AI360 Podcast

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Jim Rowan, Head of Applied AI Kevin Gregory, Energy & Chemicals GenAI Leader

Title: S2:E2 | AI in Energy and Chemicals

Description: Deloitte's Energy & Chemicals practice lead Kevin Gregory talks about the convergence of AI with Internet of Things and "unlimited reality" to transform asset management, knowledge transfer, and innovation, enabling organizations to simulate not only processes but entire oil refineries and fields.

Duration: 00:07:04

Jim Rowan:

Hey, Kevin, good to see you. I'm here with Kevin Gregory. Kevin, why don't you tell me a little bit about what your background here is at Deloitte and your role.

Kevin Gregory:

Sure. Nice to see you, Jim. I'm the Al/GenAl lead for the energy and chemical sector in Deloitte. So I have about 35 years helping our clients with ways to drive more value from their data. And the latest evolution of that obviously is how Al and GenAl can provide more insights and accelerate their growth. So our practice focuses on helping clients with their Al journey—everything from original strategy creation through ideation and into development and the production deployment of solutions.

Jim Rowan:

Awesome. Well, so Kevin, I don't think there's a sector that can escape AI, so maybe we could take this as a two-part question. Why don't you tell us a little bit about the energy side and sort of how that's being impacted by AI and some of the opportunities and use cases there.

Kevin Gregory:

Sure. So, given the asset-centric aspect of the energy and chemical industry, a lot of the use cases that we're seeing in AI are building on the successes we've had with IoT [Internet of Things] and data science over the last decade or so. So we're seeing an expansion of those capabilities using additional modalities like imaging, video, text, free-form documentation, and technical documentation, to bring into the fold to increase the capabilities of that. The other area that we're seeing a lot of expansion in right now is in the use of agents, or in agentic AI. to be able to support those workers so that they can be more proficient and effective at their individual roles.

Jim Rowan:

Got it. And so on that last piece, too, about agentic, one of the things we hear a lot about is sort of AI and questions about is AI replacing people and things like that. But you really hit on the point where it's humans plus machines. It's the humans working with the agents. Is that how you guys are really thinking about the implementation of agentic AI?

Kevin Gregory:

A hundred percent. It's the personal assistant or the orchestrator in a multiagent system where it's helping agents that are in individual applications go beyond those boundaries to be able to affect the whole process. But in the end, it's really in areas such as institutional knowledge gathering—and how do we take the experience of the 35-year person, ensure that we get the right points of data and then collect it and get it into the mind of the 35-day person. And so the who, the how, and the when they need to be able to identify and access that information. That's really where agents are coming along. It's not anywhere near replacing.

Jim Rowan:

Got it. That's super helpful. And so then pivoting to chemicals, is it similar or different types of use cases?

Kevin Gregory:

The chemicals sector has some unique challenges or opportunities of its own. Because while it has assets, it's also very product-oriented. So there's a lot of research and development identification, and so AI is giving the sector the ability to do a few things: one, to accelerate the rate at which we develop and identify new products by doing both constant market surveillance to be able to identify opportunities, to being able to mine previous work that's been done in the lab, so that we can reduce duplication. But we can also accelerate development timelines. And then finally, the ability for AI to do things such as simulate results, testing—virtual testing—things like that. And so that's changing the game. And then also inside their manufacturing facility, AI's ability to support discrete manufacturing to optimize the production, to meet demand, to balance feedstocks, to take advantage of market opportunities from a pricing perspective—all of that together is changing the way the chemical industry is able to do the manufacturing process.

Jim Rowan:

Wow, that's awesome. There's so much happening in both industries. Maybe take your pick, like which one—where do you see some of the future of this going, in terms of AI, GenAI, agentic AI, in either of the two verticals?

Kevin Gregory:

So I think two things are going to happen immediately. One is how we collect information from the institutional knowledge perspective is going to change. We're past the point where we ask someone to do a task and then they sit down at a laptop and fill out a form or that kind of stuff. It's definitely an interactive narrative today of where we can collect information from them [and] the systems that they're working with, the GenAI systems, can ask questions back if they missed data sets and things like that. And then, as I said, AI can then look and say, "Hey, Kevin needs to know that because he's going to go out and do a similar task tomorrow and he's never done it before." So that's a big aspect. I think agentic is going to be able to be the facilitator of that. "I'm doing this task. What data is available in the corpus of knowledge in our organization that I need to go access? And go get it for me" kind of stuff, right? So that's a big part of it. I also think that there's a movement right now toward unlimited reality and its ability to not only simulate facilities, whether that's a refinery or help us space out a new oilfield perspective. But also in our ability to train new employees, from this is the task you're going to be taking on (or how it's changed) to (from a safety perspective) refreshing people after long breaks.

Jim Rowan:

Well, I love that too. I mean, the safety and some of these elements of simulation. Doing them in a virtual world—engaging through those tools—makes the job more safe, makes the results better, and you can do it probably in a more cost-efficient manner, too, which seems great. Kevin, great, thanks for those answers as well. Let's think about pieces of advice. It's the new year. We're trying to think about what are some things that people should be thinking about, so what's your one piece of advice to executives that are trying to navigate AI in this sector?

Kevin Gregory:

So I would say there are three things that I would suggest that executives in the sector do. One is launch an enterprise AI program—to address the data challenges we were talking about, to address risk and governance, to ensure that architecture is aligned across your organization. That will be the key to getting ahead and not being the barrier to slow the progress. So that's one. Two, create an R&D-type environment or a mentality. So, have a process for education and training, have an ideation capability for art-of-the-possible discussions, but in the end remember the goal is to have a tangible roadmap that can drive value. So walk through those three steps. The last thing I would say is measure. We have always said in data that if you don't measure it, it doesn't happen. Come up with metrics to determine what the value is that AI is delivering, and measure the progress through time so people can buy in to the goals.

Jim Rowan:

I think that makes a ton of sense, and it really fits into this whole concept with AI that if you're not trying it and doing it on a regular basis, if you're not familiar with the tools, it's really hard to set the strategy [and] drive organizational change around it as well. Seems like something that goes across sectors in terms of the advice you're sharing. So very much appreciate it, Kevin. Thank you.

Kevin Gregory:

A hundred percent. Thanks.

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