

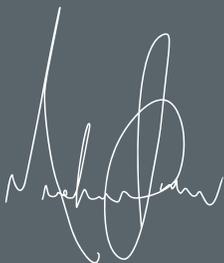
Future of Manufacturing Part II

Factory of the
Future

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Michael Tucci,
CEO and President

The Factory of the Future

These are the opening lines to Industryweek.com's 4-part series examining the Factory of the Future.

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“The signposts are pointing the way: The Factory of the Future, where information technology (IT) and operational technology (OT) converge, is straight ahead and the road leading to it is a superhighway of technology, innovation, and advanced capabilities.”

**You can
view the
whole
series of
articles
here.**

'The Factory of the Future' certainly a buzz word but what do people mean when they refer to it? It's an evolving definition but at its core, the factory of the future refers to the recognition that things are changing dramatically. When we think about the factory of the future, we envisage something radically different to what we've experienced in the past, and though manufacturing has seen change in the last 100 years, that change will diminish in comparison to what we see in the coming 20.



A convergence of technology and manufacturing

It's long overdue and will take time to implement – but if it's driven by efficiency, economies of scale and profitability, then the adaption will be solid.

Boston Consulting group says that. "New technologies are profoundly changing industrial production, giving rise to the factory of the future." After a survey of more than 750 production managers to define a vision for the factory of the future in 2030, Boston Consulting Group published the findings in their article "The Factory of the Future".

The focus was on automotive suppliers and OEMs and to summarize the findings, BCG found that the clear majority of factories have plans to enhance their factories in the future using technology associated with the 'factory of the future'. What's more, the benefits of adaption can be realized within a short time span in the form of increased conversion and reduced cost. BCG consolidates a definition for the factory of the future into 3 main activities

1. Plant structure (or layout)

Specifically, the factory of the future will embrace a more flexible layout and modular setup. At Micro, we released an innovation study on our new Costa Rica facility embracing much of what is discussed in the article from BCG.

[Read that innovation report here](#)

2. Plant digitization (or technological adaption)

Whether it be smarter automation, big data insights, additive manufacturing or more seamless collaboration, technology and digitization will play a huge role in agility, speed, lowering cost and precision.

3. Plant processes (evolving past Lean)

Exploiting lean to its fullest potential with the insights from big data and digital technology will enhance processes and efficiencies.

[You can read the full article here](#)



Factors accelerating a move towards the factory of the future

McKinsey reports that "At one Fanuc plant in Oshino, Japan, industrial robots produce industrial robots, supervised by a staff of only four workers per shift." There are factors impacting a move towards the factory of the future, where before it was not economical or possible.

Robots are more capable and cheaper now

With enhanced functionality, and cheaper implementation, automation in part or whole by robotics is making more sense for manufacturers. Moving forward, automated assembly lines will become more modular instead of just purpose built for one use.

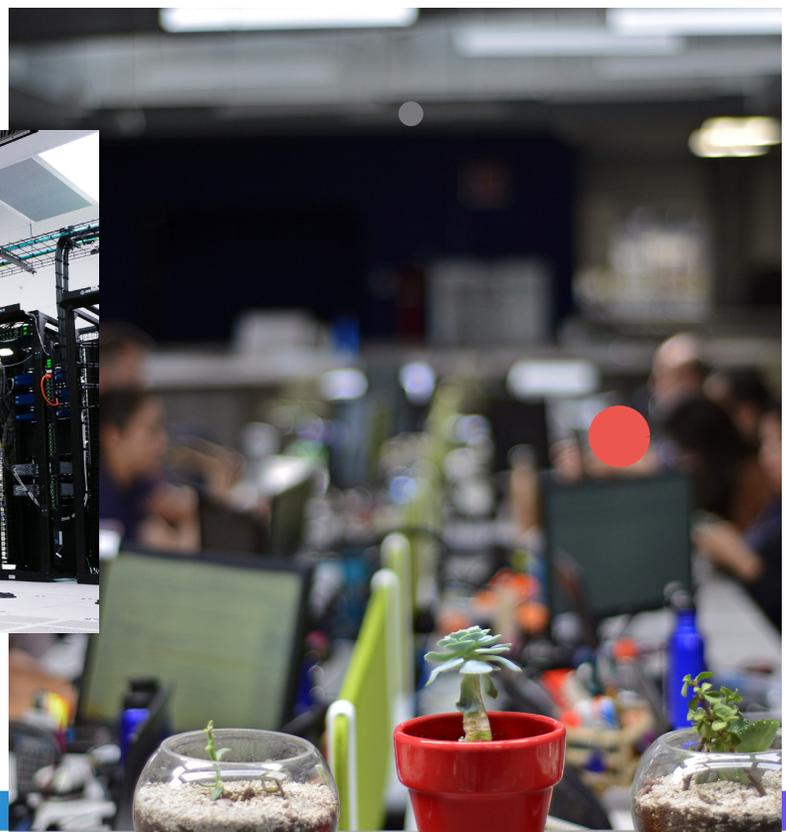
Technology is catching up

10 years ago, Ai was a science fiction movie topic and even a few years ago, just an interesting R&D experiment. Soon, Ai will offer real world implementation sense and combined with big data and the internet of things, the insights we will glean from the advancements in this technology will be too helpful to ignore for manufacturers.

Technology can do it better than humans

"Automation systems are becoming increasingly flexible and intelligent, adapting their behavior automatically to maximize output or minimize cost per unit." – McKinsey Global

[Read the full report here.](#)



Creating a roadmap

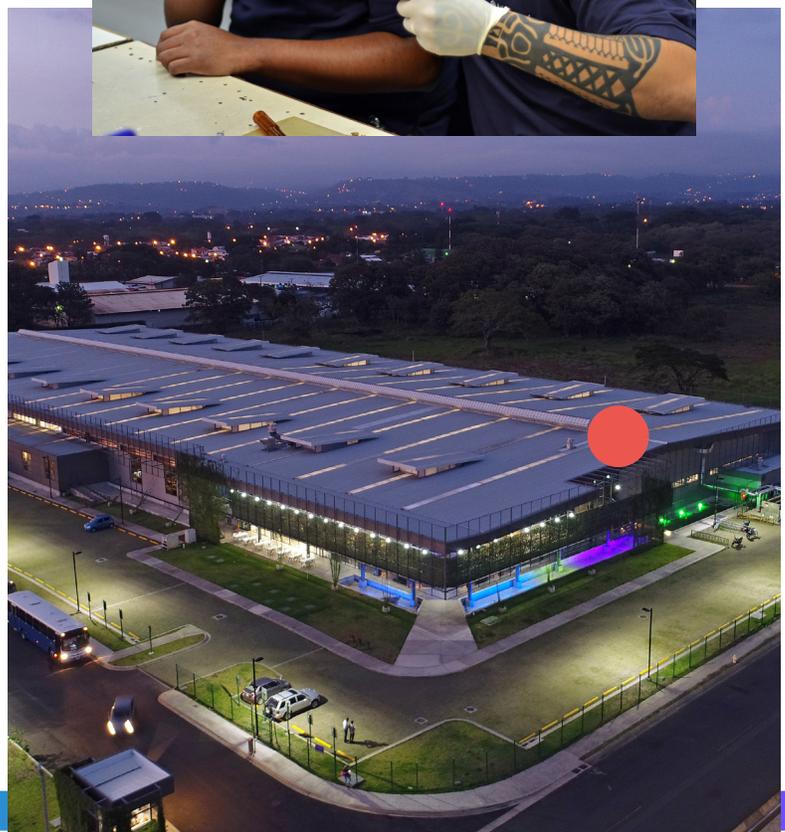
BCG goes on to say that "The strategy for implementing the factory of the future must be anchored in the overarching company strategy" and this is an important factor to consider in planning. With so much change and innovation occurring around us, a strategy that mirrors the overall objectives of each business is a necessity for achieving the best results.

Also, although the factory of the future will replace certain human led roles with automation, technology and robotics, there will be new roles that are created to maintain and govern the technology itself, and to build the IT infrastructure required to support adoption. These skill sets are necessary for optimization and should be part of any hiring roadmap.

For additional reading

[Industry 4.0 – The Factory of The Future by KPMG](#)

[Intel's white paper on the Factory of the Future](#)



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