## Digital Maturity and the Role of AI in Manufacturing

Phil Braun: "I love that term, or fully digital. It is possible. And yet what I feel is that as an industry, we're not quite yet there. We talk about native digital, but we may be thinking in silos. We may be in a discovery mindset, we may be in a process development mindset, or we might think about a native digital biomanufacturing plant."

Samantha Zyrtec: "You need to figure out a plan to get to paperless."

*Chris Puzo:* "We see a lot of customers that are so heavily based on paper and then will speak to organizations that will have a cloud-first digital mentality from the get-go. And so I think that's a big factor is where are you in your digital maturity journey to understand? Do you have the appetite for some of this change that's coming?"

## Al's Potential in Manufacturing

*Phil Braun:* "These therapeutics... we're early in the journey. But the vision I have is as we continue to understand the mechanisms of science and are leveraging AI, that will really help to drive better targeting of these new modalities."

*Samantha Zyrtec:* "AI will bring nothing to the table if you don't have data in context. It starts at the base level of your operations, your development, your manufacturing. If you don't have connected equipment, flowing data into some sort of data layer that has context, AI will be something that you can't leverage."

## Data as the Foundation

*Phil Braun:* "If we want to release batches in near real time and we are thinking about the data required that goes into a batch release so we can have confidence in the quality... you design your systems very differently."

*Chris Puzo:* "It starts at the base level of your operations, your development, your manufacturing. If you don't have connected equipment, flowing data into some sort of data layer that has context, AI will be something that you can't leverage."

## A Future with AI and MES

*Steve Britton:* "Manufacturers who embrace digital maturity and AI today will lead the industry tomorrow. MES is the bridge that connects innovation with practical application."

*Phil Braun:* "So I see this transformational approach where we begin to design with the end in mind. We understand the footprint of rare diseases that's going to be very different from large-scale manufacturing. We're able to really get to the point of using data in real time with insights so we can release products much more quickly."

*Mike Cody:* "The power of AI and digital systems is in their ability to transform operations and unlock opportunities we never thought possible."