Deloitte AI360 Podcast

Jim Rowan, Head of Applied AI
Khalid Behairy, AI Lead, Power, Utility, & Renewables

Title: AI-driven process reinvention and value creation in the power, utilities, and renewables industry

Description: AI practice lead Khalid Behairy joins Jim to discuss speed, scalability, and four areas of AI value, from the back office to the field.

Duration: 9:45

Jim Rowan: Khalid, welcome to the AI360 podcast. Super excited to have you here.

Khalid Behairy: Thank you. Thank you, Jim. Good to see you again.

Jim Rowan: Good to see you too. So why don't you tell everyone a little bit about your role and what you're up to?

Khalid Behairy: Yeah, thanks for the time, first of all. I'm Khalid Behairy and my role within Deloitte Consulting is I lead our AI practice and specifically focus on power, utilities, and renewables. So, I'm at the intersection of where our power, utilities, and renewables industry meets our AI capability. I'm very fortunate to work with clients in this very asset-intensive space. We talk about how AI could impact the business, discuss strategies, and how AI strategies can support transformation. What's fascinating is that this discussion spans from the boardroom all the way into the field, working with workers and seeing how AI could impact how they do work.

Jim Rowan: Well, that's great. Maybe give us a little bit of a history lesson because AI is not brand new. It's been around in the PU&R space for a while. How have things progressed in the last couple of years in terms of what clients can do with AI capabilities?

Khalid Behairy: The interesting thing in this space is the environment around us is changing dramatically. It's placing demands on power and utility customers. For example, there's a tremendous increase on demand for the grid due to electrification and the need to power AI, which adds even more demand, along with increased needs for reliability and resilience. There are more demands and expectations from regulators and from consumers too. Utilities are under a lot of pressure to solve these problems, and these are problems that need solutions at scale. You really need transformative solutions—these can only be solved with technology. We focus not just on incremental transformation, but major transformation. Increasingly, the conversation is not just about value, but speed to value as well. The industry is moving in that direction.

Jim Rowan: That's really helpful. The idea of scaling and speed to value is so important. You see it across all industries; people aren't patient to wait for ROI. Organizations expect innovation at the pace of AI advancements. Could you take us through an example or two of how clients are thinking through these scaled use cases? Where are you seeing this happen?

Khalid Behairy: Given how asset-intensive power and utility companies are, there are hundreds of thousands of objects and devices out in the field and control rooms. Transformation happens by pairing workers with technology, giving them the ability to extract better insights from these objects in the field. AI has to be at the edge, but also embedded in every aspect of the process, end to end, to achieve results. Where we're seeing transformation and AI being applied is in four areas: 1) grid operations, 2) field operations (asset inspection, vegetation management, predictive/preventive maintenance), 3) customer experience, and 4) the back office. These are the four areas where AI brings a lot of value.

Jim Rowan: That's great. Really interesting to hear about access to these tools and AI at the edge. Are small language models coming into play too?

Khalid Behairy: Absolutely. There's a need for large language models as well as small ones. More and more, we're seeing a focus on knowledge management—how to extract knowledge from documentation, process docs, regulatory filings, and so on. Utilities are leveraging these to optimize processes.

Jim Rowan: And you hit on this—humans plus machines making workers more effective. It's almost humans *times* machines, right? How do you 10X the impact of workers using technology in the field? Which is great to see in the industry. It's really exciting. Regarding legacy systems and processes, how are you helping them think through the reimagination of some of these systems and processes that are needed for a really long time?

Khalid Behairy: There's a tremendous amount of complexity for utility companies. If something goes wrong, it can be really bad—affecting safety, customers, communities, and workers. For example, vegetation management: utilities spend hundreds of millions of dollars to inspect and manage assets and vegetation. Scaling with technology is essential. We're looking at introducing satellites and drones to streamline processes—maybe even making some parts autonomous and enabling workers to leverage technology to its maximum. Many complex processes reside in grid and field operations; implementing the right technologies allows us to solve these problems and extract value.

Jim Rowan: That's helpful. To wrap up, Khalid, what's the one piece of advice you want people to take away from our conversation or regarding the direction this market is heading with AI?

Khalid Behairy: A key thing is to look at transforming processes—not just use cases—but the full process end to end. For real value and speed to value, you have to look at the whole process. Leveraging AI agents has the potential to revolutionize how work gets done. If you look at field, grid, or back-office processes, it's not just about AI spotting a defect or executing a task; it's about injecting AI into the workflow so it does everything: scheduling, planning, and transforming the entire process. So when we look at agentic AI, process workflow is the future to solve some of these problems.

Jim Rowan: I love it. And we almost made it through a whole podcast, Khalid, without mentioning agentic AI! But you did it anyway, which I love. Thanks for your time. I really appreciate it—great conversation.

Khalid Behairy: Thank you. Appreciate it, Jim.

Jim Rowan: Take care, everyone.