

Speaker 1: If you looked at a place like Singapore, they get 180 inches of rain a year, except the majority of it years ago used to just run off the island because they were getting it away from their urban areas as quickly as possible. They instituted a program called Active Beautiful Clean, where they re-naturalized all their streams and rivers and their parks are all catchment zones now. Now they can take that water, they can reintroduce it back into the water cycle for treatment and it becomes part of their reuse that they utilize with respect to that. It's an example of some of the things that many communities are adopting on lesser scale but adopting more frequently.

Speaker 2: Welcome to Inflection Points, a podcast series from Jacobs. I'm your host, Steven Ludwig. That was the voice of Peter Nicol, global director of water. It was a great conversation about water and wastewater and how being innovative around water use and treatment is becoming more important around the world. Inflection Points is where we meet the people of Jacobs that help create solutions that deliver a more connected sustainable world. Just a quick note, we recorded today's episode at a conference, so you may hear some background noise. With that out of the way, it's on with the podcast.

Peter what's your background, you an engineer, or what's your training?

Speaker 1: Geological engineer actually, and mostly on the job training for all intents and purposes. Worked in this industry my entire career. So it's really school of hard knocks.

Speaker 2: Wow. What are some of the major lessons you think you've learned along the way?

Speaker 1: Probably the biggest lesson is: be mentored by as many as possible, really follow the marketplace, try to understand the organization you work for and where you're trying to go, what your strategy is moving forward, but who are some of the people you can learn from? How do you partner up with them and learn as much as you can? And then bring other people along behind you. Really support your team, try to give them opportunities for growth and really build on that as you move forward.

Speaker 2:

probably about 10% of water use. When you think about that, agricultural is about 70%. So industrial water is about 10, and then municipal drinking water, firefighting, all that kind of thing really makes up the rest.

So from an industrial perspective, very important with respect to that because it's, again, at the core of pretty well everything that we're doing, we're making, all the manufacturing that's going on and the role that it plays in that. And so, we're very active with private sector clients. Certainly on the operational side, we, I think run probably 50 facilities today for private sector clients and mostly in North America with respect to that, so room for growth when we look at the global world and leveraging off of the platform that Jacobs has. On the public sector side, just comparing that, probably about 200 facilities. So much broader but certainly something to build off of as we look to providing more services to the private sector.

And that's a range of different things, certainly very active in the food and beverage market, active with pharmaceuticals, with life sciences, with the micro electronics, with data centers, all those kinds of things. They all have water as a component of what they're doing, sometimes cooling, sometimes source supply. And then all of those clients also look for the sites that they build. How do they manage storm events? So they have flood management and landscaping requirements. We can provide services around all of those. So we really look at industrial water as a key piece as the one water platform that we support. And so it's a piece of our business, a very important piece of our business. We've got about 6,000 water staff across the globe that are providing services to our clients, partnering with them and delivering on the important roles that we do. So lots of backup, lots of strength and lots of capability.

Speaker 2:

So 6,000 people working on water issues across the world, that has to mean amazing talent pool, no pun intended, since we're talking about water, that you can dr65T@.0000092 0 612 72 re

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Speaker 1: I think that's fair. We've seen an uptick with respect to just the awareness around supply, awareness around the quality of the product that you're getting. When we look at places like India, which are eroding groundwater tremendously, and to where is the

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energy uses. So the majority of things we can do with water, we've already been working with. If there's a way to collect that, treat it, and that kind of thing, it's already usually a source supply that is something that we can utilize in such a way. So just being more innovative, more aware of the fact that we've got that. And that's one of the areas that we see a lot of growth and development, innovation. And industry is probably at the forefront of that because water's precious to them, they're paying for it in most cases. And so it's a cost of anything that they're doing. And so they're building that into their business model because they're much more aware of that as a piece of their source supply now, whereas before I think it was just something that wasn't really part of the business case that they were dealing with.

Speaker 2: Are there any new technologies coming down the pipe or that are currently pretty new that you think are making a difference in industrial water or wastewater?

Speaker 1: I think there's always innovation with respect to a variety of things. I think the whole digitalization of water is going to be a big piece of it because there's opportunities to optimize your water use and water management in ways that we just couldn't manage previously. And so how that adapts and how industries utilized that, how utilities utilized that, I think is just the efficient use of water and understanding when you've got a leak or something like that, making sure that you plug it because you've already collected that water, you've treated it, now you're losing it. And that's your cheapest water out there to really do and to collect. So how do we look at that? There's a lot of leak detection that's out there, there's a lot of systems to plug those leaks. Find them and plug them and manage that. Be able to figure out how to best manage your system, and looking at it from a systemic approach as opposed to bits and pieces.

There's a lot less approach from a bandaid perspective where we're out there and we're plugging holes. It's really more, "Okay, this is my system. What have I got in the system? And how do I figure out how to maximize that and make best use of what I've got?" So I think that there are a number of technologies that are being improved. If you look at desalination, 40 years ago it was all thermal desal, high energy, high expense. Today, much more innovation around that. Certainly the energy costs have come way down. The impact on the environment is less with respect to what they're doing in some of the filtration areas, how it's being filtered and utilized.

And then we look at even how we collect flood waters and how we manage those kinds of things. We're treating it before it goes back into the environment. So we're making sure that we at least disinfect and provide less impact from that. So, I think all of those collectively go together and I think that as there is continued focus and certainly in North America, very visible focus around water since Flint, Michigan, and a variety of other things. I think it's had a big impact on people's awareness around particularly water quality, and what can happen when you don't have the quality you need, and then the impact in your systems.

I think industries are very aware of the fact that, water as a source material for them, the product they're putting out has to be safe. Same thing for utilities. When you turn the tap, you want to have a product coming out of there that's safe to drink. And so I

think that all of these go together. I think that we will continue to see innovation because there's much more focus on it, there's much more interest in it, and there's much more study around it, I think, is really what it boils down to.

Speaker 2: How can Jacobs help companies or municipalities plan for their water? I know that's a big question. What are some buckets, if we use the water pun again, that you can help them with?

Speaker 1: Certainly from our perspective, one of the things where we think we provide the most value is when we partner with clients, as opposed to responding to projects. When a project gets developed, it's based on what the client has identified as their problem, and they put it out for the community to solve it. It's a lot easier to be in that room to better understand: What are you trying to solve? How does it fit in what you're trying to do? And are there alternative ways of approaching that?

So trying to get into more of a trusted partner relationship with clients so that we can be part of that strategizing, part of that thinking around conceptualizing where they're trying to go and what they're trying to do so that we can put other ideas out there. So when they do come to market, because we will still have to compete in most cases for the work, but when they come to market, they're coming to market with something that will likely provide them with more focus around what the solution should be, and theoretically, a better solution to meet the needs of what they were trying to accomplish.

And I think that certainly the industrial sector, the private sector, is much more open to that because they're really trying to figure out in their supply chain, how do they have service providers that can meet those needs? And so, who do they partner with to provide that level of service? They'll probably have a stable of people that they rely on it. [inaudible] likely won't be one, but we want to be part of that stable because certainly for the large multinationals, this is a platform thing for them that they have globally. And our capabilities are dispersed globally, and we'd like to be able to partner with them to meet those needs.

Speaker 2: Nice. Where can people find out more information or who to contact around these issues?

Speaker 1: Well, certainly when it comes to our organization, jacobs.com is the best choice. You go in ther

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