and a marina at the largest brownfield site in Hampshire, in a dramatic setting at the mouth of Southampton Water will offer 'smart city' status – the first of its type in Europe or America. Smart water systems will be built into the development from the outset.

#### Case study



### **DataWell – why we're working with Google to shake up the way we use data**

We're shaking up the world of data in the sector by introducing industry-leading methods and approaches to reveal exciting new uses and insights.

As with other water companies, we collate and share data with our regulators, whether that be scores of spreadsheets about the quality of drinking water or reams of reports about wastewater spillages. Going beyond this, we will now also release multiple data points behind each of these reported figures, not only to our regulators, but also into the public domain.

In this way, not only can our regulators make a more detailed inspection of what we do but other interested parties, such as universities, can produce dashboards, apps and analytics to give greater transparency and insight into water and wastewater in the UK.

Recognising this potential, six universities and two colleges are already on board to use the data for research projects, while seven other water and wastewater companies have already signed up to the new system, called the DataWell. From a concept just under a year ago, this is now a reality.

The possibilities are enormous. For example, all water companies calculate leakage differently, but multiple, unlimited layers of previously unavailable data will open up the opportunity for a new algorithm to be developed for the industry. This could take into account many new data sources and volumes of data, such as the age of a property, the demography of a household and the condition of an asset before producing a common, validated figure for leakage for each company.

Iconic data-driven organisations, such as Google and Solidatus, have joined us as technology partners to help the world of data come alive for a wider use. Not only are we leading the UK water industry but, following a similar collaboration involving 20 water companies in California, we are leading the industry in data openness and transparency.

By having data integrated across water companies, we can work more efficiently – giving us more time to focus on helping customers, the environment and wider society.





#### Case study



### Innovation Hub collaboration with Portsmouth University

Technology moves fast. We are staying ahead of the curve by trialling new technologies to protect the environment in ways that we understand no other water company does.

We've established an **Innovation Hub**, a suite of laboratories and offices on the site of our Petersfield treatment works, where a full-time team from Portsmouth University tests new technologies, providing on-site water sampling and detailed analysis in hours instead of days or weeks. We do not believe that anyone else has adopted this approach.

This work has great potential for the water industry. It includes trialling different types of material and technologies which eliminate phosphorus without using chemicals, allowing it to be removed from water at small sites. This is kinder to the environment and, with over 300 prospective sites in our region alone, offers potential savings of many millions of pounds. Further trials include the recovery of metal and pesticides from wastewater.



#### Case study



### Innovation in water networks

Imagine a water network where leaks are automatically detected, where weak spots are identified, and steps are taken to prevent leaks even occurring – a network which governs itself and runs more efficiently than ever before.

That's not a futuristic dream. It's a programme that we've already started and will become reality with significant coverage of our water network by the end of AMP7.

We will install 10,000 sensors to detect leaks. Traditionally, we have been leaders in leakage and per capita consumption and this initiative will keep us in the vanguard, reducing our leakage target by 15% by 2025.

But what makes this project unique within the UK water industry is that we will also install 2,500 water quality sensors which will provide additional data about 11 water quality parameters – from pressure and chlorine levels to temperature and turbidity.

This fully-automated system, which will send data digitally to the cloud for secure storage and managed access, replaces the existing spreadsheet system and will bring an end to the present practice of depending on customers to tell us when, for example, their water supply is discoloured.

Presently, we sample water as it leaves our reservoirs, but on the journey to customers' taps there is no further monitoring. So, we are going to install sophisticated sensors – the smallest of their type in the UK – to keep a closer eye on the millions of litres of water passing through our huge, 13,900 km network.

We know the technology works. Successful trials in the Rownhams water supply zone in the water-stressed area of Hampshire, involving 100 water quality and leakage sensors, have already taken place. We now aim to roll out this ground-breaking project to provide a truly smart network which will manage itself. We believe it will be the forerunner of what, in 10 years' time, will be the norm for all UK water networks.



## Resource Hubs

We are moving community support from the periphery to the heart of our business by creating **Resource Hubs** around our wastewater treatment works, which will recycle wastewater, generate renewable energy, support community amenities, and provide space for training.

(Further detail is provided in TA.10.1.)

Our **Nereus project** sees us collaborating with a consortium of European water companies, research organisations, consultants and universities, to recover water, nutrients for agricultural use and energy from wastewater, transforming it into a valuable resource and boosting the green economy. The project involves nine wastewater plants in four countries and is backed by over €700,000 of EU funding.

We are undertaking R&D to **aim to eliminate microplastics** that end up in marine environments from our wastewater treatment plants, and we were the first UK water company to sponsor a Microplastics PhD. Furthermore, as part of our sponsorship of the UK Water Industry Research group, the Centre for Ecology & Hydrology (part of the Natural Environment Research Council) will manage further research into microplastics, which will be complete by March 2019.

Case study



## Innovation in sewers

### Augmented-reality game

It may be the next battleground for technology companies, but we too are developing an augmented-reality game. The purpose of this game is to educate consumers and help keep sewers free from blockages. The game encourages players to think about what should be binned and what should be flushed down the loo or plughole by swiping left or right.

We demonstrate the technology whenever we visit schools or at public events, and the next stage is to make it freely available for download onto the majority of smartphones and tablet devices from mobile app stores.

### Education on fat, oil and grease blockages

With a huge wastewater network there are thousands of avoidable blockages – two-thirds of which are caused by pouring cooking fats, oil and grease (FOG) and unflushable items such as wet wipes down the loo or sink, clogging the arteries of the sewer network, furring them into grimy submission.

We have won national awards for our creative efforts to spread public awareness to reduce the number of FOG blockages in hotspot areas, from giving 180 packets of lard to a renowned potter and commissioning him to sculpt "Lardy the Fatman" from this unusual material, to laying down a 3D carpet at shopping centres to give shoppers an image of a blocked sewer with advice on how to avoid it.

During the present AMP we have visited over 40,000 homes and advised 2,000 food businesses on what not to pour into the sewer, and we have trained staff from other water companies how to manage a successful FOG campaign. We have persuaded celebrities to join the fight against FOG and have given away thousands of plastic fat traps, while our "Unflushables" campaign won a Chartered Institute of Public Relations Gold award in 2017.

Case study





In the next five-year AMP we aim to reach every school in our region across Kent, Sussex, Hampshire and the Isle of Wight with downloadable FOG material and lesson planning notes for teachers.

### Intelligent Sewer Network

To keep our sewers free-flowing, we are also seeking to create an Intelligent Sewer Network – another industry-leading step which, for example, will equip water butts in hotspot areas, which are sensitive to surcharge in storm conditions, with weather forecasting software so that they will automatically empty into combined sewers an hour before incessant rainfall.

This will give the sewer system a head start when rain comes, helping to prevent flooding. We are also trialling SMART Sewer, a disruptive technology for detection of blockages within the wastewater network, satellite imagery to identify defects in long sea outfalls, the use of a Smartball probe to detect leaks in rising mains, and a unique application of ultraviolet light to treat flooded sewer discharges. All of these programmes are combining to keep us at the forefront of the innovative application of technology to deliver real benefits for customers.



### Innovation in catchment management

We already manage our catchments in collaborative ways. For example, we pay farmers the difference in price between metaldehyde and more expensive non-metaldehyde slug pellets to reduce the risk of this toxic pesticide infiltrating our water sources.

Incentivising farmers in this way has prevented tonnes of metaldehyde from entering streams and rivers as run-off. Indeed, we are working with farmers in the Western Rother to make it metaldehyde-free by 2020. This has never been achieved before in the region. Realising this ambitious target would benefit the environment, specifically by protecting wildlife and improving river quality, and it would also save us and our customers the multi-million pound cost of constructing specialist treatment works to remove metaldehyde in that area.

We are investigating other industry-leading ways to improve the environment, while also protecting water resources. For example, we are investing in catchment resilience, exploring ways to help the environment to cope with extreme weather events such as droughts.

In a water-scarce area such as the South East, costly engineering solutions such as constructing desalination plants to supply enough water to meet the needs of a growing population might seem the most obvious solution, but we believe that investing in catchment resilience could be a complementary and more cost-effective remedy as part of a package of solutions. We are leading the water industry in our efforts to demonstrate a triple-track approach to meeting some of the challenges that we face in catchment management.

To do this we are working with partners from catchments of the River Test, the Arun and Western Streams and the Medway on river improvement projects to examine more natural solutions. Weir removal, reconnecting flood plains and slowing river flows can help deliver a sustainable supply of high-quality drinking water, while also delivering wider benefits for biodiversity, flood-risk management, recreation, health and wellbeing.

#### Case study



These are pioneering projects, as is our work with the Environment Agency to develop an integrated catchment-monitoring project to produce a very detailed picture of how our catchments are performing. This involves using techniques such as satellite image analysis and catchment walk-overs to map all sources of risk in our drinking water catchments on a scale never achieved before.

We believe the best way to succeed is to work in partnerships. Our initiatives, some of which are reported above, involve us working with diverse stakeholders from farmers, community groups and local councils to Defra, Natural England and the Environment Agency, including detailed R&D support from universities and water sustainability experts.

We have two projects currently underway, aimed at reducing nitrate pollution to groundwaters around Brighton and Worthing – the Brighton Chalk Management Project (ChaMP) and the Arun to Adur Farmers Group (AAFG) project. ChaMP is a major collaboration between Southern Water, South Downs National Park, Environment Agency, Brighton & Hove City Council and the University of Brighton – and covers the Brighton Chalk Block, north of Brighton and Hove. The AAFG project is a direct collaboration between Southern Water and a group of innovative and proactive farmers dedicated to enhancing biodiversity and protecting resources, such as groundwater quality.

Both projects involve liaising with farmers on the South Downs to understand how nitrate fertilisers are used, and to implement on-farm measures to reduce the risk of nitrate leaching to aquifers over winter. The ChaMP project is also investigating using SuDS (Sustainable Drainage Systems) to help control urban pollution of aquifers.

#### Case study



### Promoting an internal culture of innovation

For innovation to be a success, it needs to be supported internally. Our Board and CEO are passionate and vocal advocates for innovation – critical in setting the tone and context for innovation activities throughout the company. Our Commercial and Innovation Director, a direct report to the CEO, is the company-wide sponsor for innovation. This top-down support for innovation is fostering a culture of innovation within our organisation.

By engaging more staff in innovation, recognising the potential of employees as a source of new ideas, and reducing the barriers to collaboration across the company, projects such as the following are helping to establish a culture of innovation:

#### Innovation Week 2017

- A five-day event to create awareness about the importance of innovation in addressing customer and business needs, share best practices, learn from success stories and create new opportunities
- 500 participants, both staff and suppliers at 14 events
- Raised innovation awareness, engaged staff, built innovation networks and promoted a culture of innovation
- A great foundation for this year's expanded Innovation Week.

#### Digital idea portal

- All staff have access to an online tool to submit new ideas and improvement suggestions

- Of 261 ideas submitted since 2015, 28% have been accepted and are in the process of being implemented
- In 2019, we will trial an improved innovation platform to further encourage a culture of innovation and engage all staff in generating ideas and problem solving.

#### Innovation database

- We hold monthly meetings with multi-disciplinary teams to track, discuss and assess all technical innovations across the business, including results from technology trials and assessments, and insight from conferences and supplier presentations
- 530 innovations listed in the database
- Benefits include improved decision making and speed, facilitated by knowledge sharing.

#### Innovation Leadership Workshops

- Our executive team is being equipped with the core concepts of innovation and primed with the tools and language to provide productive and insightful leadership aimed at long-lasting improvements in the performance of our business. The first workshop was facilitated by Professor David Gann, Vice President (Innovation), Imperial College London, and Nick Turner, Managing Partner, Stratforma.

(More examples can be found in TA.10.1.)

#### Case study



#### Sprint workshops

In the first week of moving into our new Innovation Lab in Brighton, we ran our first 'sprint' – a 48-hour problem-solving workshop designed to address a key business challenge; namely, how to engage with more customers through digital channels.

#### Here's what we learnt:

- The sprint process can deliver results in a very short time
- The ability to 'take ideas to the street' to test and jointly create with customers leads to better outcomes, aligned to real (not assumed) customer needs
- Prototypes make it real for customers and allow for rapid feedback
- Having a distinct 'lab' aids creativity and removes distractions.

Our next external sprint brings together 11 organisations to explore how collaboration and digital technology can reduce water use in the South East. The event takes place on September 5th and 6th and is co-sponsored by Southern Water and Arcadis.

Future sprint topics include digitising our field force operations to improve compliance, efficiency, quality and speed, improving leakage analytics, and supporting **Target 100**.

#### Industry recognition for our innovation efforts

Our innovation programmes have been recognised and featured at the finals of national innovation award schemes. (For a complete list, see TA.10.1.)

#### Communicating and sharing results more widely

We have developed a communication strategy which includes a dedicated webpage and social media campaigns showcasing our results. This also enables external organisations to know where we are focussing our efforts, encouraging collaboration opportunities and supporting our open innovation plans for AMP7.

We promote a culture of collaboration and knowledge sharing across the sector and beyond, by communicating our learning at conferences. Our employees have been invited to present at more than 80 conferences in AMP6. (See TA.10.1.)

## 10.4 Our strategy will drive a culture of innovation and collaboration and create a resilient water future for our customers

### The principles underpinning our strategy

We have identified the following principles which underpin our approach to innovation in AMP7:

1. Innovation must be aligned to our organisation’s strategy and the near, medium and long-term priorities of our customers
2. Innovation must have explicit executive sponsorship, and a structure which supports it
3. Innovation thrives in collaborative ecosystems and cultures of high involvement and creativity
4. Innovation must be a tailored, not one-size-fits-all, process that encourages, develops, selects and accelerates ideas, which learns and evolves
5. Innovation should deliver a portfolio of initiatives, from incremental performance improvements to transformative and radical initiatives, and results must be tracked and measured.

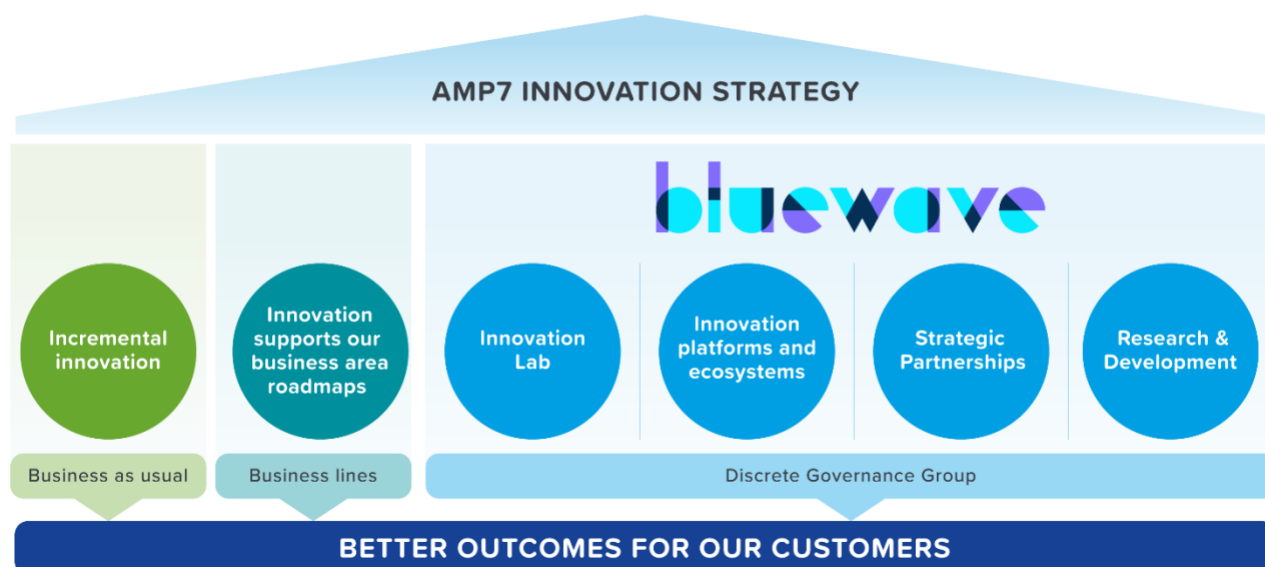
We developed these based on insight from and consultation with innovation experts such as Julian Birkinshaw (Professor of Strategy and Entrepreneurship, London Business School), Stuart Moss (Managing Director, Isle Utilities), and Professor John Bessant (Chair in Innovation and Entrepreneurship, University of Exeter). (See TA.10.2.)

With full support by the Board and executive team, our innovation strategy will deliver the very best outcomes for customers by mobilising our organisation to deliver incremental, transformational and radical innovation in the next AMP.

### Our innovation strategy for AMP7

Our innovation strategy is described in the diagram below.

Figure 2: Building blocks of our AMP7 innovation strategy



We decided to begin the implementation of our innovation strategy in the final two years of AMP6 to establish the processes, resources, culture and platforms required to hit the ground running in AMP7.

Central to our AMP7 strategy is **bluewave**, a new approach to transformational and radical innovation at Southern Water. **bluewave** combines lean start-up and design-thinking approaches in a dedicated, physical innovation space. It includes methods to engage all employees in innovation, active collaboration and joint creation with customers and stakeholders, the building of new partnerships and ecosystems, and exploiting new technologies within our R&D programme.

### **To ensure success, bluewave will have a dedicated governance group and Board oversight**

We have established an independent, discrete governance group to ensure **bluewave** delivers on its stretching agenda and that the stimulus and investment in transformational and radical initiatives during times of budgetary pressure is protected. An expert advisory panel, drawn from both inside and outside the company, will continue to advise our strategy through AMP7. This governance structure is a result of engagement with experts. (See TA.10.2.)

### **R&D is well established and we will continue to scale the capability in AMP7**

The focus has been on addressing transformational business challenges, building new capabilities in digitisation, machine learning, and creating new partnerships. With a Capex investment of £11.9 million, we have commissioned over 50 projects in the past three years.

Building ecosystems and collaborating through networks and cross-industry initiatives is central to our approach. We work closely with UK Water Industry Research (UKWIR), Technology Approval Group (TAG Europe, Isle Utilities), universities, the LITSoN Project on Innovation in UK Water Utilities, and international partners too.

Our R&D team will continue to work on game-changing solutions and monitor emerging technologies with the greatest potential payoff. (For a complete list of initiatives, see the R&D business case in TA.12.MG04.)

Since the full-implementation horizon for R&D solutions can be of the order of four to seven years, the team is aiming to enable tens of millions of pounds in benefits in AMP7. We have received over £1.1 million in external grants to support this work.

### **The Innovation Lab is a physical space in Brighton – the first UK water company to open an external resource such as this**

The Innovation Lab has a core team with dedicated space for workshops and programmes. The Lab will produce faster problem-solving capability, increased organisational capacity and resilience by providing a structured space, methodology and expert resources to design, accelerate and test the development of new innovations. Furthermore, the lab's methodology is ideally suited to generate new ideas for market mechanisms. The build-test-learn loop that is at the heart of the lab's methodology is, in essence, an accelerated, risk-free simulation of a competitive environment.

The lab will also focus on community education and participatory events in AMP7. Our first community event is an innovation sprint involving 100 young people from our local MakerClub network, to create new concepts for tackling the challenge of plastic pollution in the ocean.

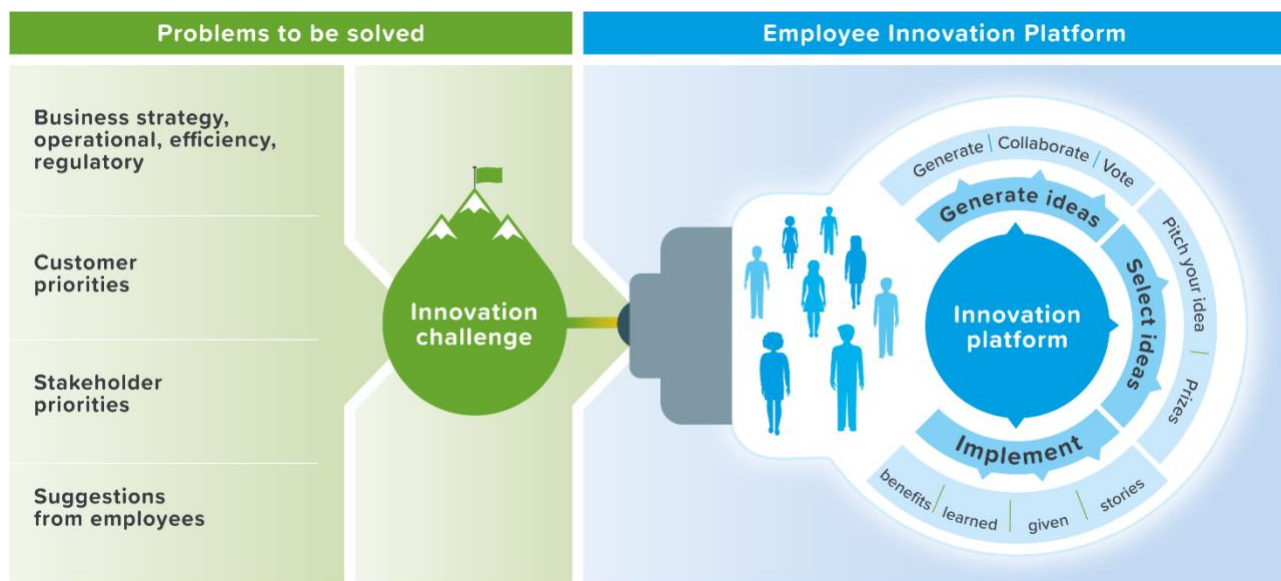
### **We will develop approaches and platforms for staff innovation and joint creation with customers, stakeholders and other parties**



A key element of our innovation strategy is the recognition that all employees are potential innovators. We will sequence the roll out of a collaborative innovation platform in 2019, supported by an ongoing internal marketing campaign with incentives to encourage participation. Targeted challenges (derived from business, customer and other stakeholder challenges) can be posted internally; staff can work in teams to submit ideas, comment and vote on each other's ideas using gamification principles; and then select and implement the best ideas, based on a pitch event.

We will gradually extend the platform to support open innovation and the capture of new ideas and innovations from external sources, including customers, local authorities, small businesses, start-ups, academics, consultancies, other water companies, governmental bodies and others where there is a strong proposition for collaboration and joint working with Southern Water.

Figure 3: Employee innovation platform



### We will maintain and expand our commercial relationships with partners

We will continue to develop our partnership approach in a targeted way, by maintaining and fostering our commercial relationships with relevant businesses and organisations from the water sector and beyond, where there is a clear benefit of working together. This partnership approach is in addition to existing academic and supply chain relationships. A dedicated team will be established to manage and foster these commercial partnerships.

### Our delivery timeline

We have begun to lay the foundations of our innovation strategy to ensure our **bluwave** programme is fully established and mobilised from the beginning of AMP7.

#### Expected delivery timeline:

- R&D programme is well-established and will continue to run through the final years of AMP6 and through AMP7
- By 2020, the first year of AMP7, we expect to have:
  - fully established our Innovation Lab (opened in June 2018) and methodology
  - begun the trialling of our staff innovation platform (to start in 2019)
  - started to implement tangible results from new strategic partnerships
- Throughout AMP7, we will establish:
  - trials to test an open innovation platform in 2020, to be fully implemented throughout the AMP



- continue to communicate results and share learning with the sector.

We will make a Totex investment of £20-25 million in innovation in AMP7 and expect this to deliver in excess of £50 million in benefits in the 2020 to 2025 timeframe.

To track results for **bluewave**, one leading metric will focus on “benefits realised towards the AMP7 £50 million opportunity”. A small number of measures will support this to ensure we progress towards our desired outcomes and that we are focused on ‘doing’ not merely ‘reporting’.

## 10.5 Innovation will underpin the step-change we need in delivery and cost efficiency

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Since the start of AMP6, we have become more creative, innovative, and collaborative. We have established ecosystems with businesses, suppliers and universities to encourage more co-creation and open innovation, which is helping to speed up our innovation process while reducing risks and cost.

We recognise that some of the challenges of the future will require radical innovation. We are also clear that innovation without action or practical use will not change our business or deliver a customer benefit.

Through our AMP7 innovation strategy, but starting now, we have created an environment where our people and culture will deliver innovative solutions to address our challenging goals. Our plan has been built around a focus on incremental innovation, through a relentless discipline of being customer focused, **brilliant at the basics** and continuously improving. At the same time, we will invest to develop and implement transformational innovation through new processes, approaches and technologies. Finally, we are also investing in assessing radical innovation, looking far into the future for megatrends that will change the way we do business.

The **bluewave** programme is designed to enable a £50 million benefit that will deliver value to customers, other stakeholders and our organisation. Innovation will be crucial in delivering a step-change in cost-efficiency and productivity.

We are confident that our approach to AMP7 fully embraces and catalyses the need to innovate with a clear and important focus on identifying and implementing something new, and/or something better that delivers value for customers, other stakeholders and our organisation.