Discover how to successfully scale innovation in the water sector

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Key:

CHP = Caecilie Hougaard Pedersen

CP = Carly Perry – host

HK = Harish Kathiresan

SW = Sally Watson

AN = Andre Nogueira

CHP: I think we will slowly get started just as the audience is still clicking in. Welcome. This is our 10th webinar now in the Water Discovery Challenge series. A massive welcome back to all of our regulars, and also welcome to anyone who is joining us for the first time today. If you are joining for the first time, don't forget that you can access all of the webinars in the series on the website if you go to enter the port, so if you are joining for the first time today, don't worry, you can go back and watch all of the content in your own time as well. Also a big welcome today to our host, Carly Perry, who's from Spring Innovation who's joining us again, and also a big welcome to all of our guests for today. Welcome to 'Discover how you scale innovation in the water sector.'

Feel free to introduce yourself in the chat – who you are, your organisations, where you're joining from – so that everyone can get to know each other. Just before we get properly started there's just a little bit of housekeeping. If you have any issues or questions during the webinar use the chat. Myself and the team are ready there to answer any questions that you might have and they'll also be sharing lots of relevant materials and links throughout the presentation.

Just before we kick off with the content, a quick welcome to all of our speakers as well. Myself, I'm Caecilie from Challenge Works, leading on the delivery of the Discovery Challenge on behalf of the Ofwat Innovation Fund. I'll hand over to Carly and the rest of the team today to do a quick introduction.

CP: Hi, everyone. Good afternoon. Carly Perry, Managing Director of Spring Innovation. We are the Innovation Centre of Excellence for the UK and Ireland water sector. I'm personally hugely passionate about collaboration, innovation and generally doing things differently, so looking forward to sharing a bit more with you today. I'll hand over to Harish.

HK: Afternoon all. Excited to meet everyone. Harish Kathiresan from United Utilities. My role is Innovation Strategy Manager, predominantly looking at outside to the world to create innovators to come help solve the water sector, water industry problems. I've been close to the Ofwat Funds before and I've been also supporting the Discovery as we go along, so really excited to be here. Thank you. I'll hand over to Sally.

SW: Thanks very much, Harish. I'm really pleased to be here. Hi, everyone. I'm Sal Watson. I'm the Technical Excellence and Digital Lead for the water environment business at Mott MacDonald. We're a management engineering development consultancy, working in water sector for over 100 years, a couple of years ago. We also support many of our clients with innovation management. A couple of years ago we were awarded the British Standard Kitemark for Innovation Management. I'll hand over to Andre.

AN: Thank you, Sal. I'm Andre Nogueira and I work for Schneider Electric as Water and Wastewater Segment Leader for UK and Ireland. Our role here as a team, our dedicated water team is to support the segment in the digital transformation and sustainability journey. That encompasses the number of technology service so we're deeply involved in the segment for conducting that. Excited to be here and looking forward to the conversation. Thank you.

CHP: That's great. Thank you, everyone. Before I hand over to Carly and we properly pick up with the content, just a quick note around how the Q&A will run later on so if we could change the slide. The Q&A will run on the platform slider. The platform is live already so you can use the QR code that you see on screen. You can also use the link that we will pop into the chat in a minute to access the Q&A and you can ask any questions you might have. You can ask questions already now during the presentation or you can ask questions during the Q&A as well. We always hope to get through all of the questions but if there are any questions that are still unanswered at the end of the webinar feel free to email us the question through and we'll address them directly that way. If your question is for a particular speaker for today, you can add that to your question as well but otherwise we'll open it up to the full panel to get a broad answer. Without taking up any more time I'm going to hand us over to Carly to get us kicked off.

CP: Brilliant. Thank you very much. The plan for today, what we want to do is I'm going to give you an introduction to Spring just for anybody on the call who hasn't heard of us. I'm going to explain who we are and what we're achieving in the sector. Then we're going to get into the crux of the topic today around scaling. Myself, Andre and Sal are going to tag-team through the presentation and then we're going to come back at the end as a panel for questions. Harish will join in for that as well so we've got

both the water company perspective and the supply chain perspective for the discussion that we can have.

If we kick it off and head straight into the next slide, please. As I said upfront, Spring is the Water Sector Innovation Centre of Excellence across the UK and Ireland. We've been designed to accelerate innovation and enable collaboration. There's a lot of amazing innovations that are happening across the nation in regional areas. The idea of what we're trying to do here is bring efficiencies by nationalising some of the innovation where it's relevant to do that.

On average an innovation project is duplicated four times in the sector because there's brilliance happening regionally but there's obviously great efficiencies to be had if we all work on those pieces together. How is Spring helping to do that? There's a couple of core service offerings that I wanted to, very quickly, talk through. We have what's called the Spring Accelerator which is an end-to-end process where we put a call for innovation out and then we facilitate a collaborative project with the water companies to mobilise that innovation. We also have a knowledge transfer service offering and so for you, as innovators, once you get to insights we can help you transfer that knowledge across the sector. We've got a platform with use cases on and we also run two-hour deep-dive sessions to share the insights from your innovation with the sector. That's really helped accelerate learning and again to remove duplication.

A couple of other sources to point you to, on our website we have a testbed register. If you're an innovator looking to find out what facilities there are to test your innovation there's a register of those facilities on our website. We also have a list of funding sources as well, so there's many funding sources out there to help you. If you want to look at that head to the Spring website. As we go we're going to be dropping links into the chat for all the things that I'm mentioning as well.

If we click through to the next slide, please. One of our core roles is also custodian of the Water Innovation Strategy 2050. A quick bit of history on this document. The feedback we hear a lot in the sector from innovators is we don't understand what the priority problems are that the sector has. This document is really targeted at solving that problem. What we've got is an innovation strategy that has principles around being open and transparent and creating opportunities for data innovation, and in that strategy are seven themes so all the ambitions of the sector can be structured under these seven themes. You've got things from providing the services that society needs and expects, delivering resilient infrastructure, enabling diverse future-ready people in partnership working.

Underneath each of the themes you've got short, medium, and long-term ambitions. Those are the challenges that the water companies have said to innovators, "Help us solve these problems." If you're an innovator and you want to know more about what the priority problems are I highly recommend you go and look at this document and link your idea product solution to ambitions through in this document. It's a fantastic source to really know what the water companies want from innovators.

If we can then move through, please, and we'll get into the content for today's session. If we hop through one more slide. As we know, today's session is about how to successfully scale innovation in the water sector. As an Innovation Centre of Excellence we're here to unblock barriers. Those barriers could be a number of things but one of the things we do hear a lot about is about barriers to scaling innovation.

There's no shortage of good ideas out there. There's people like you with fantastic ideas but it's the adoption of those ideas that we really want to help unblock barriers in that space. I was reading the Gartner Report recently that put it really neatly, that we, the ecosystem, have created a bunch of pretty prototypes that aren't really addressing real business challenges. I think that's the crux of one of the huge barriers in here is that we need to really think about what challenges we're solving. We're going to go through that in more information as we go through the rest of the deck.

Before I hand over, I just want to explain a little bit more about a scaling innovation guide document that we will be posting a link to at the end of this session. Spring has a Strategic Advisory Panel. Sal and Andre, who are on this call, are both members of that panel. We've brought together experts from the sector who are suppliers, innovators who can help to guide Spring and the sector to solve some of these big barriers. We've had a few workshops together and we've pulled together some recommendations at a high level to help innovators like you to understand what the barriers are and how you might be able to overcome them. We don't want to just be creating these pretty prototypes. We want them to be used. With that in mind I'm going to hand over to Andre next who's going to get into the content in a bit more detail.

AN: Thank you, Carly. Hopefully you can hear me now. We're starting with this phrase here, which is the potential for a particular solution to be embraced, broadened and replicated as a definitive force capability. If that's okay, I'll put my view on this. I'll start from the broad and on a couple of slides I'll talk about embrace. I think that broadening aspect is often overlooked, and it is an important thing to consider. If you have any solution, again I'm going to be a bit biased around the technology side because that's probably our core. You've got to keep in mind how broad can you go with that solution, that innovation that you're bringing, regardless of what it is, and how can that impact different parts of the business.

If I can give us a very basic example. In the past you had like a simple flow metre that was giving information about flow in a given main, and all of a sudden now you can start using that information to tell you, well, am I likely to have a problem with my pump, yes, or no, or the leakage people, am I likely, if I quote that information with pressure, can I give some additional information to the leakage pump area around a potential leakage or an impending leakage? So, again, guys, you understand what I'm saying, whatever you're doing how can you be multi departments, for lack of a better way of saying this, so that creates more beds, how can you enhance what you are delivering?

Oftentimes we see people approaching these companies with a very style of mindset, with a very specific conversation with one area and that's sometimes not enough for you to actually be able to get it going, which brings me to the replicated part of it. Once

you actually manage with the finance, as Carly said, and I believe Sal will explain a bit more, that use case, why are you actually doing that, it's important that you have in mind from the beginning how do you scale that, how do you replicate that? How are you going to go about this? Is it replicable within that business? If you're doing something that is specific to the clean side of the business, again what's the potential there. Once you have that understanding then is it easy to replicate to other water companies even. Eventually how do you go from there. We'll talk a bit more later. I think again these are simple concepts that I oftentimes see being overlooked and we hear a lot from the water companies around those challenges as well.

Next slide, please. You can just go with animation there, that's fine, thank you. I think again for you know better, Carly, you probably know this better than me but normally start with someone kind of talking to someone else and then gain that momentum, try to find an agreement. As Carly said, Spring can facilitate all of that, but how do you get to a point to actually deploy an MVP for that specific solution? You may even get to that point but then you start losing momentum, and for me in my experience that bottom part of the curve there is where you need to be broad, so you actually have that sustainable base really within the business, within the company to keep you there and push it to the next stage of actually deploying and creating an impact to the business. Your reach needs to be strong from the beginning, so you have enough supporters there to make sure you actually scale and impact. Understanding how you scale is critical and we'll touch about it later in the presentation.

Next slide, please. Again, another phrase here which I think is very convenient. Innovation's there purely to see the change as an opportunity, not a threat. I think the word, 'threat' there is interesting as well because it's not personal oftentimes. But we do see a genuine concern with an innovation in the water industry but also other industries. Again, allow me to give you a very basic example. If we are deploying a new piece of technology that is great. You will solve problems, it's great. But the maintenance team does not have the tools to actually maintain it, say, if there's a problem with it at 2am in a given morning. That is a threat.

If we, as technology providers, say, right, we have this new piece of kit here. To do maintenance on this you need a laptop, you may need a wireless connection through a tablet. The maintenance don't have that in the tool set, well, that's a threat. If you haven't bothered to stick with that area of the business or with operations to make sure that you're mitigating any risk and understanding the other implications from a people and process point of view, again, that will stop very soon and again we see a lot of that happen.

Before I transition to Sal, I think it's interesting to mention for those that are not exposed to the water segment, that the problems they're trying to solve are relatively big and major in its nature. I think the more you work as an ecosystem with other companies and understand the ecosystem, the stronger your proposition will be. I think it's important to keep that in mind. The other thing I wanted to mention before transition is that the Water UK industry is very well-respected globally and if you manage to make sure that you do your job, file it, document it, validate it, you can

easily grow out, if that's your vision, to different regions, different parts of the world and I think that is definitely a benefit to you.

The companies globally are very keen to understand how technology can help them. They understand that they probably short on time, so probably for the last three years it's been really strong, the level of conversation discussion in maturity, and the willingness they have in learning from other segments, other parts of the world what can be done to support your ambitions. I'll transition it to Sal now. Thank you.

SW: Brilliant. Thanks very much, Andre. Let's hop on to the next slide. Let's have a look, then at some of those what we've identified as five key barriers to scaling, innovation in the UK water sector. As innovators you may have already encountered some of these but we thought it was worth just highlighting them. The top one there is around the business case viability. I think what I experience within colleagues at Mott MacDonald or externally, either in water or other sectors, is that you've got a fantastic idea, you've developed some technology, you're very, very focussed on the technical solution to a problem and you're not necessarily thinking more widely. Your innovation has to add benefit over existing solutions. There will be a lot of inertia to change so you have to have something that is really adding benefit. If it doesn't it won't be scaled.

I think this is where people maybe haven't thought so carefully or so far ahead perhaps around the commercial viability or necessarily, actually coming back to Andre's point a bit more about the client problem or the particular problem you're addressing, actually is it a little bit broader than just the specific thing you're looking at. Can you bring in that breadth of understanding to demonstrate you understand what the water company problem is and where you interface it maybe multiple points with the solution that you're bringing forward. Indeed, where there may be some less tangible benefits so things like biodiversity improvements, maybe that's not necessarily on our radar if you're more on the tech side of things but actually biodiversity is a huge issue, a huge driver within the industry at the moment and across the UK as a whole and globally.

Second one there, leadership buy-in. Innovation within an organisation absolutely has to be led from the top. You've got to get senior leadership buy-in. Leaders need to recognise the strategic importance of innovation and be proactively driving it forward. The earlier you get that buy-in at that level then the more likely you are when you're in that dip with the scaling when people are getting a bit demotivated that you'll have that support to push you through.

Our experience is one of the key things that leadership wants to see is good decision-making and that you are managing uncertainty and risk and that you're communicating well about that. Do keep that in mind. It's better to be transparent and open about what the problems are that you're facing but also being able to demonstrate that you'll have ways of overcoming them or you can want to collaboratively work together to overcome them. That will build confidence and trust.

        The third one there is strategic alignment. This comes back to understanding the bigger picture of the business, making sure that you are well-engaged with the organisation and understanding that what you're doing is in the overall business

direction. Otherwise when it comes to scaling you might have something that's fantastic but if it's not following that overall alignment and direction you're unlikely to get the support.

Fourth one – poor planning. Again I think this comes back to something that Andre and Carly mentioned. If you're going to scale up your innovation you need to understand what's going on in the rest of the organisation. Will you need to have a lot of resource engagement, people engagement, making sure that either you're going to have funds at a particular time? Remember the water industry in the UK is very, very biased by its five-year AMP cycle, Asset Management Planning cycle so funding does peak and trough at particular times. It is well worth being very aware of that and understanding how what you're doing also fits into that sort of a timeframe.

The last one there is around communication. I think a lot of the time people feel you've proven the technology, you're ready to go, it's ready to scale but actually you've got to carry on communicating really effectively throughout that whole period. It can be really, really energy-intensive going from that single product or whatever, to a much larger scale but you need to be able to put your energy into that and keeping people informed and on board at the same time, making sure that you haven't clashed with some other big thing that's happening in the business at the same time. Make sure you maintain regular touchpoints. That's really, really super-important. Just like any project or program management in capital delivery or whatever, people don't like sudden surprises. It's not going to win you any friends.

So let's go on to the next slide. What we've talked about there really are a bit more of the challenges that innovators are likely to face in getting their innovation to be scaled. Obviously, that needs to be supported from within the industry, water industry leaders. To get successful scaling they really need to be clear about having empowered the organisation to lean into change. They need to be putting out that message and they need to be acting on it as well and really showing leadership in the area.

It needs effective and robust change management processes, training within the organisation, strong leadership, making sure that innovation is embedded into the organisation. Really key as part of that management is the communication that you're really looking at learning, not failure, so if something doesn't go forward it's not that it hasn't succeeded, it's that it's just not the right time for it. There's loads of learning that needs to be pulled out of that. I think it's really important to recognise that it's very much about the learning that you take out of something rather than seeing it as a failure. I think this effective culture, it's absolutely one of the underpinning principles of the innovation management standard, that you've got leadership supportive innovation both within and outside of the organisation and that they're really walking the walk. I think at that point I will hand back to Andre, I believe.

AN: Yes, I believe so, Sal. Thank you. I think just to put a bit of structure again, probably you guys will be familiar with this but just to explore and expand perhaps a few of these points here. We've already spoken about the importance of identifying the problem. I think that is critical again. I know it may shock some but it's not about the

technology; it's what the benefits will actually be to the customers, to the end-user. I think what Carly said in the beginning, start from the core problem they're trying to solve is important and literally go from that use case and then how that can add value to the whole chain.

I think the research bit here and identifying alternatives, gathering data, modelling options, again, it sounds very straightforward, but is there a common use, is society ready to adopt this innovation? If I may just again give an example here of some discussions that happened there. If we were to tell people by text or email or voice message, whatever, that by 7pm today they're likely to have a pressure issue in their property, is that well-received or not by the property? If we could do that automatically by all the data we gather and we know what's going to happen. Again it's just a basic example there but whatever you're implementing is the business ready, is the society ready? Who's being impacted by it. It is important really to do your research I guess and, as basic as that.

Testing and validation – ensuring the solution could be viable for small scale I think again. For those of you that have tried I think the industry loves a pilot. Sometimes they say they have more pilots than British Airways. Jokes aside is obviously related to risk management. You have something new, regardless of what it is. If you can start small we then could have potential to scale. Again, if it's hard to tell exactly the audience but if you are a small company that may be very obvious for you. But if you are a large organisation, and innovation can be something you have done already for ten years in a different market, but for this specific industry may be brand new so that would be classed as innovation likely for them.

It can be very large. How do you actually play with this in an effective way and that again is another element of scalability which again sometimes is overlooked. Plan for scale – I touched on this before – but again, I think there are a few things here. First, sometimes innovators are so in love with what they're doing that they forget about the practicality of certain things and it can go beautifully if you love innovation in any way, shape or form. But once you've done it how are you going to escalate? What is your business model?

It's not just about the technology itself but how is that going to be implemented? Who's actually doing it? Is your company going to do it? Do you need partners? Is it going to be sold as a service? If it's going to be so, if it's a web widget type thing is it just downloaded or is it cloud-based? Do you need to partner with someone who's got a framework already in place so you can effectively deliver that through those existing framework partners. You need to go to someone like Mott Mac, for example, and understand how they are delivering whatever they're delivering, and can that be an addition to them so that they can add to a bigger programme and that can be rolled out at scale.

I think that the main aspect here is understand that there are many ways that it can achieve the result. You'd need to make sure you expand your network, talk to people, and probably we're probably going to touch on this during the Q&A. There is not just

one specific fund or go straight to the water company. Maybe your best way is to actually partner with someone already in that supply chain that had to prove some innovation within their own culture and you can just leverage your position there. Again, planning for scale, I feel from the conversations I have that it requires a bit more planning really. Implementation and monitoring, again I think it speaks for itself but then once you start implementing make sure you understand what success looks like. It's not just about, oh, can I put my piece of kit there so I can see if you like it? No. What is success, what it looks like, how you're going to monitor that.

Then I think it's important to mention make sure the evaluation continues improvement. Depending on where you are with, I think we normally call this TRL, Technology Readiness Level, you will vary the level of evaluation, continuous improvement at a very early stage in developing the concept. There will be probably a specific approach. If it's something you have already proven in perhaps a different industry and it's already at level nine and ready for deployment, maybe a different approach. I think again it varies according to where you are in your journey and what the customer's expecting from it essentially. Hopefully that makes sense and adds a bit to the discussion. I'll transition to Carly, I believe, to conclude.

CP: Thank you, Andre. Thank you, Sal. Yes, start bringing this all together and then we'll open up for questions. I think the key thing that we've learned here is that understanding scaling is critical to success and you need to think about it early. We really recommend familiarising yourself with documents that already exist – the water innovation strategy, the scaling innovation guide, outer sources that are out there. There's lots of fantastic material to help.

We really recommend that you understand those barriers to innovation that Sal walked us through because understanding those upfront and planning for them is going to help you succeed. Make sure that you understand your clients' problem. Really get into that as deep as you possibly can. Create conversations really early about the business value, about scaling. Also, make sure that you are engaging all the stakeholders along the way. Take them on the journey that they need to go on because it's all about change management and about people. Scaling is hard so it needs that upfront effort put into it.

Hopefully this has been helpful. We've kept it intentionally high level because it's really surprising how many people don't think about these steps when they're coming into a project. I think there's over-excitement about the solution that people have that then sometimes distract from these steps. Just a quick example before we do open up to panel to highlight the point. I did hear of an innovator who had a fantastic idea around a water efficiency solution. Part of the solution meant that there was a maximum amount of water that people could use and they would be cut off at that point when they reached the max. The innovator wasn't aware of the Water Industry Act and the fact that that would be an illegal thing to do for a customer. And so just connecting with those small snippets of information before you invest in an innovation is critical to make sure that you're successful. There are lots of us out here to help you understand

that so please reach out to help. Caecilie and team, I'll hand back to you to facilitate questions that have come in.

CHP: That's brilliant. Thank you so much. That was really interesting from all of the speakers. Thank you very much. Very quickly, before we lose the slides, use the QR codes that you see on the screen or you can see the link that has been popped on the chat to head over to slider to ask all of your questions. It's been buzzing already throughout the presentation so I think we'll kick off straight away. Just before we pick the first question, if you could just take 30 seconds to answer the poll it means that we will be able to improve the support that we provide to all potential entrants across Discovery but also any other challenges in the future. There's just five questions for you to quickly answer and I think, Sylvia, we can lose the slides at this stage so that we can see our panellists. We'll jump straight in with the first question. Sal, I'll throw this one your way first but then I think Andre, you'll probably be able to pick this one up as well. The first question that came in is, "How do I know when my solution is ready to scale?"

SW: I think it comes back to that try-out of your technologies functioning as you thought it was going to be, or whatever it is that you're developing. You've got that clear commercial – you can see that there's a commercial point appropriate. You're going to get the return. You can provide whatever it is you've developed at the right price point and you've got the organisation or the prospective clients lined up and telling you that yes, they want this product. It's getting it right across all three areas. You may find that you might not have the most technically perfect solution but if it's good enough and hitting the right point commercially for what clients are looking for, that will allow you to move forward. It might be that after that point you would continue to make improvements but actually getting it going and starting to get that revenue in to allow you to then make improvements might be part of the scaling process as well. It's not just that you've got a great technical piece of technology or great product. It has to meet those other two elements as well.

CHP: Andre, anything additional to add to this one?

AN: No, I think that pretty much covers it off. I'll just mention this now what I mentioned before, don't think you need to do everything yourself. I think it's important to understand that. Again it depends on what you are offering but you might be a part of an existing system. You might be a part of a specific process. You might work in collaboration with someone else. You may join forces and you develop a piece of it and the other company develops another piece of it, and both, together, you achieve a better result quicker. I think what Sal said is exactly that. I think ultimately the customer will tell you that it's ready to go. Sometimes it is speed over perfection.

CHP: Thank you very much. I can see like a little note here. I just want to check in, Harish, if there's anything that you want to jump in with from your perspective before we jump into the next question?

HK: Yes, from a scaling up I think Sal and Andre have covered pretty much the wider aspect of scaling up. When it comes to water companies I think understanding of some of the challenges in any sort of big operation or high level of understanding and the key

challenges and themes that are articulated in the Innovation 2050 strategy or the Ofwat Strategic Teams would have. Obviously during early stages of working with water companies it would be good to do some sort of fact-finding analysis to see where are the potential options for scaling and if scaled what are the benefits at scale, if we can quantify those numbers. It will make, when we take it to our board and within the water companies it gives a very powerful message. Rather than a single trial we can say if a solution is implemented across let's say 80 different sites it will help produce 10% efficiency which translates to x-number. That is a very powerful message and earlier we can build that picture it would be very helpful when it comes to scaling.

CHP: Perfect. Thank you very much. We'll jump straight into the next one which came in asking about what are the scaling options in England and Wales; will water companies be addressing similar problems so that there's scope for solutions to scale across multiple companies? I'll open that one up to you Harish, first as well, but then Carly, feel free to jump in.

HK: A few parts to the question. I'll address the first one. Water companies – are they addressing similar problems? Yes, absolutely and that is getting more and more clear with the clarity around the Innovation 2050 strategy and Ofwat themes. The message is quite clear that there are five, six critical areas that water companies need to focus on so there will be commonalities around the challenges that are being addressed by the water companies.

The second part of the question is opportunities for collaboration and what opportunities do exist. The Ofwat fund itself, if you haven't come across the other elements to this Innovation Fund, if you can go on the website and see there's Catalyst and Transform if you look at the details of the water companies. But the main essence of that is collaboration so water companies will have to collaborate with other water companies, innovators, other partners and come together with a solution which can be implemented at scale across different regions. There are some really good case studies of some of those examples that have been successful. That's just one example but other opportunities within water companies include various leverage funding options – Base is one example, Innovate UK – and we can work with the innovators to help go through those opportunities for scaling, along with internal funds as well so a lot of options exist. Are they working towards a common goal? Yes, absolutely and that's getting more and more clear.

CHP: Yes, that was great. I was just going to hand over to you, Carly. Feel free.

CP: Thank you. Just to add to that as well from a Spring perspective I think it's worth distinguishing you want to scale within your client, so if you're working one-on-one with the water company you want to scale there but there's also scaling across the sector, or as Andre was saying as well, globally. Spring Innovation is here to help you scale across the sector. We are supported by all 19 UK and Ireland water companies and we have service offerings to facilitate conversations between. We have what's called the Innovation Snapshot which is a new but growing list of the innovation projects that exist in water companies so that we can try and facilitate between companies to

introduce them to projects that are happening to build that kind of collaboration that will then scale across the sector. We've also got the Knowledge Transfer Service offering that I mentioned at the beginning which if you've had successes with one company we will share that with all the other companies to help you scale across the sector as well. There's ways that we can help you with that particular part of scaling in water companies.

CHP: Thank you very much. We'll jump quickly into the next one. Andre, I'll ping this one over to you straight away. What is the typical life cycle of scaling? Does it go from prototype into trials, case studies, to then product to then scale up, or what's the traditional path?

AN: I wish I could answer that question. I'm talking about it but it's really hard to say oh, it's one year, it's six months, it's five years, ten years, because it really depends on what you are putting forward. I think if you're putting an app, for example, to simplify something between a few systems that might be the phase of from ideation to actually have a final product in maybe a matter of months. Then the adoption of it might take a bit longer depending on which business you are dealing with.

If you're starting to talk about a specific product it depends, I guess, on your own ability and your own pace to develop. If we are engaged in that in an early stage, well, we probably have a path of prototype and we want to install in a different location and leave it there ready for a month to collect real-time data, for example, as feedback from the customer in terms of user interface. Then I might need an extra six months or maybe a year to go back to the next iteration of it to that customer.

You see what I'm saying? There are levels of complexity I guess to be able to pinpoint how long is it going to take. If it's a very simple thing I would say it can vary from months to maybe a couple of years. If it's a more complex development, which it can be, it can take a number of years. Maybe Carly can comment more on their view on this, Harish, for sure Sal, but I think that the bigger picture is the why. Why should that be even considered? Then the big challenge for water companies, I think it's fair for me to say, is how they reduce the time between ideation and implementation. I think that is a journey that we've all here on board and we can all support in different levels. I think Spring is brilliantly trying to amalgamate this and simplify people's lives. But like I said, I wish there was an answer. At least I cannot provide one. Maybe someone else.

CHP: No. I think, Sal, do you want to jump in and maybe just give one example of a life cycle?

SW: I was just going to support what Andre was saying. I was at a Royal Academy of Engineering event at the beginning of the year where the award for this year for innovation went to a personal dialysis machine that had been invented but the people developing it had been working on it for something like 14 years. I'm not suggesting that's what we should be aiming for but I think it is important to recognise that the water industry is very immersed in the natural environment so when you're gathering your data, gathering your information you do have to allow for some of those natural cycles to run through to actually get the information to support whatever it is you're

developing so it can be longer than you might expect. That's all I just wanted to add. Remember that interface between those natural and engineered systems.

CHP: Perfect. Thank you very much. We'll jump straight into the next one. There's a quick general question here which I think I can quickly address around how long webinar recordings and slides are going to be available. At the moment we don't have a specific date for when these are going to be removed from the website. The entry period closes on the 5th of April. That's when you can submit your entries to Discovery by. There is a good chance that the website gets reorganised around that point because different information will be made available at that point. That doesn't mean that we wouldn't have the recordings and the slides available. If at some point you find that they have disappeared off the website you can always email us and we can share it directly. For the time being, yes, they're going to be available. We have no plans to remove them. We'll jump into the next one which is around whether the panel, as a whole I guess, recommends scaling via partnerships or without so Andre, Sal, we'll jump straight into you. Who wants to kick us off?

SW: I can start with that if you like. I would come back to why do you need a partnership? Why are you entering into a partnership? If you cannot do all of it yourself, and I think we should be honest here whether we can or not, then sure, enter into a partnership but also be really clear about what all parties are bringing to the piece and what all parties want to get out of it. We have partnership arrangements, particularly in the digital space so Mott MacDonald partners with a whole series of suppliers, software, SMEs who are developing software, for example, sits on our platform that we've developed. We're very clear about what benefits we are bringing and what we seek and what the ecosystem suppliers or people in those partnerships are getting out of it. I wouldn't say partner for the sake of it but partner if you need to and that's fine but make sure you've got that good piece of communication going on.

AN: If I were to add anything to that I would just say there is a lot of interpretation for partnership as well. You can literally be in a joint venture. You can just have an agreement with someone to do part of what you need to be done. You can have a partnership for someone to allow you to perhaps integrate whatever you're offering into a broader system. Again, I keep saying I'm a bit technology biased but that's what my brain is kind of geared to. I think one thing that I don't see innovators doing, but again other people might disagree, is understand the ecosystem you're are getting into. Like Harish said, you can have a conversation, as far as I can tell, with the water companies, you can reach out to people, you can talk to people like Spring. You can talk to people like us here in the panel and you can try and have a discussion eventually on things but understand the ecosystem because there may be an easier way to what you're trying to do. For me the partnership element is this point, understand the ecosystem and make the easiest fact to deploy is not necessarily by speaking with end-user itself. That's what I would say.

CHP: Thank you very much, both Sal and Andre, on that one. The next question I think I can address. The questions coming in specifically to the Discovery Challenge and whether that will provide support and advice for scaling as well. That's like a yes, I

guess, we will across the support that is provided to finalists if you're successful. You'll be working with the water sector. You have a dedicated mentor who will be able to provide you insights and feedback on your innovation and its scalability and adaptability across the water sector so we will.

I will say, though, that we are, across Discovery, obviously working with quite early-stage innovators and early-stage innovations. It's likely that we will be providing advice and support to get you ready for the scaling process but not throughout the scaling process. It kind of depends on where you're at, and similar to what Sal and Andre were saying, the life cycle can be so different depending on the project. You could be coming into Discovery and be ready to scale within 18 months or you could be coming into Discovery but need multiple years to get to a point where you're ready to scale. It is part of the support that we provide.

I also definitely recommend that you look at the scaling guide that Spring Innovation and the sector has prepared and that you read through that and use that. It's something that you should be thinking into your idea very early on, even if you're not actually actively scaling for a couple of years. I'll leave it at that and then maybe we'll jump straight into the next one as well. Next question that has come in is about addressable market data is key to qualifying scalability. This data is often held very closely, sometimes behind walls that you can access and with a major supplier and not SMEs. How do we open this up? I'll let you jump straight into that one, Carly, and then I'll follow up as well.

CP: I think there's probably some points that relate to other questions that I can see in here as well. Focussing in on this data question', what the water sector hears a lot of is innovations in the data space coming in and saying, "Give us your data and we'll tell you what your problems are." There's a disconnect between that and what the water companies need. There needs to be a bit of a general understanding of what the problems are before you go in and have those conversation. It's about doing homework before you go in and look for data if you're having those kind of data conversations within companies.

When you're talking about market data, if we talk about market validation of your innovations one thing that Springs learned – we've been around for just over a year – is that it is quite difficult to come up with a detailed ROI to talk about scaling and to do your market validation if you are still trying to get embedded into a water company. We have received some feedback for some of our process was asking for too much information when there was a lack of market data available to do that. We have realised that we need to step into the place of facilitating market validation as well. If you need to validate the idea with some data we can talk to you and help connect you to the right people to do that as well. There's probably two elements to that. One is data for your innovation but then there's the market data to validate so that you can scale, and we can most definitely help with that. We've got some innovations coming through our process at the moment that we're doing specifically that for, so please reach out to us if you want help with that.

CHP: Exactly, and very similar to what Carly was mentioning there as well, part of the support across Discovery is also like experts who will support on that competitor analysis across Discovery. You'll have access to mentors and data and additional support to do that as well if you are successful into the Water Discovery Challenge. Jumping straight into the next one – innovation by definition is new and sometimes often untested. How do you demonstrate a business case without having a fully launched product. Carly, do you want to jump straight into that one and then Harish, maybe you want to jump in after?

CP: Yes, just very quickly from me, I think I was trying to answer both of those into one before so just to say that we can help you with that market validation. We know it is difficult to get the information you need to do that business case, and to do it at the right level of detail so we can do a bit of facilitating with mentors to help get more information, point you in the right direction. Please reach out to us if you're in that position but Harish, it would be good to hear from your side of things as well.

HK: Yes, I fully understand and appreciate that it's quite difficult to articulate especially for new, disruptive innovation. Water companies often have a number of programs and if you look up, United Utilities have the Lab program which has been coming for four, five years now where we work with innovators with really good ideas but very new and untested. Programs like those set programs give the innovators an opportunity to try out a prototype in a safe environment, with a bit of simulation to gather just enough data to be able to build a strong value case. I'm saying value case because it's not just about financial ROIs when you think of scaling up. There's other elements that the water companies would often consider. Carbon savings is one good thing, natural environment. Other capital benefits would play a big role and also how does it address efficiency challenges or rather inefficiencies areas in our process where your product or service technology will help efficiency. All that can be tested through some of these innovative routes, shall we say, set out by water companies which will give you insight about your product service into those wider benefits which you can then articulate into a business case or early case. Thank you.

CHP: That is great, thank you very much. We're not at 57 so I think we might be moving into our last or potentially penultimate question. I'm going to jump a little bit down to a question that has been upvoted a little bit. There is a question that has come in around the audience saying that there are many funding opportunities for MVP development but once you are scaling the options can be limited. Across the full panel are there any recommendations for how you can fund the scaling phase once you get there? Carly, do you want to jump in first?

CP: Sure. I think it is a fair comment and I understand why it is being upvoted in the questions. It's interesting because I think as we look to the new phase of the Ofwat fund there's a lot of discussions happening around scaling and bundling scaling within that fund as well so I think that's a bit of a "watch this space" for there. From a Spring perspective we're most certainly looking at how we can support with this. Because we have the support of all the water companies they are all very much aware of the issue around scaling and the value that can come from scaling so we're talking about

different funding paths that we can create to help with that as well. I appreciate that's a bit high level and conceptual at this point but I think really the summary is we're aware that more needs to be done in that place and we're looking into it so please watch out for more information from us in future.

CHP: Any advice from anybody else on the panel?

AN: I can give my view of this. I think well, money is abundant I would say, the question is how do you channel it? I think again depending on the level you are with the customer, and again, Harish may comment on this, I think again if there is a genuine benefit there, and as Harish said, may not just a pure capital ROI maybe related to the social impact, environment, you name it, operational cost deduction and all of that. The way I see it, there is a willingness to try to support to an extent, connect the dots, as I like to say, between perhaps different companies that might have a synergy here and I can go back to the partnership level.

I'm obviously here today representing Spring but if I put my other hat at Schneider we have an arm of investments as well. There are start-up programs so every large corporation inevitably we will have an arm around that as well which can work in different ways. It can be just as an investment, it can be like in a mentorship, it can be…again we don't have the time to go through the options here. I think again the more important thing is can you answer the question? Can you really deliver something real? And then I think engage with people around you in the water companies, people like Carly and I think you can find a way.

CHP: Great. I think we will end on that final note. It's one o'clock. I just want to say a massive thank you to Harish, Sal and Andre for joining us and a big, big thank you, Carly, for coming back and for Spring Innovation to join us again. A reminder again that you can watch the other webinars in the series on the website. As I mentioned they'll be available there for the foreseeable future. There have been ten so far. On Thursday next week you can join us for the final webinar in the series which is going to be an entry clinic so it's going to be very focussed on Discovery and the entry form, the process of the selection and all of that. Join us at 12 o'clock on Thursday. Thank you very much, everybody.