The dual transition: Electrification & Digitalization - an ABB perspective

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# **Abstract**

The first wave of digital transformation, centered on industrial IT, significantly impacted technical solutions and industrial automation development. Despite initial infrastructure limitations, the hype drove industrial automation toward standardizing communication protocols, emphasizing IT and OT importance in factories. By the late 90s, major automation suppliers provided already different types of asset management systems; rather advanced CMMS with automatic workorder generation, etc. The main business drivers then were to **increase productivity, quality and efficiency**.

The digitalization and maturity of industrial IoT, sensor technology, access to webcams, market data, cheap computational power, and sophisticated and novel algorithms are today providing the opportunity to take the next step in the evolution of industrial automation, but this time the key drivers of the last decades, although still relevant, have been left behind in the priority list! **Sustainability and resource management** are today the main drivers of industrial transformation, with energy being by far the most important and critical resource. Achieving the zero-emission vision, which can roughly be described as "electrify everything", requires a competent system and solution package that can handle not only the new types of loads but also the various flexibility requirements - often in real time - that this complex problem requires. In this short talk, I will try to highlight how ABB, as a supplier of products and system solutions, contributes to a sustainable and resource-efficient industry.

# **Bio**

Shiva Sander Tavallaey holds a Master of Science in Mechanical Engineering from Chalmers University of Technology (CTH) and a PhD in Sound and Vibration/Technical Acoustics from the Royal Institute of Technology (KTH) in Sweden. Since January 2001 she works at ABB Corporate Research in Västerås, Sweden. During her time at ABB, she has acted both as team leader as well as specialist. She is Senior Principal Scientist in applied analytics and AI-Lead in Sweden. Since 2015 she is also adjunct professor at the Royal Institute of Technology (KTH) in the Division of Engineering Mechanics, at the Marcus Wallenberg Laboratory for Sound and Vibration.