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Industry 4.0. and Smart Factories: are Robots the Future of Manufacturing?

Terms like the networked factory, cloud robotics, smart production, and human-robot cooperation (HRC) are no longer just buzzwords.

These concepts are transforming manufacturing and the future of numerous other industries right now.

All these terms are components of a bigger concept widely known as the **Industry 4.0.**, also called the Fourth Industrial Revolution.

This major transformation is focused around automation and data exchange in manufacturing including cutting-edge technologies like the Internet of Things, cloud computing, and cyber-physical systems.



The embodiment of Industry 4.0. is the “Smart factory”—a manufacturing plant that’s not only automated but also all of its equipment is digitally interconnected within one system. Such a factory enables the monitoring and controlling of all the physical processes in real time.

A smart factory is also the workplace of present and future industrial robots. Experts claim that machines are to take over tasks that are too physically difficult or dangerous for humans, like installing hybrid batteries that weigh more than 100 kilos. Automation system manufacturer Kuka even has robots producing the components of other robots.

Other leading companies like Bosch are introducing digitalization of all their processes and automatic management of massive data amounts into their factories thus uniting all the systems in a global database and making the production more efficient.

Meanwhile, the famous electric car manufacturer Tesla has evidently relied on too many robots and automation lately, which is partly to blame for the delays in the manufacturing of their mass-market electric car—Model 3. It seems that in some manufacturing stages, like in the final assembly, automation is too slow, problematic, and costly. Tesla's CEO Elon Musk admitted this mistake and stated that the company needed more human assembly line workers building the Model 3.

So, if robots aren't always making manufacturing more efficient, what's the golden middle way? To find out, join us at Robotex International Conference—the most epic frontier tech executive gathering in the Nordics. We'll be honoured to host leading experts in the field as speakers:

Ignacio Secades Riestra, Co-Founder and CEO of Canonical Robots specializing in collaborative robots, industrial robots, and mobile robots. Ignacio has developed multiple automation solutions and has extensive experience with international businesses in the Automotive, Energy, Health, Food, Entertainment, and many other industries.

Bruno Siciliano, Professor of Control and Robotics at the University of Naples Federico II and former President of the IEEE Robotics & Automation Society. His research interests in robotics include manipulation and control, human-robot cooperation, and service robotics. He has co-authored 14 books, more than 90 journal papers and 250 conference papers/book chapters.

Professor Bruno Siciliano has always fought against the idea of robots as 'job killers'. He points out: "Robots can fulfil these roles more safely and more efficiently, and create jobs as a consequence. Companies that are expanding their robotic workforce generally need more employees

to work alongside them, so in many cases employment can be boosted rather than cut.”

So will robots really need that much assistance from their human counterparts? Or will the future of industrial manufacturing be completely networked and automatic? Don't miss discussions, predictions and pioneering solutions at the Robotex International Conference! Get your tickets to the conference [here!](#)

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Robotex International (November 30—December 2) is our annual event and the Biggest Robotics Festival on the Planet. Thousands of engineers, executives, students, and families come together to be inspired by industry leaders, build robots for various challenges and learn about the latest technology innovations.

Join us as an attendee or partner, today.