Digitalization Changes Everything, Everywhere
Tony Hemmelgarn, President and CEO
There’s a Bulbasaur in the room. Can you see it?
Technological Forces Transforming Industry

Changing the way products come to life
- GENERATIVE DESIGN
- INTELLIGENT MODELS
- SYSTEMS OF SYSTEMS

Changing the way products are realized
- MACHINE LEARNING
- ADDITIVE MANUFACTURING
- ADVANCED ROBOTICS

Changing the way products evolve
- CLOUD TECHNOLOGY
- KNOWLEDGE AUTOMATION
- BIG DATA ANALYTICS
How do you leverage these forces in your innovation process?
Only Siemens has solutions across the entire value chain.
Digitalization collapses the innovation lifecycle…
...and enables continuous business transformation
Establishing our foundation…
Progress in 2016

Extending the portfolio...
We are continuing to execute on our Digitalization Strategy by building our Digital Enterprise Software Suite

### EDA software

**2016**

- **Integrated System Design:** provides a complete ecosystem for Electrical/Electronic design (PCB, wiring, ECU and Integrated Circuits) including test and measurements and links to manufacturing
- **Scalable Verification and Emulation:** Simulation of System behavior (Tools for verifying that today's electronic system designs actually function as intended)
- **IC Design to Silicon:** Tools for the complete value chain from IC layout design to manufacturing to ensure a high yield

### Leading portfolio

**2016**

- **Behavioral simulation:** 1D cross-discipline simulation, like mechanical and electrics, e.g. fuel economy and range simulation for hybrid vehicles
- **3D mechanical simulation:** e.g. stiffness, noise, vibration
- **Testing:** Solutions for prototype testing (stationary & mobile)

### Closed loop performance analysis

**2012**

- **Multidisciplinary Engineering Simulation:** Primarily computational fluid dynamics (CFD) for analysis of fluid flow, heat transfer and fluid-structure interaction
- **Design Exploration:** Engineering simulation workflows and design optimization algorithms to automatically drive product design, e.g. for reduction of weight and cost

### CAD software

**2007**

- **Streamlines and accelerates the product development process in a collaborative environment**
- **Includes a modern, multi-discipline CAE environment**
- **Teamcenter as collaboration platform enables consistent data management throughout the whole value chain**
Delivering solutions faster to solve problems in ways that could not have been done before.
FMC automates analysis in HEEDS to find optimal pipe design that reduces pressure while minimizing erosion.
BUSINESS PROBLEM

Accurately predict the performance of complex product designs with interacting physics.

SOLUTION

Predictive engineering analytics
BUSINESS PROBLEM

Standard PLM systems aren’t optimized for managing software development.

SOLUTION

Application Lifecycle Management
Integrated ALM-PLM with Polarion

POLARION’S TIMELINE

2004
Polarion founded with disruptive vision

2005
A unified, 100% browser-based ALM

2016
Siemens acquisition
Integrated ALM-PLM solution

Focus on unlocking synergies
Full traceability, real-time collaboration, intuitive UI

200+ Extensions
250+ Fortune 1000 Deployments
2.5+M Users
15K Registered Community Members

Siemens acquisition
Integrated ALM-PLM solution
Innomedic| Application Lifecycle Management

Innomedic reduces audit issues using Polarion ALM to manage software requirements, workflows and traceability.
Transforming the Way Ideas Come to life
Optimized design for a new generation of products

Optimization benefits:
- 28% weight reduction
- Less material
- Equal strength
- Fewer manufacturing setups
One Integrated System - NX

NX CAD  Simcenter 3D  NX CAM

Data Management and Shop Floor Connectivity
Siemens Production Software and MES Systems
Partner Ecosystem (software and hardware)
Understanding the language of products

MindSphere - Siemens Cloud for Industry

- Optimize operation
- Identify root causes of defects
- Optimize the product
- Prevent failures
- Discover performance indicators
- Predict behavior
“Performance Analytics empowers us to discover hidden patterns in data in order to ensure optimal product performance.”

Michael Shepherd, Senior Strategist, Dell
BUSINESS PROBLEM

The concept of a digital enterprise is difficult to grasp without seeing it in action.

SOLUTION

Global Digital Enterprise Labs
Transform engineering and manufacturing education

A unique world class showcase where industry, government and academia explore digitalization with Siemens

Ushering in the Digital Revolution in Manufacturing
Help students realize their potential to impact the digital future

Digitalization drives a wider skills gap

We must connect academia and industry to develop the right digital skill set

Together we can empower the next generation of digital talent
Tony Hemmelgarn
President and CEO
Siemens PLM Software

Realize innovation.