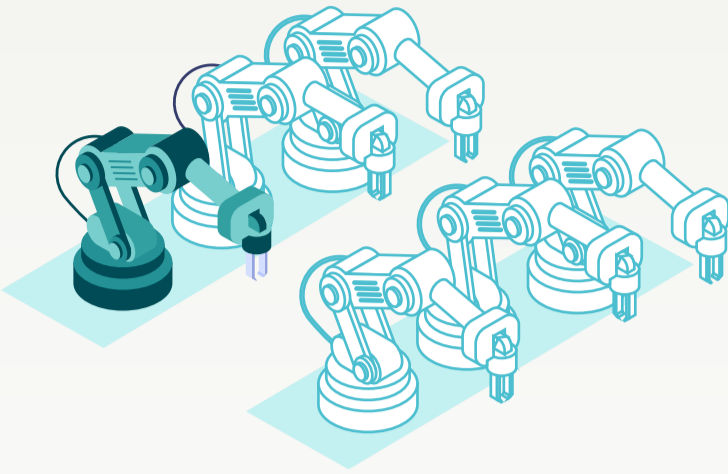


Turn the machine on before it physically exists with Siemens Advanced Machinery Engineering

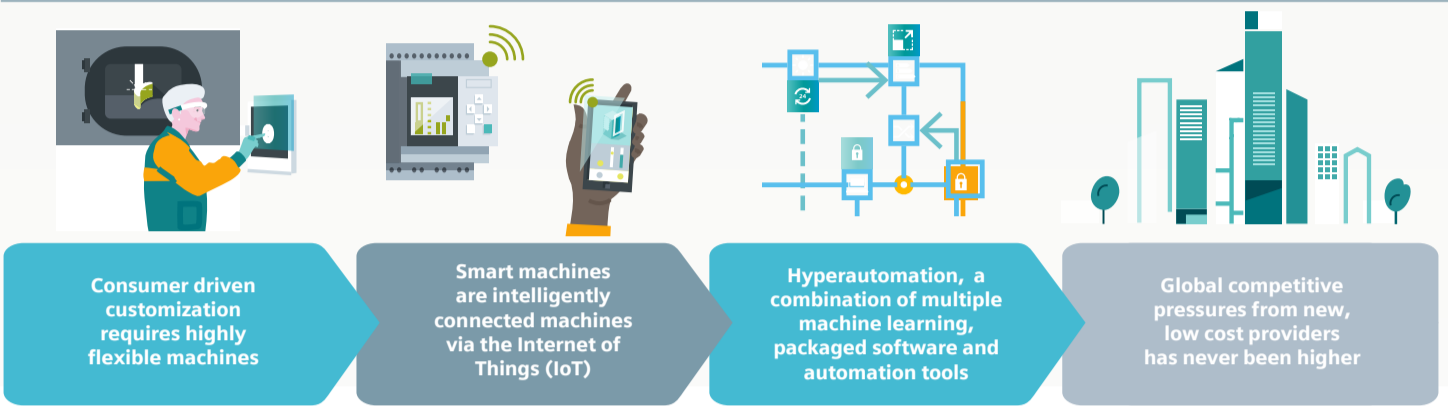
Benefit from Machine Engineering Trends with Virtual Commissioning



As machine engineering company, you want to thrive in a very complex and dynamic market, driven by a series of trends that require enormous flexibility and speed of adaption. In this infographic, we have put together the most important trends, together with insights and tips for your success.

One of these tips is to implement Virtual Commissioning which allows you to simulate and test every minor tweak or major change in your machinery before it exists physically, saving you lots of time, money and resources.

Trends



Consumer driven customization requires highly flexible machines.

Consumers increasingly demand a packaged system of integrated products and services customized to meet their individual needs.
Source: Joint Research Council Foresight Study

Machine users increasingly demand customizable, flexible machines, able to cope with shrinking lot sizes and higher number of product variants.

Regulatory pressures
Increasing industry regulations add complexity to the machine engineering market.

Smart machines are intelligently connected machines via the Internet of Things.

- Machines have to be more flexible
- Machines have to be connected with each other
- Machine design, production and commissioning have to be integrated and digitalized

The global megatrend towards "Smart Manufacturing" is creating the need for intelligently connected machines via the Internet of Things (IoT).

YEAR 2025
+24 BILLION
connected devices in the world

Innovation 45%
Customization 43%

The #1 and #2 business strategies of machinery companies are dedicated to developing smarter machines through innovation and customization.

Source: Tech Clarity – Best Practices for Developing Industrial Equipment

Machines are being re-engineered starting with software and services as the primary design goals to support new business models. The resulting IIoT revenue growth will be driven by platforms as well as software and application development and is expected to be in the range of 20 to 35%.

Source: Mckinsey

Virtual Commissioning in a Nutshell

Essentials:

- Upfront automation linked to machine behavior,
- Behavior model drives code generation,
- Closed-loop feedback visualization,

Benefits:

- Significant increase in speed to market,
- Substantial cost savings compared to physical testing and commissioning,
- Minimized risks as problems can be detected and solved early in the process.

Challenges:

- Third-party equipment and tools integration,
- Robotic integrations,
- Logistics automation.

What our customers say:

“The simulation model we create with plant simulation is often part of the deliverable to our customers. Many of them also use plant simulation themselves, so they know how to run the simulation and change the needed parameters. This is a big benefit for them because they get a virtual model of the physical line”
Eisenmann Conveyor Systems, Germany

“We shortened the design phase by about 10% and commissioning by 20 to 25%”
Tronrud Engineering, Norway

“We are very pleased with the discrete event simulation capabilities we have developed in Eisenmann throughout the years, especially our use of Plant Simulation “
Eisenmann Conveyor Systems, Germany

“By working on the design, mechanical components and programming simultaneously, we can drastically reduce the time to market. In another project, this approach allowed us to save about 20% or two months”
Tronrud Engineering, Norway

Siemens Advanced Machinery Engineering

- Build tomorrow's machines today**

Efficiency starts even before building any machine.
- Design faster and smarter with a digital twin**

Create harmony in Multi-disciplinary design.
- Turn the machine on before it physically exists**

Take advantage of Virtual Commissioning.
- Respond faster and smarter to customer demands**

Control and manage your Bill of Materials.

Become an advanced machine engineering company to satisfy increasing market requirements, grow revenues and gain market share

50%

faster time to production

25%

Shorter commissioning phase

For more information, visit:
[siemens.com/plm/advancedmachinery/](https://www.siemens.com/plm/advancedmachinery/)

© 2020 Siemens Product Lifecycle Management Software Inc. Siemens and the Siemens logo are registered trademarks of Siemens AG.