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## The Use of AI in Food Processing



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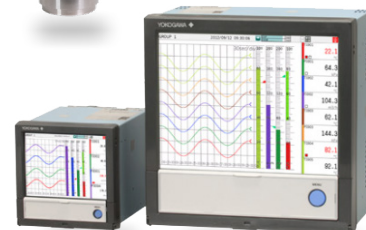
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# Digitally Transforming to Autonomous Operations and Smart Manufacturing 4.0

By Yokogawa

**A**t Yokogawa's 2021 virtual conference, industry-leading experts sat down to discuss an autonomous future that requires digital infrastructure that spans the entire operation and integrates data, smart devices at the edge, and robust hardware and software that deliver the necessary level of flexibility, adaptability, and resilience. Taking part in the discussion were Cor Beetsma, a control system veteran who has a great deal of experience with large-scale projects, Naveen Kashyap, an IT/Cloud application development expert, and Brad Ford, an executive with expertise in the human aspects of transformation as well as business strategy and process consulting.

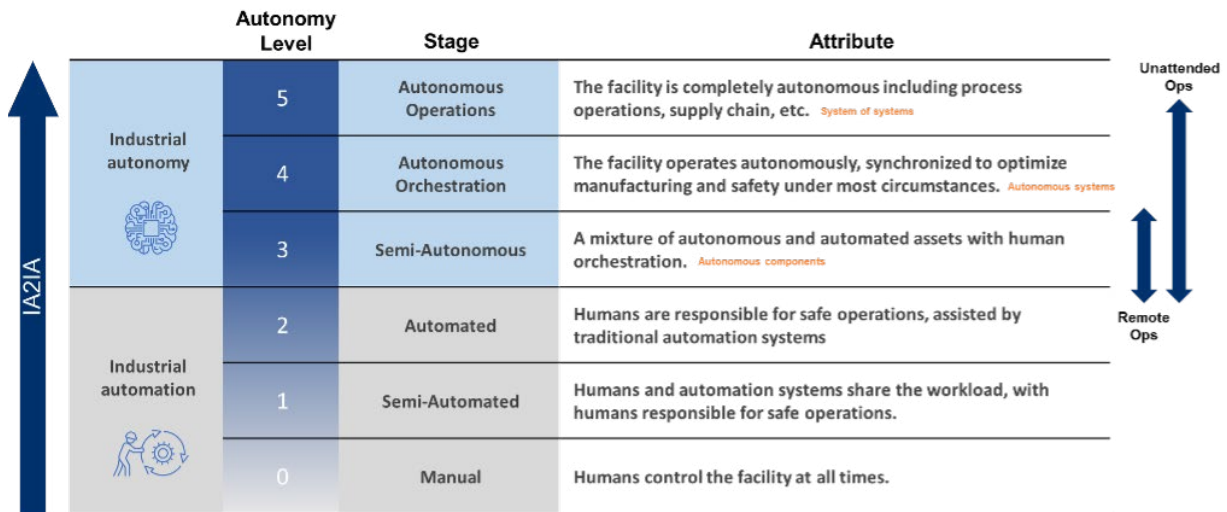
*Why should leaders act on Digital Transformation, Autonomous Operations, and Smart Manufacturing?*

Describing a key driver, Ford states, "Significantly aging populations characterize some

societies such as in Japan and Taiwan. If they fail to transform to autonomous operations, they will literally run out of people to operate their plants. In Australia, the high cost of the labor force has resulted in facility shutdowns. Therefore, there is a drive to bring costs down to sustain the business. In Russia, regionalization is a major issue. Plants are in remote areas while people want to be in cities. The key is to allow remote operation of plants while the expertise resides in the cities."

Ford added, "While machines get it right every time, humans make mistakes. But humans do have value to add. Where can that be best utilized? Within plants, automation systems offer the advantages of accuracy and faster response times. However, the leaders in autonomous operations and smart manufacturing are taking advantage of scalability by leveraging global human subject matter expertise to optimize across a broad range of their assets."





### The Autonomous Operations Maturity Model

According to Kashyap, “Major drivers are complex, distributed, dynamic value chains and the crew shift with considerable experience and savvy walking out the door on a daily basis. Autonomous operations and Smart Manufacturing deliver the power of data throughout the enterprise. Across the industry, there is focus on operational efficiency and operational excellence—and a new focus on sustainability.”

Beetsma stated, “According to our survey, two-thirds of the companies are working on autonomous operations. There still exist the realities of the delivery, how to bring it about, how to make sure that the value of technology utilization is realized. We do this in a pragmatic sense and learn from each other.”

*Are Autonomous Operations and Smart Manufacturing Possible Today?*

Expert answers ranged from “feasible” to “yes, but...” to “not yet, but...”

Beetsma opined that autonomous operations are not feasible yet due to architecture issues and the fact that end-users are grappling with risks. But it is not a matter of technology. He went on to offer some tips for success.

“Start the project with a return on investment (ROI) viewpoint. Smart Manufacturing is a must, an enabler of everything else. It is imperative to establish, upfront, an architecture that incorporates ET, IT, and OT know-how. Start with a proof-of-concept, then scale up. Human intervention will subside only when the autonomy is proven. That will take time...



Download the complete white paper **here**.