

Snabb idriftsättning och ökad produktionstakt genom produktionssimulering

QUICK LAUNCHES AND INCREASED PRODUCTION THROUGH SIMULATION



Vårens webbinarieserie om simulering och virtuell idriftsättning

Din digitala väg till snabbare, smidigare och mer kostnadseffektiv utveckling och tillverkning





Quick launches and increased production through simulation

Friday, March 26 – 10:00-10:45

In this webinar, we will introduce how Tecnomatix Plant Simulation and Process Simulate are used to simulate all kinds of production – robotics, machines, humans and transports.

You will gain insight and knowledge on how to work in early design phases, together with product design to minimize the risk of late changes and enable a quick and smooth launch.



Johan Nordling Manufacturing Business Development



Agenda

Challenges and how Siemens address them 6 simulation cases and why they matter Manage your Digital twin



Key Challenges

MANUFACTURING ENGINEERING

Speed of change



Complexity

Cost pressure

Globalization



Working with Digital Twins





Simulation



Digital products

Digital plant

Real plant



Design and Manufacturing Collaboration





Design and Manufacturing Collaboration



6 simulation cases

- 1. Workplace design and simulation
- 2. Simulation with VR and AR

3. Robotic automation to support flexible processes 4. Replacing manual assembly with automated assembly

5. Optimize production of a complete line

6. Automation collaboration– Virtual Commissioning



Is production simulation common in your company?

- O Not that I know of
- It's case by case usually done by external consultants
- O We have in-house experts that do simulations on a regular basis
- O It is integrated in our daily work and part of our decision process



Case 1: Workplace design and simulation



Scenario

New product design

Evaluate the assembly workplace

Result

Improved efficiency, validated process

Ensuring operator health & safety

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Case 2: Simulation with VR and AR

Process Simulate Virtual Reality AiQ, Synertial

Scenario

Connect existing simulation to VR

Create training/instruction material

Result

Reduced programming time

Reduced learning/ramp-up time



Case 3: Robotic automation to support flexible processes



Scenario

Prepare cell and develop programs

Verify robotic interlocks with automation control

Result

Validated function and placement

Cell commissioned before launch



Case 4: Replacing manual assembly with automated assembly



Case 5: Optimize production of a complete line





Higher utilization

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Case 6: Automation collaboration – Virtual Commissioning



Scenario

First the line was simulated→ Equipment, cycle time, etc.

Next, the PLC program & HMI are validated

Result

PLC code verified

Virtual commissioning



Why simulation matters







Speed of change

Complexity Cost pressure

Globalization





How well can you relate to the simulation benefits?

O Little, we have other issues or no time for simulation

- O Partially, but simulation is not how we would address it
- Highly, I see several cases where it could fit
- O Spot on! This is how we need to work going forward!





Which of the areas shown is of most interest to you?

None

Case 1-2: Human simulation – ergonomics, training
Case 3-4: Robots & Automation – incl. virtual commissioning
Case 5: Plant simulation – complete lines, optimization
Automation interface – the connection ME to Automation

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Managing your Digital Twin

Performance data

Virtual world Real world

Realize and optimize

Collaboration platform

Industrial security



Managing your Digital Twin





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March 18, 2021

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By Moshe Schwimmer

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Digital Factory Optimization

Webinar - March 30 and 31, 2021

https://new.siemens.com/global/en/company/fairs-events/digitalfactory-optimization.html



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Discover the power of Tecnomatix and SIMATIC software for Virtual Commissioning

Start your free, 30-day trial in just minutes

What you'll discover:

- How to model and simulate automated workcells and lines
- ✓ How to define and validate complete robot programs
- ✓ How to use a virtual PLC and HMI to validate control logic and operator interfaces

Get Started Now 🗸



Process Simulate Commissioning Trial Preview

🖵 Watch Video

https://blogs.sw.siemens.com/tecnomatix/give-tecnomatixsoftware-a-try-for-30-days/



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Quick launches and increased production through simulation – March 26 – 10:00-10:45

In this webinar, we have introduced how Tecnomatix Plant Simulation and Process Simulate are used to simulate all kinds of production – robotics, machines, humans and transports.

We also demonstrated several use-cases, such as:

- Assembly verification
- Ergonomic evaluation
- Off-line programming of robots
- Automating workcells
- Finding and eliminating bottlenecks
- Virtual commissioning

You have gained insight and knowledge on how to work in early design phases, together with product design to minimize the risk of late changes and enable a quick and smooth launch.

Questions?



Contact

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