

Siemens Digital Industries Software

Empowering the World's Machine Engineering

Build tomorrow's machinery today with Siemens Advanced Machine Engineering

siemens.com/plm/advancedmachinery

Trend #1

Consumer driven customization requires highly flexible machines



Trend #2

Smart machines are intelligently connected machines via the Internet of Things (IoT)

Trend #3

Hyperautomation, a combination of multiple machine learning, packaged software and automation tools



Global competitive pressures from new, low cost providers has perer been higher

Complexity, Customization and Connectivity

The complexity of today's markets forces you as machine builder to evolve from traditional "physical" product engineering to **simulation-driven, digital product design**. Consumers will increasingly demand a packaged system of integrated products and services that is customized to meet their individual needs.

Your customers have to respond to complexity created by consumer demands with **extremely flexible, connected and adaptable machines**, which in turn requires machinery that supports efficiencies gained through **and smart connected machines via the Internet of Things (IoT)**. Technology innovation leaders must adopt a **mindset around new practices that embrace perpetual change**. The change may be incremental or radical, and may be applied to existing or new business models and technologies.

Are you prepared for the challenge?

Key drivers



Consumers' increasing customization demands

Smart connect machines via (IoT)





Extend efficiencies with Hyperautomation

Global collaboration Global competition

2

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



Siemens offers a complete and holistic framework to help you cope with the challenges of today's machine engineering market.

Siemens Advanced Machine Engineering

Advanced Machine Engineering focuses on ensuring greater certainty in the development of next generation machines. **Digital twins** give your machinery the flexibility that is needed to thrive in markets with high customization demands.

Collaboration among the multiple disciplines allow you to build smart, connected machines. It also reduces your time to market through virtual design and commissioning, resulting in better upfront validation, shorter commissioning times and more immediate productivity. This will help you to lead innovation in highly competitive global markets.

Equally important, advanced capabilities are now available to **manage the entire bill of materials** for all options and variants for advanced machine builder support throughout its product life, from the engineering design through manufacturing, and service life.

Smarter software, smarter machines

Machine manufacturers have to build smarter machines to cope with global competition, shrinking margins, rapidly expanding customization, environmental and government regulations etc. That requires smarter software solutions, too.

Advanced Machine Engineering delivers a digital thread approach to engineering that enables companies to develop increasingly complex machines faster while lowering developing costs to decrease production and operational costs. Harnessing the complexity into a competitive advantage.

The **Xcelerator portfolio** in Siemens Digital Industries Software suite of products **provides a full suite of solutions to empower machine builders and suppliers** with the essential tools to thrive in their highly competitive market and transition seamlessly to create tomorrow's machinery today.

50% Faster time to production



Siemens Advanced Machine Engineering offers you a rapid return on investment



Advanced Machine Engineering enables early design simulation of multi- disciplinary models and full use of the latest manufacturing automation technologies.

Its sophisticated design solutions can easily support more complex but better optimized models, leading to a substantial increase in the design flexibility of your engineers.

The digital twin of a machine or an entire production plant, together with a digital thread approach, enables you as machine engineering company to add more value and innovate faster across all your product lines.

> It provides a multi-disciplinary, concurrent engineering platform that will allow thousands of features and hundreds of thousands of requirements, making the number of potential configurations almost limitless.

Our Advanced Machine Engineering Solution ensure consistent, multi-disciplinary innovation that enables a greater degree of global collaboration to access new market geographies more effectively at a lower cost.

Become a machine engineering innovator and build tomorrow's machine today with Siemens.

Learn more at siemens.com/AME

Siemens **Advanced Machine Engineering** empowers machine engineering companies all over the world



(99)

What our customers say:

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

"Parallel mechanical design and control design led to a significant reduction in development time." Komatsu NTC Ltd., Japan

What should you do?

Adopt a holistic approach, **a total lifecycle methodology** using a powerful, centralized data management platform.

Leverage an **integrated change management** solution will allow you to keep track of and even benefit from the thousands of changes during a product lifecycle.

Implement **multi-disciplinary design** to create comprehensive digital twins that can contain mechanical, electrical, software and automation information.

Additionally, use **Virtual Commissioning** to simulate every minor tweak or major change, any check or test in this virtual environment.

To allow your customers to thrive in their markets, provide the capability to **digitalize their entire design and manufacturing processes** the same way you have done it.

Embrace the implementation of a **multi-disciplinary Bill of Materials** platform to trace the digital twin from creation through manufacturing to improve your collaboration, reduce errors and improve quality.

All this will considerably **reduce the complexity and time-to-market** of creating and implementing new machinery, giving you a nearly unfair advantage over your competitors. About Siemens Advanced Machine Engineering Siemens Advanced Machine Engineering is driving transformation to encourage advanced machinery creation, where engineering, manufacturing and electronics design meet tomorrow.

Our solutions help companies of all sizes create and leverage digital twins that provide organizations with new insights, opportunities and levels of automation to drive innovation.

For more information on Siemens Advanced Machine Engineering, visit <u>siemens.com/plm/advancedmachinery</u> or follow us on <u>LinkedIn</u>, <u>Twitter</u>, <u>Facebook and Instagram</u>.

Siemens Digital Industries Software Where today meets tomorrow.

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