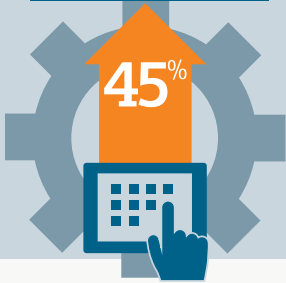**SIEMENS**
Ingenuity for life

Realizing potential for advanced machine engineering

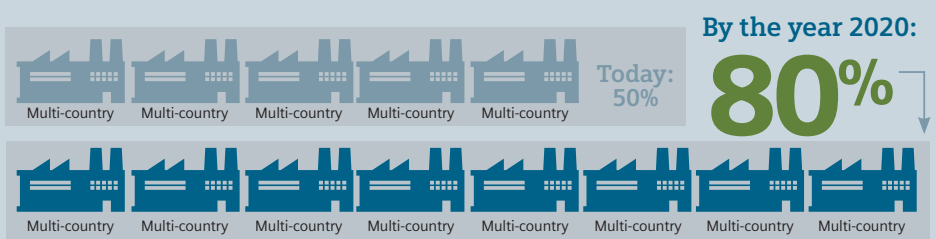## Complexity is the new norm in machine design.

Smarter machines

45%

From 1970-2010, the amount of software content in machines increased **45%**.
(Source: VDMA)

Globalization pressures

Multi-country (×12)

Today: 50%

By the year 2020:

80%

By 2020, around **80%** of manufacturers expect to have multi-country operations whereas currently just over half do. (Source: CECIMO Magazine)
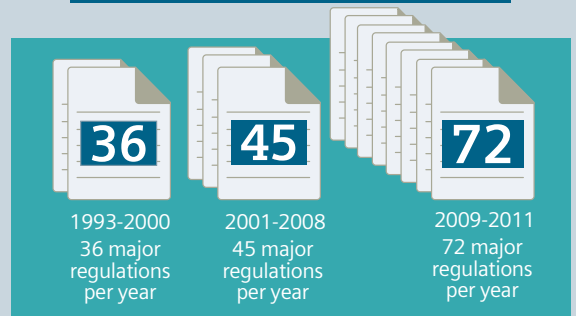
Increasing customization

Customization will drive how industry operates. Globalized/diverse markets, distributed manufacturing and the increasingly global middle class will set industry challenges. Globalization will result in millions of new customers from regions requiring diverse features and pricing.
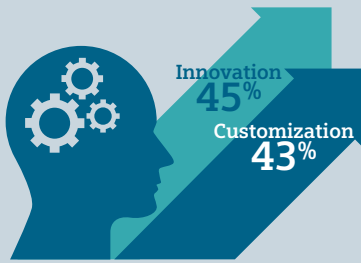(Source: Joint Research Council Foresight Study, European Commission)

Regulatory pressures

36	45	72
1993-2000 36 major regulations per year	2001-2008 45 major regulations per year	2009-2011 72 major regulations per year

Average number of major regulations passed per year.
(Source: NERA Economic Consulting)

Machines need to be smarter.

Innovation 45%
Customization 43%
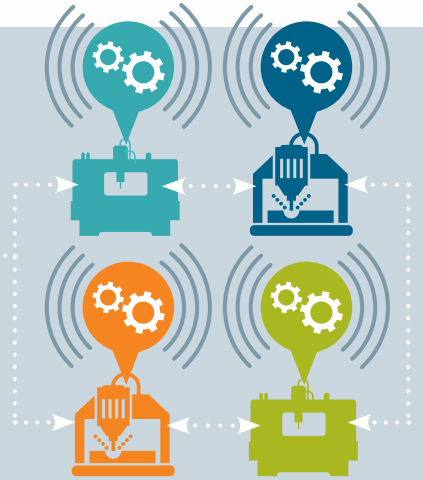
The **#1** and **#2** business strategies of machinery companies are dedicated to developing smarter machines through **innovation** and **customization**.
(Source: Tech Clarity – Best Practices for Developing Industrial Equipment)
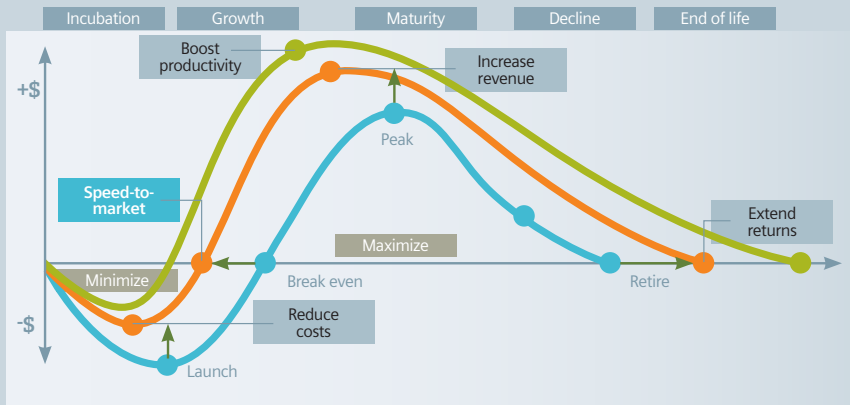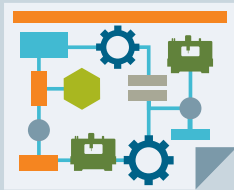
- Machines need to have more functionality
- Machines need to be connected for advanced performance and service monitoring
- Machinery manufacturers need to become more innovative

The virtual machine enables advanced, smart, machine design and engineering.

Faster time-to-market

- **Improve speed** and efficiency of the design process chain
- **Ensure reproducibility** and efficiency of the manufacturing processes
- **More efficient** manufacturing processes
- **Meet regulatory needs** with advanced mechatronic design

Incubation | Growth | Maturity | Decline | End of life
Boost productivity
Increase revenue
Peak
+$
Speed-to-market
Extend returns
Maximize
Minimize
Break even
Retire
-$
Reduce costs
Launch

Virtual machine design, development and commissioning is critical to addressing complexity.

PLM helps companies support and orchestrate complex design processes, and the large numbers of designs generated, to build complex products.
(Source: Tech Clarity, Best Practices for Developing Industrial Equipment)

Industry leaders are
34%
more likely to use PLM than average performers*

*Industry leaders vs. average performers:
22% revenue growth vs.10%
17% profit margin vs. 7%

Extended PLM platform → Systems engineering → Concept design → MCAD / ECAD/Fluid / Automation → Virtual commissioning start-up

Industrial machinery and equipment leadership

44 years
Siemens PLM Software has driven machine engineering for the last 44 years.

Expertise
The world's top machinery manufacturers choose Siemens PLM Software because of comprehensive expertise, broad leadership, and unmatched momentum in the global industrial machinery and equipment industry.

Go to siemens.com/plm/advancedmachinery