Deloitte.

TECHSavvy

Deloitte TECHTalks | EPISODE 26 | Smart Operations in Industrials

With Brian Barish, Deloitte Energy, Resources and Industrials Operations Leader

Raquel Buscaino: Welcome to Deloitte TECHTalks. I'm your host for Raquel Buscaino and I lead Deloitte's novel and exponential technologies team where we sense and make sense of emerging tech. On today's episode, we're turning our focus to the industrial sector, an industry some consider to be at the heart of the global economy and one that's undergoing a quiet but powerful transformation- accelerating their adoption of digital technologies, advanced analytics, and connected ecosystems to help drive smarter operations and unlock new sources of value.

So, what does it take to make industrial operations smarter, more connected, and future ready? Well, we'll explore these questions and more on today's conversation. I'm joined by Brian Barish, Deloitte's U.S. Energy Resources and Industrials (ER&I) Smart Operations Leader, to help further this conversation and spread some light on what's going on. Brian has spent years helping organizations unlock new levels of operational excellence through innovative thinking and emerging technologies. And I truly couldn't be more excited to have him on the pod.

Brian, welcome. I'm so excited for this conversation.

Brian Barish: Raquel, thank you for having me. Thank you for the invite. This is gonna be an excellent conversation.

Raquel Buscaino: Yeah, I think so too. Brian, you've probably spent more time than anyone in this field. Can you talk about a little bit about your journey to current? What brought you here and what makes you excited to talk about smart operations today?

Brian Barish: Yeah, I've been helping organizations in the industrial sector adopt and modernize their technology to try to become more competitive for going on just over 20 years now. And I am so passionate about doing this because I started my career as an industrial engineer, working on the shop floor in factories all over the United States. And now working with Deloitte, I'm able to do that on such an incredible scale. And I'll tell you what, right now, I have never seen an era where technology, where energy, where priority, is moving and accelerating as fast as it is today. And really, the topic that we ultimately get to talking about is the operating system of an enterprise.

Raquel Buscaino: Yeah.

Brian Barish: And when you think of it in those terms, smart operations is just this incredibly compelling topic, because at the core, we're talking about the collective intelligence of the organization and how you apply that intelligence to organize its resources, both human, robotic, digital, all of that, and applying it in ways that allow the organization to be more adaptive and responsive, to be able to sense, perceive, and change in reflection of what's happening in its operating environment around it. And really, it's accelerating. The convergence of hardware and software is really changing the game and it's really unlocking the future for so many organizations in this sector.

Raquel Buscaino: Yeah, smart operations today probably looks a lot different than what we would have called smart operations 20 years ago. And so that, that convergence of everything you just mentioned there, I think is probably part of the impetus for why now is such a critical time for leaders to be thinking about this strategy. Maybe you can share some more details about what folks are doing today, that's really pushing the needle.

Brian Barish: Absolutely. So here at Deloitte, we did a survey of about 600 or so global executives in this space. And what was really interesting, you know, beyond the normal 80 % of the executives said they're going to be increasing investment in smart manufacturing, smart operations-types activities and initiatives, but what was really telling was that zero, zero out of the 600 said they were going to be reducing or anticipated reducing budgets in this domain.

Raquel Buscaino: Those are pretty strong numbers.

Brian Barish: So, these investments are accelerating and they're around the heart of the business, the operating system of the business. And when you make investments in smart operations, you're investing in the brain of the enterprise.

And as I was saying, it's what lets your organization sense what's happening, process the information and respond like your brain does for your body. In the past, industrial operations were really this patchwork of machines, of communications that may or may not be timed with the most up-to-date information, right? Think emails, think paperwork, manual steps of execution, you had silos where you had various factories, and procurement organizations, and planning organizations working in their own silos.

And now with integrated software and data and automation, sensing technologies, everything is moving so much more in concert and in coordination, and at a speed and agility that we've never seen before.

Raquel Buscaino: Yeah.

Brian Barish: So think moving from being a couch potato to all of sudden training and operating like an Olympic sprinter. Right? Intelligence really is changing the game on how organizations are constructed, how they marshal their resources, how they coordinate their resources, where the investments they make in terms of footprint and their network and other things. And it's just a huge part of this evolution around cutting down and working through organizational complexity, breaking down these various silos to really coordinate action and eliminate to the extent that it's possible confusion and delay in reaction time.

And when I talk about automation, I wanna be very clear, we're not talking just about robots or artificial intelligence, we're talking about making sure that the right information, the right instructions, the right insights are showing up at the right place at the right time to the right resources, so that we can have this coordinated response and so that the organizations are ready and adaptable to whatever comes next. So really the investments are all around making the organization more sharp, more agile, more lean, and ultimately, like I was saying, more like a sprinter than the average Joe walking down the street.

Raquel Buscaino: Yeah, I like your couch potato to Olympic summer example. I think that's a very, very vivid and illustrative. I'd say most listeners might not have experience working in the industrial sector, how

would you say it compares to something we might be more familiar with like consumer tech? Is industrial technology ahead? Is it behind? Could you speak to that a little bit just as a frame of reference?

Brian Barish: Well, certainly what we as a society, have seen is an explosion of capability and investment on the consumer technology space. And this is impacting how we work, how we live, how we communicate with one another. When I think about when I order toothpaste from my phone, I get a recommendation of the type of toothpaste that I should buy based on my preferences, not just in toothpaste, but other things, all the things that I'm interested in. When I buy it, I'm able to track where it is and its value chain, I can track it as it comes to my house. And when it arrives on my doorstep, I see a photo of it. And I see this alert and I say, hey, when would you like to buy again?

This technology, this insight, this integration of everything from customer preferences to the feedback that I've given on other products, to the actual producer and the brand, to the logistics, and the shipping, to the last mile delivery, this integration is the benchmark, and industrial technology is seeing this and is moving in that direction very quickly. And so, it's an incredible model for many industrialist companies. “Hey, how do I get to the part that shows up to my mechanic on the shop floor or to my robot on the assembly line, how do I get that level of control and synchronization, and feedback through the industrial value chain?” Those are the systems that are getting implemented today. How does the robot that's installing a widget on a car, for example, give feedback to the engineer to redesign it, to resource it, to have it show up a little bit differently in a little bit different packaging? That is the real shift that's happening.

Raquel Buscaino: That's an interesting frame. I could imagine that the consumer tech industry can move faster. For example, let's take your toothpaste example, because I'm a person of one ordering toothpaste for a person of one, the complexity is probably very little. But when you're talking about a multinational organization trying to weave in pilots and experiments, and legacy systems, and everything under the sun, well then, having that integrated end-to-end system becomes a little more complex. So I see that the consumer tech industry might be the vision for where you want to head in terms of integration, but that complexity is just nothing compared to what could happen on the industrial side.

Brian Barish: Yeah, let me leave with a simple idea. The extent to which your value chain can think and move as one, that is all about capturing value, delivering value to your customers. And the extent to which you can't, you're just leaving value on the table. And it really comes down to three things, like you said. It's breaking down and integrating the patchwork of systems and processes that exist. For an individual, that's not a lot of complexity, but for an organization with global scale and scope, it can become a very complicated task. So standardizing how you measure, how you manage, how you control across an enterprise, that is the investment and the focus that is what I call thing one.

The second piece to overcome these challenges is around moving to model-based systems and unified real-time data. So imagine everyone in your organization from the plant floor to the C-suite looking at the same up-to-the-minute dashboards and data gaging where they need to prioritize their attention without all the version control chaos that may exist. Whether that's, you know, an email that arrived yesterday, a sensor that wasn't updated in time, or a set of data: no more version control chaos and operating off of stale reports.

Raquel Buscaino: Yeah.

Brian Barish: And the third piece is on using technology to automate away the tactical, mundane, repetitive tasks so that your resources, your people, your machines, your entire enterprise can focus on those elements that are the highest priority, that drive the most value for your customers and for your people. And actually move the needle on solving problems and being innovative. So, the bottom line here is the more connected, automated and harmonized your value chain is, the more resilient and agile and competitive you're gonna be.

Raquel Buscaino: I like that you broke it down in three, I'd say simple to understand, but probably hard to implement areas when it comes down to it, where do you think most people or most organizations are struggling right now? Which of those three levers do you think is the low-hanging fruit, if you will? And what have you found to be some of more challenging aspects when it comes to thinking through your strategy on this?

Brian Barish: So that's a really interesting question and that it's not going to be the same for any two players. And I'll give you an example. We'll call legacy players, so the big enterprises that have been operating for some time. There is a degree of tech debt in fragmentation that's going to organically work its way into the system.

And to that counterpoint, startups, new companies that aren't burdened by that, they're gonna be able to move a little bit more quicker into integrated systems and common data, but they're gonna have other challenges around scale and scope and being able to apply, physical automation to processes that are still immature and emerging on that side. And so depending upon how your organization operates its priorities, different flavors of those three priorities manifest themselves.

Raquel Buscaino: Brian, so what you're telling me is, it depends.

Brian Barish: In other words yes, it absolutely depends.

Raquel Buscaino: So Brian, I also know that you've worked with industrial organizations across multiple different regions. You outlined a couple of things there that, you know, we joked, it depends based off the size and maturity of the company, but I also do think regional considerations are a really big play here too. What are some of the things that you're noticing in how different leaders approach smart operations in the U.S., maybe say compared to Europe or Asia?

Brian Barish: I love this question. The smart operations priorities, they really are a mix that is shaped by the competitive industry, the dynamics, the region that you're operating in, especially to your point. And there is not a single playbook, right? Just really what I'll call a spectrum of strategies that reflect both that local context and that competitive industry pressure.

Raquel Buscaino: Yeah.

Brian Barish: So, across the globe, organizations that are developing their smart ops strategies based not only on the local needs like customer expectations, workforce and well-being, sustainability is another key localization topic, but also on the unique demands of their industry. So for example, at Deloitte, we see a lot of manufacturing innovation accelerating in parts of Asia, while sustainability-focused operations and

those innovations and the advanced technologies there, we're seeing Europe and that region really lead the way. And so, these regional strengths emerge from this blend of cultural priorities, regulatory environments, competitive pressures, and they're impacted by change in real time, that's really where we specialize is helping organizations sort through that complexity to understand how should they be making investments to better engage with their customers, to help support their people, to evolve their products, and to ultimately influence how we live and work together as organizations, as teams.

So in the end, it's really a combination of these global ideas, the local insights, and even the industry dynamics that makes this topic, this domain so exciting and full of potential.

Raquel Buscaino: Yeah. We had Kyle Forrest on the podcast a few weeks ago, and he introduced this concept of organizational "Stagility", which is a mix of stability and agility. And hearing you kind of talk through it right now, it has me thinking the exact same thing, because I think organizations are craving a little bit of stability when it comes to how to navigate changing policies, regulations, global dynamics, but they know they need to be agile as well. What are the tips and tricks and leading practices that organizations should go about achieving the desired level of Stagility that they may not want to?

Brian Barish: Yeah, I mean, I have not heard that term before, "Stagility". But I'll say, you know, when I think about the big forces and emerging trends, I think about three big areas.

The first one is in what I'll call distributed intelligence. So, think everyone with a smartphone in their pocket. It's a supercomputer in your pocket now, which is absolutely incredible. Sensors: the cost and the economics of applying sensorization to get real-time data is becoming more and more ubiquitous and you see it everywhere. Wireless networks being able to harness and pipe incredible volumes of data in real time to your big intelligence systems. So thanks to this affordability and ubiquity, we as a society, we can now collect real-time data at the source, individual machines, and these decisions can be made locally or centrally, and in real time.

The second piece is advancing into the types of intelligence that we have and the maturity of what the systems can do. And this is where AI and automation really come in.

Raquel Buscaino: Yeah.

Brian Barish: So not only are you able to get better information, but now we have new tools to act on that information, to interpret this information, to sort through all the complexity, to have different systems that never could before talk to one another to actually be able to have good conversations.

And then the third piece, what I'm looking at as the next wave of investments and advancements that we are likely to see, is on the physical automation pieces of this. This is where our industrials companies live. They make products and sell services that interact with us in the real world. So now this is the robotics piece, drones, autonomous systems, how they can act and force real world action in real time. This is the third leg of the stool, if you will, on how really the forces around smart operations, the smart operating system for enterprise is really gonna come to bear.

And so the bottom line is, you know, as these technologies mature, as they converge, organizations are gonna be... Really, they're gonna be leaner, they're gonna be faster, they're gonna be more capable than

ever before, and these are real breakthroughs: Distributed intelligence, maturity of intelligence and the physical automation, they're really coming together. They're accelerating, they're maturing. And wow! It is such an exciting time to be working in the center of this space.

Raquel Buscaino: Incredible. I love how you outlined it too, in those three areas and it seems like they follow a maturity curve as well. We also had Franz Gilbert on the podcast to talk through humanoid robotics, which seems to be that third bucket on the industrials for physical AI and automation. So that's great. You've kind of outlined so much with technology that leads to progress, right? And I think it's very exciting on all fronts. I think the other part of the equation is, well, how is technology going to interact and augment with the people who are actually conducting the work in factories and the human experience of this all? I'd just love to hear your thoughts there on this human and technology interaction and convergence.

Brian Barish: This is such an exciting area of discovery right now. With the advent of some of these new AI tools and the further integration of digital systems and more streamlined workflows, what we're seeing is the workforce being much more effective and focusing on much higher-level priorities to the enterprise than they ever were able to in the past.

You know, technology really allows people to focus on strategic and competitively important priorities and away from less mundane, repetitive, dull tasks. And think competitive strategy, think new product lines, think delivering on time to your customers. And technology really enables that. And so people working alongside AI and automation is really the future.

It's just a really exciting time because I think what we're going to see is a much more satisfied, much more productive, and much more engaged workforce than we've ever had in the past. And so I'm really excited about the implementation of these technologies.

Raquel Buscaino: I think that resonates with a lot of people who have done a repetitive task over and over and over again. And I think to your point, you want to increase worker engagement. That's by working on higher order opportunities, pursuits, activities where humans can really add value, so I love that.

As we think towards the future, and I know you've talked about this throughout the podcast as well, but say we're 10, 20 years in the future now, what do you think is table stakes in terms of a fully smart industrial operations system? And what do you think are some of the questions we will be asking at that point? Because we're asking a lot of questions right now, but what are the questions we're going to be asking in 10, 20 years? Is it: Gosh, how do I optimize my fleet of 10,000 humanoid robots? My factory floor? it something else?

Brian Barish: You know, I wish I could tell a future. I'd say if you asked me 20 years ago where we'd be today, I don't think I would have hit it on the nose. But I do think that it's clear that the capabilities of our information systems, of our robotics systems, of our hardware infrastructure are growing exponentially. And so this has incredible implications to what the next 20 years are going to be. But I'll say this, right. All the buzzwords are on the table: nimble, agile, responsive, lean, fast, intelligence, adaptive; all those buzzwords.

Raquel Buscaino: Some might even say “Stagility” in there as well.

Brian Barish: Stagility. They're absolutely all in play and technology is going to be the beating heart of all of that, reshaping not just how we operate, but how organizations deliver and how we as workers interact in those systems, right? You know, we'll see, you know, from an engineering development cycle, we'll see incredibly compressed product development cycle times where engineers will be able to go from idea to product in days, where current cycle times can be weeks and months, right? We will see more asset light manufacturing operations. We will see leaner inventory. We will see more quick iterations of the products to better suit and be better tailored to the needs.

So I'd say the key takeaway is this, smart operations, they're not just about adopting new tools or breaking down certain workflows and silos. They're about fundamentally changing your enterprise's operating system. The intelligent brain and nervous system that drives you from being that couch potato into being that Olympic sprinter. That is the level of difference that we're really talking about here. Um And in making these investments and being meaningful and intentional about implementing smart operations,

Leaders are going to gain control and flexibility in their organization to be able to adapt more quickly and stay ahead of the rapidly evolving competitive landscape. And that's the real game changer.

Raquel Buscaino: True, proper, transformation and not incremental innovation and random acts of connectivity. I love it. Brian, this has been fantastic. Thank you so much for coming on the pod and just sharing your thoughts on all things smart operations.

Brian Barish: Thank you very much for your time. I really appreciated this opportunity and I love the Tech Talks podcast and maybe I'll come on again.

Raquel Buscaino: I hope so, I hope so. Well, to all our tech savvy listeners out there, if you enjoyed this episode, please share and subscribe. And if you'd like to learn more about the trends shaping the industrial sector, you can follow myself and Brian to stay up to date. Our socials are listed in the episode description. Thanks for tuning in and I'll see you on our next episode. Until then, stay savvy.