

Digitalization as a Key Driver for Overcoming Challenges in the Pharmaceutical Industry

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Nowadays, the pharmaceutical industry is facing many challenges: sustainability requirements, demanding regulatory compliances, globalization, belated technology developments and high costs. The key business drivers are agility, flexibility, and adaptability. End-to-end digitalization offers a great added value to address these key drivers and to overcome the related challenges.

Industry 4.0 has introduced new trends and digital technologies e.g., additive manufacturing, cloud computing, AI, IoT and others, which provide opportunities for optimizing existing processes. Already in early stages of plant engineering, such technologies can increase the collaboration quality by reducing the time of engineering, harmonizing data, and improving decision-making processes. Cross-discipline collaboration allows to significantly shorten the time for plant engineering and to start fabrication in a very early stage. The live harmonization of engineering data enables the project partners to develop the plant components and processes in parallel. Such an approach reduces the overall failure rate and enhances the agility of the engineering partners.

Retrieving information on the “as built” status of a plant and re-engineering the Digital Twin is costly and time consuming. Creating the Digital Twin during the engineering phase by integrating all disciplines (process-, mechanical, electrical-, control engineering, automation, fabrication, supply chain) within ONE toolchain delivers best-in-class results.

The toolchain provides not only high-quality data and an improvement in engineering, but also enables creation of different digital twins, for example in operations, simulations and training.

The presentation will include the following pharma 4.0 applications/topics:

- Digital Engineering Toolchain
- Digital Shopfloor
- Predictive Maintenance
- Operator Training



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