



SIEMENS

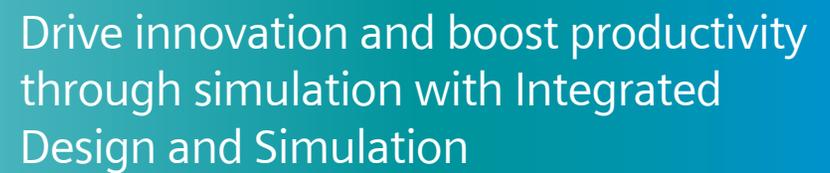
Ingenuity for life



Siemens Digital Industries Software



Intelligent Performance Engineering



Drive innovation and boost productivity through simulation with Integrated Design and Simulation



[siemens.com/IPE](https://www.siemens.com/IPE)

Trend #1

Consumer-driven demand for highly customized machines.



Trend #2

Smart manufacturing, explosive growth in the number of industrial machines connected via the Internet of Things (IoT).



Trend #3

Hyperautomation, the need to integrate silos of data across domains to gain knowledge.



Trend #4

Global competition, advanced technology increases pressure on companies to **innovate**.



In an age of **unprecedented technological change** in the industrial machine industry, machines are becoming more **complex**, raising new challenges for designers and engineers.

End customer demand for **highly customized machines** is growing, and with it the need for OEMs to be able to **produce one-of-a-kind machines** for their customers. To do so efficiently a **new design approach** is needed. Companies must **evolve away from traditional product engineering**.

Technology is the driving force for change in the industry. The **Internet of Things (IoT)** has drastically changed the way machines work, hardware and software components must integrate seamlessly to ensure **reliability**.

Thanks to **machine learning and smart manufacturing**, companies have more data than ever at their fingertips. If this data can be managed effectively companies can **gain huge insight** into machine performance and harness this information to **improve their innovation process**.

The need to find innovative solutions to offer to customers is ever present in a **competitive, global market**. Companies are increasingly under threat from competitors who are **more responsive, more innovative, or lower cost**.

To thrive you must offer **differentiation, cost competitiveness and cutting edge innovation**. But how?

Siemens offers the digital tools to help you evolve. With **Intelligent Performance Engineering (IPE)** you can **discover better designs faster and boost productivity**.

Key Drivers



Increased **machine complexity** drives a greater need for testing to ensure reliability.



Today's industrial machines need to be highly **customizable and adaptable**.

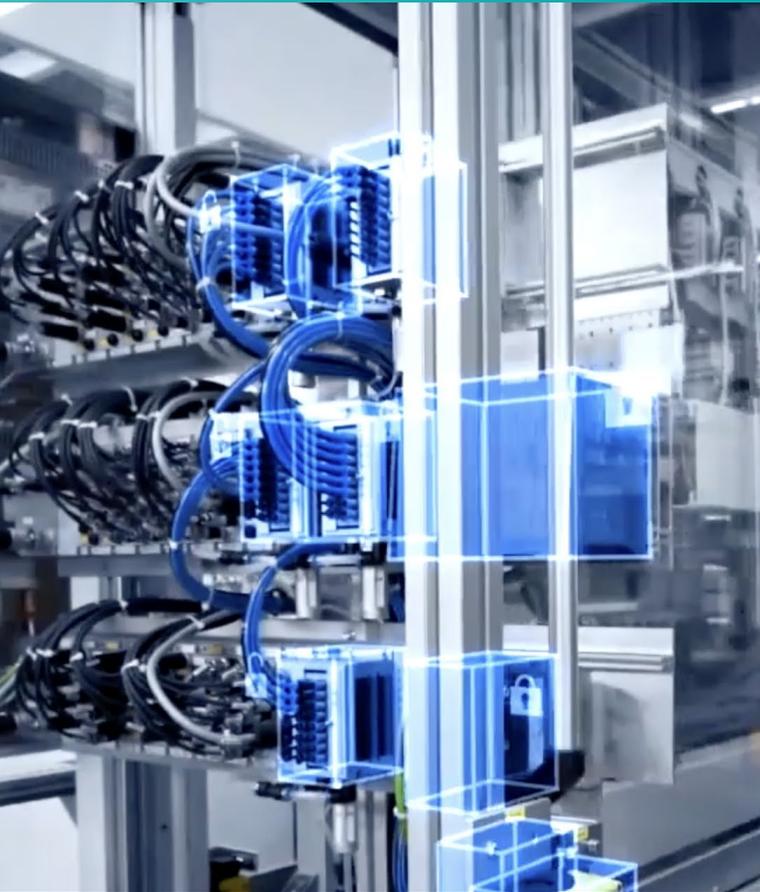


Advanced technology enables the creation of smarter machines.



Global competition forces manufacturers to **compress cycle times and lower costs**.

Evolve into simulation-driven product design. Design to commissioning and beyond.



Integrated Design and Simulation by Siemens, a balanced engineering solution to drive innovation.

Smart manufacturing needs smart tools.

Traditional methods of product engineering are becoming obsolete. To deal with the growing **complexity** of intelligent industrial machine development a new **digital approach** is needed.

Feel the benefit of the digital twin.

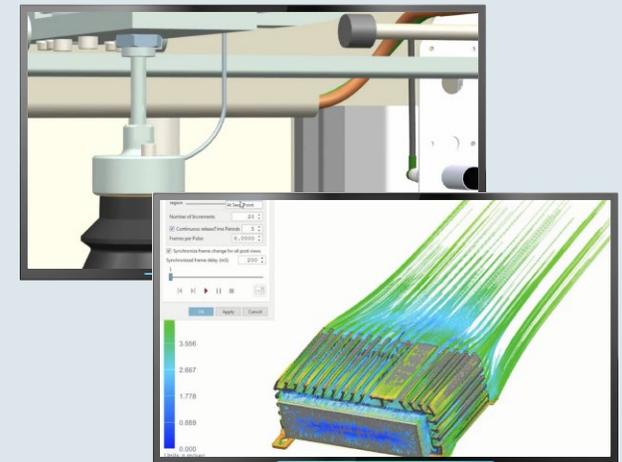
Integrated Design and Simulation enables you to create a **digital twin** of the industrial machine. This is used to understand and predict the performance of the physical machine under a variety of conditions, without the need for a physical prototype. This means a **shorter commissioning time**, the ability to predict maintenance needs and reduce machine downtime in the field.

With the comprehensive **digital twin**, you can **capture simulation and validation results in a centralized repository**. Designers access the results and can use them to incorporate relevant changes, **closing the loop**, between testing and design. With a **digital twin** you can increase design flexibility, **boost productivity** and **improve your innovation processes** to build the next generation of smart industrial machines.

Shift simulation upfront.

Keep simulation data in sync with design, give designers and simulation engineers access to the **same models in one system**. The ability to run simulation in parallel to design, **reduces the product lifecycle**, allowing you to get fully validated products out of the door faster while **maintaining reliability** and **ensuring safety**.

Integrating test and simulation in the same environment automates the process of information sharing and enhances inter-disciplinary collaboration. Collaboration that gives you time and resource saving efficiencies.



Siemens introduces a holistic approach to design and simulation to help develop the next generation of smart machines, helping you to gain a competitive advantage in today's global machinery industry.

Get ready to produce the fully optimized machine faster.



As the industry moves faster than ever you need to be able to develop your industrial machines quicker and with greater flexibility to meet the changing demands of your customers. By integrating simulation data and design you can save vital time and money in the product lifecycle so you can stay ahead of the competition.

Now it's your turn to drive innovation through simulation:

Improve collaboration, automate the process of information sharing and connect multiple teams to the same model data.

Improve machine reliability and reduce risk, integrate test and simulation in a single environment with the digital twin.

Increase your design flexibility, run simulation and design processes simultaneously, to offer more customizable options.

Boost productivity and optimize machine performance, rapidly validate complex geometrics to build smarter machines, faster.

Reduce cycle times and costs by moving simulation upfront, validate component variables virtually and reduce your need for physical prototypes.

Whatever you imagine, simulate and validate it under real conditions with **Integrated Design and Simulation**, part of the **Intelligent Performance Engineering** solution from Siemens.

About Siemens Intelligent Performance Engineering:

Siemens' Intelligent Performance Engineering solution leverages Integrated Design and Simulation to help industrial machine manufacturers go from design to commissioning and beyond. Digital twin technology provides a single thread of information to optimize processes and improve collaboration across design and engineering teams to drive innovation. This single source of reliable information enables companies to efficiently design, simulate and validate in a single environment to boost productivity.

For more information on Siemens Intelligent Performance Engineering solution, visit www.siemens.com/plm/IPE or follow us on [LinkedIn](#) and [Twitter](#).

Siemens Intelligent Performance Engineering

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