

## Season 2: Innovating Infrastructure podcast

**Episode 1:** Rethinking infrastructure delivery: Efficiency through teamwork with Helena Henao-Fernandez, TEAM2100 Programme Director, Environment Agency

### Transcript:

**Michael:** You're listening to season two of Innovating Infrastructure - the Global Infrastructure Hub's podcast that explores improvements to the way we deliver infrastructure. I'm Michael Twycross from the Global Infrastructure Hub and I'm your host, as we delve into examples of how infrastructure delivery has been improved around the world.

This six-part season includes one-on-one interviews with infrastructure leaders, drawing on insights from our Improving Delivery Models initiative which aims to help industry address common challenges faced in infrastructure delivery.

The initiative includes a framework, case studies and overview of different contractual models and a library of key reference documents. To find out more about the case studies resources and topics discussed, visit the Improving Delivery Models initiative at [gihub.org](https://gihub.org).

Today, to talk about the importance of efficiency when it comes to improving infrastructure delivery, I'm excited to welcome Helena Henao-Fernandez from the UK Environment Agency to the podcast.

Helena is a TEAM2100 Program Director where she leads the first phase of a 100-year flood risk management plan for the Thames Estuary. The program covers tidal flood defences to manage increasing flood risk from rising sea levels and deteriorating assets to the end of the century.

This discussion will explore the TEAM2100 program and works, focusing on the performance and organisational efficiencies derived from the delivery approach used. For all resources mentioned in this episode, visit the shownotes at [gihub.org](https://gihub.org). Now, let's get into the discussion. Enjoy.

Hello, and welcome to the Innovating Infrastructure podcast. I'm Michael Twycross from the Global Infrastructure Hub and we're here today to discuss the theme of efficiency within the context of our Improving Delivery Models initiative.

Here to explore the efficiency theme with me is our guest, Helena Henao-Fernandez. Welcome.

**01:54 Helena:** Thank you.

**01:58 Michael:** To start with Helena, I'd like to ask, who are you?



**02:03 Helena:** I am the Program Director for the Thames Estuary Asset Management Program, TEAM2100 in the United Kingdom.

**02:11 Michael:** Right, and one question we'd like to start off this series with is, what do you think is the most important improvement made to infrastructure delivery in recent years?

**02:20 Helena:** I believe it is the acknowledgement that we need to change. With increasing challenges from climate adaptation, funding and the realities of a post-pandemic world, we must deliver infrastructure in a different way. There are worldwide initiatives to do just that. For example, here in the United Kingdom, we have schemes like Project 13, that are bringing the infrastructure industry to the 21st century.

**02:49 Michael:** Great. And I guess within that context, how has the sector evolved in your time in this sector? Has that been an improvement that has only recently developed or has it been growing over quite a number of years?

**03:03 Helena:** Well, globally, we have identified the principles to enable success in the industry. For example, there is an increased appetite to move from transactional working relationships to collaborating working interactions. There's also a focus on digital transformation and innovation which are tools to enable safer, slicker and more efficient delivery.

**03:26** And in this respect, psychological safety is essential to the working environment to allow individuals to don't feel judged when they come up with those bright bulb moments. We see better governance, we write commercial arrangements, there is a focus on long-term value and continuous improvement and all of these is underpinned by a cultural change and diversity because the more diverse, the more ideas and the higher is our chance of getting things right.

**04:04 Michael:** And you mentioned in your introduction that you're leading the TEAM2100 program in the UK. Could you explain what the TEAM2100 program is aiming to achieve? And I guess, also, what challenges are needed to be overcome, essentially why the project exists?

**04:18 Helena:** Well, TEAM2100 is an integrated delivery team for the asset management of the flood defences in the Thames Estuary. We are in the first 10-year implementation phase of the TE2100 plan, which is a 100-year strategy for climate change adaptation and flood risk management in the Thames Estuary. But let's talk a little bit about what originated the Thames tidal defences as a system.

**04:49** In 1953, a catastrophic flood event occurred due to a combination of weather conditions and spring tides and those conditions created a storm surge which struck the Netherlands, Northwest Belgium, Scotland and England.



**05:07** Suddenly, 2551 people died. And London narrowly escaped the devastation only because the downstream flood defences gave in. As a result of this, the Thames barrier, associated gates and a system of walls and embankments were set to protect London. Because of that, we have the TEAM2100 program looking after those assets. There is a high sense of purpose within members of the team as being part of the program is kind of our superhero moment. We save London from flooding.

**05:43 Michael:** And with respect to the case study, it touches on several improvements made through the program in the first six years of operations to today. Can you explore in particular the integrated delivery team approach applied through the program and with respect to efficiency, being the theme of today's discussion, why is it an important improvement?

**06:01 Helena:** Well, when we talk about really integrated delivery teams, we are talking about an enterprise model. Every member of the enterprise contributes to the outcomes and ambitions of that enterprise, rather than the goals of their respective organisations. So, the transactional nature of project delivery and commercial interaction is completely replaced by collaboration.

**06:28** In this way, individuals focus their efforts on working together to succeed, rather than using their time and energy to resolve conflict. As all individuals work towards the same goals, there is no kind of person marking that you see in other delivery mechanisms and we just choose the best person for the job and that's regardless of the organisation they belong to.

**06:54** So, if they are part of the client, the consultant, the contractor, a third party, we will just choose the person that has the right skills. In this kind of setting, the development of solutions becomes more efficient as a result of removing conflict and having capable owners for the tasks.

This also generates high levels of job satisfaction and this sets the right environment for people to innovate. For the environment agency, this model represented a complete shift in the way how we interact with our supply chain. Because this setting can only work if trust is developed between the parties involved. The environment agency needs to trust the delivery harness to provide expertise and the best value solution.

**07:45** To develop this level of trust, we had to invest in enhancing the soft skills of all the enterprise members. And this was done through inside workshops, development of communication and skills and learning to display the right behaviours for the enterprise model to flourish.

**08:05 Michael:** And so, Helena, the approach taken, the efficiencies that had been brought out of that, what information or statistics or results have you seen from the integrated delivery approach to date, within the program?



**08:19 Helena:** Well, efficiencies became apparent since the enterprise mobilised. The learning curve was mitigated by the principle of best person for the job and as such, the leading role for activities was adopted by those with the right expertise for those activities.

**08:39** Also, there was a smooth development of outcome-oriented processes, as a result of the common goal of the integrated delivery team. Now, people are comfortable proposing innovative ideas with the confidence that their success will be shared. Our IDT, our integrated delivery team was created to be more efficient through innovation and different ways of working.

**09:01** We are 23% more efficient than our own treasury-approved full business case, but the ambition was established beyond efficiency and innovation. We set ourselves a number of holistic outcomes to include health, safety and well-being. By making sure that all members of the enterprise are returning home in the same way, also as an Environment Agency program, sustainability is kind of a part of our DNA.

**09:35** We set high targets for carbon savings. So far we have more than 10,000 tones of carbon saving. However, we approached sustainability in its widest sense by mapping the United Nations' sustainable development goals and working with other industries and local communities in the estuary, to deliver together beyond our flood reaching day.

**09:59** We have a very powerful motivation as the impact of not getting things right will affect 1.4 million people that work and live below high tide level and there will be 310 billion pounds worth of damages as we protect the commercial, financial and government heart of the nation.

**10:23 Michael:** And in terms of seeing those efficiencies realised, what changes were required internally within the UK Environment Agency or within your project team specifically to enable these benefits to be realised? Is it something that was the whole-of-government approach or is it really something that you were able to achieve solely within the specific department or project?

**10:46 Helena:** I think the initial challenge was to take a leap of faith into a delivery model which was never tested in an environment agency before and also quite novel in the industry at the time. We were set as a pathfinder, and there are numerous advantages from having a mandate to innovate. Now, TEAM2100 was an early demonstrator of many of the principles of Project 13.

**11:12** I mentioned earlier that Project 13 is an initiative in the United Kingdom to bring the infrastructure industry to the 21st century and it has a set of principles guiding the sector, guiding the industry to evolve. We adopted those principles before they were even being formulated and for that to happen, members of the team had to be equipped with soft skills apart from the technical skills that they already have. So basically, the soft skills were fundamental to overcome the challenge placed by the cultural change.



**11:48 Michael:** And do you think you were able to bring along all parties at the same rate or was there certain departments that took a bit more work than others?

**12:02 Helena:** I think the challenge is higher for the client-side. Our delivery partners, they are set as businesses. And a business is used to adapt, change and evolve in order to continue productivity. For the client-side, that transition is perhaps a little bit slower sometimes. And that's why we needed to invest highly on the client resources. But I have to say it has been more consistent because once you produce the change, it gains momentum.

**12:33 Michael:** And do you see in the journey, and the people coming along, those benefits translating into other pieces of work currently? Do you see these efficiencies extending beyond just the TEAM2100 program?

**12:48 Helena:** Absolutely, everything that passed infrastructure delivery or anything that comprises asset management and project delivery, you have principles that are transferable and their kind of collaborative working will have a positive effect on any kind of activity that you are carrying out.

**13:09 Michael:** At a personal level, how different has the approach been compared to previous projects or programs you've worked on? What is at least one lesson you've learned from the experience in managing this work?

**13:19 Helena:** Well, in the particular case of my program, we were set as a long partnership, it's a seven plus three years contract and it was set to be reviewed on year five. I probably would have introduced early reviews to further enhance the areas where the enterprise was having a good performance and perhaps to intervene earlier on areas requiring improvement.

**13:50** For example, in terms of optimising interventions of the assets, sometimes that was hindered by corporate targets and external policies and if we were able to address this earlier, we could have generated even higher value.

**14:06 Michael:** That's really interesting, just to mention, we do have another case study with the Improving Delivery Models initiative, on one of Sydney Water's projects here in New South Wales where I am, in Australia and they've applied I guess a broadly similar approach to managing a section of their water network here. So it's really interesting seeing the different lessons and learnings from that.

**14:28** I'm sure Sydney Water being a state-owned corporation here in Australia, there are different learnings within that process, but how replicable do you think the delivery team approach is to other projects or programs, non-utilities based, maybe smaller things such as hospitals or a single rail line or something like that?



**14:45 Helena:** Well, it's interesting what you just mentioned about other programs carrying out similar schemes. I think it's fundamental that we share good practice because when we have this community of enterprises that are carrying out infrastructure, it's really important that we learn from each other, that we have the capacity to avoid falling in a trap that someone else already fell and managed to recover from it.

**15:13** So it's really important that we establish these strong networks. In terms of how can these be replicated, I believe that basically, any type of infrastructure scheme comprises asset management and project delivery. And therefore you can translate the lessons learned in our scheme and many other asset management and project delivery schemes to any type of field in the infrastructure landscape.

**15:40 Michael:** You mentioned before, just in terms of the challenges, kind of bringing people along for the journey, the client-side is generally from your experience on TEAM2100, I guess a bit more challenging. If someone's looking to start out and try and implement this approach on another project, I guess where do you think they should start in trying to do this? Should they obviously talk to other people, but is there certain things they should do earlier in the process to make it easier to implement later down the track?

**16:06 Helena:** I think working on that cultural change as soon as you know what kind of delivery mechanism you're going to implement is essential. If you know that from a client perspective, the organisation perhaps would take a little bit longer, so start working on that transition even before setting any commercial arrangements. Also, you need to make sure that their commercial arrangements are right because the best way to guarantee collaboration is making sure that all the parties involved are gaining from that exercise.

**16:43** So, when you get people engaged, happy doing what they do, they get very committed and they become very creative. And that creativity translates into efficiencies and those efficiencies can be reinvested. So it's like a positive cycle that repeats once and again once you set the right momentum.

**17:08 Michael:** What does the future hold for the program? You mentioned it's a 100-year program, does the integrated delivery team approach continue, are there expectations on how it will evolve?

**17:17 Helena:** The next phase of the TE2100 plan, the 100-year strategy needs to have a seamless transition from the current delivery vehicle, and therefore, the Environment Agency is currently developing the shape of that phase.



**17:35 Michael:** And in terms of being a client, the parties who have been part of the team to date, what's the kind of process you're looking at going forward for future pieces of work? I'm curious to understand I guess the tendering approach to these kind of things and how it may evolve going forward, particularly given the long-term nature of the contracts.

**17:56 Helena:** Look, from a personal and professional position, after enjoying the benefits of this type of delivery, I feel that returning to previous delivery vehicles would be unacceptable, it would be some kind of a regress. Once you discover new ways of working that are more effective, that deliver beyond your expectations and create great satisfaction for those working in the scheme and the communities we serve, why would you want to move back?

**18:28** So I think these elements will be considered in the tendering process and it's about finding the right partners that are like-minded in terms of working collaboratively and in terms of removing conflict from our delivery.

**18:43 Michael:** It's been really interesting understanding further the TEAM2100 program and the interesting elements within that have made it such a success to date. Beyond the integrated delivery team approach, what is another infrastructure delivery improvement that you'd like to see as an infrastructure professional in the next five years?

**19:04 Helena:** Well, I would like to see that programs working in this way are no longer pathfinders, but actually the industry's norm. I also would like to see how organisations carry out a careful review of the targets set as some perverse outcomes come as a result of short-term targets. So it's very important that we know exactly what we want to achieve, in order to not only achieve that, but enhance our capacity to deliver a good performance.

**19:41** And I would like also to see how innovation is not just approached as expensive, tacky initiatives, which are necessary in many cases, but also as different ways to do things, sometimes inexpensive.

**19:55 Michael:** I think there's a lot of work going into, particularly in countries with massive pipelines coming up of projects looking at how there can be ways to do things that don't require a massive spend, potentially utilising those digital and technological advancements to create better efficiencies from those projects.

**20:13** That's been really great. Helena, thank you so much for joining us. I guess if people wanted to learn more about the TEAM2100 program, be it on the case study that we have, where would you point them to learn more?



**20:27 Helena:** Well, information is available on the website of the Environment Agency, but also I believe within the podcast, there will be a sharing of details about the organisation and my own details as well. So if anyone wants to keep in touch, just reach out.

**20:44 Michael:** Thank you, Helena, again, for answering these questions and exploring this efficiency theme from the Improving Delivery Models work. Thanks for joining me today. I'm Michael Twycross from the Global Infrastructure Hub and you've been listening to Innovating Infrastructure.