Driving the Digital Enterprise – leading the digital transformation

Klaus Helmrich, Member of the Managing Board of Siemens AG
Products are becoming more and more customized – With effects on all verticals and markets

Flexibility

- Flexible design and use of assets

Time to market

- Customized products

More product variants
Products are becoming more and more individualized in all industries – The customer sets the standard

- **Golf clubs (Callaway)**: Innovation platform for simulating golf club performance before building physical prototypes.
- **Surfboards (Firewire)**: Automated system for building personalized surfboards, supported by Siemens design software.
- **Packaging machines (Sollas)**: Packaging machines for customized packages.
Digital Enterprise for the discrete and process industries –
Our solutions along the entire value chain

1. Industrial software and automation portfolio

2. Industrial communication

3. Industrial security

4. Industrial services

Specifically for discrete or process industries

Joint platforms for discrete and process industries

Virtual world

Real world

Product design

Production/plant planning

Production engineering

Production

Services

Suppliers

Teamcenter/COMOS

Full consistency

© Siemens AG 2016

Nuremberg, November 22, 2016

Klaus Helmrich, Member of the Managing Board of Siemens AG
Strategic collaboration ventures between Siemens and Bentley Systems elevate software solutions to a new dimension – from 2D to 3D

Portfolio
3D software solutions for design, construction, and operation throughout the entire lifecycle

Employees
About 3,200 worldwide

Revenues
>US$ 600 million

Market segments, for example:
- Process industries, including
  - Chemicals
  - Pharmaceuticals
  - Water/wastewater
- Discrete industries, including
  - Manufacturing facilities
- Civil engineering
  - Road, rail, and transit
- Infrastructure
- Architecture
- Structural engineering
- Utilities
This collaboration expands our offering across all our business areas

Systematic expansion of the simulation portfolio
- From 2D engineering (functional) to 3D design (physical)
- From “function-driven data” to “full-context data”
- From factories and plants to entire infrastructures

Discrete manufacturing
Combining product and production with lifecycle management of factory infrastructure

Process industry
2D and 3D plant design/engineering and collaboration and workflow platforms

Mobility
Data generation and management throughout the entire project phase

Energy management
2D and 3D design/engineering of electrical transmission and distribution grids and transformers substations

Building technologies
Structural software for building design
COMOS and OpenPlant – New aspects of plant engineering

Features
– Bi-directional data exchange between 3D design and COMOS
– Completely new method of 2D/3D data transfer
  – Not limited to P&ID documents
  – Any COMOS data can be transferred

Benefits
– Object-based data exchange for highest flexibility
– Eliminate costs thanks to consistent data at all times
– Subcontracting becomes easier than ever
– Save money on data handover activities
– Enable global engineering at low cost
– Benefit from various complementary products
Industrial software – Systematic expansion of our design, simulation, and testing portfolio

Electronic design automation:
- Integrated system design
- Scalable verification and emulation
- IC design to silicon

Multidisciplinary design exploration: STAR-CCM+ and others
- Multidisciplinary engineering simulation
- Design exploration

Simulation and testing: LMS Virtual.Lab, Imagine.Lab, Test.Lab
- Behavioral simulation
- 3D mechanical simulation
- Testing

CAD software: NX Design, Nastran, and Teamcenter software
- Streamlines and accelerates the product development process in a collaborative environment
- Includes a modern, multidiscipline CAE environment
- Teamcenter as collaboration platform enables consistent data management throughout the entire value chain

© Siemens AG 2016
With the planned acquisition, Siemens will become the provider of a fully integrated Digital Enterprise Suite

Mentor Graphics portfolio will enable Siemens to meet key customer requirements for Industrie 4.0

- Integrated system design
- Scalable testing and emulation
- From IC design to silicon production

**Speed**
Shorten design cycle of smart products with highest complexity through simultaneous design

**Quality**
Increase quality through simulation and testing in the product design phase, reduce number of physical prototypes

**Flexibility**
Efficiently manage increasing number of design variants in product design and production

**Efficiency**
Optimize power consumption and analyze thermal effects of smart products through integrated system simulation
MindSphere – The cloud-based, open Internet-of-Things ecosystem

MindApps
- Asset transparency and analytical insights, for example, predictive maintenance
- Subscription-based pricing model
- Fleet management

MindSphere
- Open interface for developing customer specific apps (MindApps)
- Various cloud infrastructures: public, private, or on-site

MindConnect
- Open standards (for example, OPC UA) for connectivity (also to third-party products)
- Plug and play connection of Siemens products
MindSphere – The cloud-based, open Internet-of-Things ecosystem

Direct insights into the entire fleet and detailed information on individual machines and plants.

**Insights**

Virtual world

Real world

Connect external devices via the MindConnect Nanobox

Configure data acquisition and connectivity quickly and easily

Connect to SIMATIC controllers, e.g. SIMATIC PCS 7

Optimized performance of assets, energy and resource consumption, maintenance, services...

Insights to produce viable results and increase the lifetime/efficiency of machines and plants to benefit the customer.
MindSphere – The cloud-based, open Internet-of-Things ecosystem

- Open standards
- Powerful data analytics
- Plug-and-play connections
- IT security
- App and connectivity development
- Pay-per-use price models
- App store concept
- Strong partner ecosystem
MindSphere and MindApps offer OEMs and end customers added value

OEMs, e.g. machine builders
- Higher service efficiency/lower costs for claims and warranty issues
- Offers additional services (e.g. availability)
- Permits implementation of a new business model
- Product improvement through feedback loop(s) to R&D

End customer
- Higher availability of machines and plants
- Optimized utilization of machines and plants
- Efficient maintenance
MindSphere – The cloud-based, open Internet-of-Things ecosystem – MindSphere customer – Gämmerler GmbH

The challenge
- Stay competitive, e.g. through **process optimization** and reliability, even at the highest printing speeds
- Differentiation through **data-driven** services

The solutions
- Machine connection to **MindSphere** via S7
- Data visualization in MindSphere’s **Visual Analyzer**
- Fault alarm rules can be developed in MindSphere’s **Fleet Manager**

Customer benefits
- Out-of-the-box **digital services** for end customers
- Higher **machine availability**
- Compliance with **warranty conditions**
- Failure prediction

New business model: digital services through connection to MindSphere
MindSphere – The cloud-based, open Internet-of-Things ecosystem –
Stora Enso – Tiger Project, Guangxi, China

The challenge
– Construct a new, integrated cardboard factory in Beihai, Guangxi, China, annual production capacity of 450,000 metric tons (MT)
– Ensure higher production output and efficiency with greater product complexity and highest quality standards

The solutions
– Complete package comprising power generation, power and drive technology, and integrated automation
– Planned connection to MindSphere via Control Performance Analytics (CPA) starting in 2017

Customer benefits
– Out-of-the-box digital services for end customers
– More transparency through plant availability and higher plant performance
BMW Supplier Innovation Award 2016 – TIA Portal wins in “Productivity” category

Siemens’ TIA Portal wins “BMW Supplier Innovation Award” in “Productivity” category

– With this award, BMW pays tribute to its long and successful partnership with Siemens

– For BMW, the TIA Portal is an important component in the transition to Industrie 4.0

– This collaborative effort makes BMW a digital pioneer in automotive engineering

Source BMW GROUP
Industrial software and automation – The TIA Portal – More than an engineering framework

TIA Portal V14 – new functionalities

- Use existing C/C++ algorithms without knowledge of high-level languages
  - SIMATIC S7-1518 ODK

- Virtual commissioning reduces commissioning times, thus reducing costs
  - SIMATIC PLCSIM Advanced

- Open interface for simple network integration
  - OPC UA

- Parallel working in a team for a shorter time to market
  - Multiuser engineering

- Simple data transparency for fast, energy-saving solutions
  - Simatic Energy Suite

- Efficient engineering, including complex motion control functions
  - SIMATIC S7-1500T
  - SINAMICS V90PN
Example – Sollas Packaging Machinery – Packaging machines for customized packages

Greater flexibility, security, and availability

– Significant increase in flexibility thanks to an electronic cam; easily adapted to different materials and sizes

– One SIMATIC controller for standard, motion-control, and security applications seamlessly integrated into the TIA Portal

– Connection to MindSphere
New regulations of the IT Security Act for industry and critical infrastructures

What has changed (excerpt)?

– Operators of critical infrastructures (KRITIS) must implement “state-of-the-art” IT security and provide evidence of compliance.

– BSI (German Federal Office for Information Security) as central reporting point for the IT security of critical infrastructures. Significant disruptions in IT must be reported if they could affect the availability of critical services.

– If a KRITIS operator experiences disruptions in IT service that require notification, the BSI may also, if necessary, require the participation of the manufacturer of the relevant IT products and systems.

Source: Bundesamt für Sicherheit in der Informationstechnik (BSI); Betreiber Kritischer Infrastrukturen (KRITIS)
New regulations of the IT Security Act for industry and critical infrastructures

To whom do the new regulations apply?

– They are defined for the energy, information technology, telecommunication, and food and water sectors **based on the level of supply**

– The level of supply is defined for each plant category. **The control threshold is 500,000 persons dependent on the service**

– Release of part two of the KRITIS act, applicable to the financial, transport, traffic, and healthcare sectors, is expected at the beginning of 2017
Industrial security – As the only provider with TÜV certification, Siemens supports compliance with the IT Security Act

5 levers
– Plant security features
– Improved security processes
– Handling of incidents
– Security consciousness
– IT infrastructure

Assistance for operators of critical infrastructures to help them comply with the IT Security Act as of November 2016
Digital Enterprise – An ecosystem for individualized customer requirements

Digital Enterprise ecosystem

Individual Customer need

Individualized design
Involvement of suppliers
Networked production
 Integrated logistics

Design and engineering
Operation
Service

Digital Enterprise
for the discrete and process industries

Real world

Data backbone
Full consistency

Virtual world
Suppliers

1 2 3 4 5
Siemens is systematically expanding its digital product portfolio and increasing its openness to the cloud

With the planned acquisition of Mentor Graphics, Siemens will become the provider of a fully integrated Digital Enterprise Suite.

The strategic cooperation between Bentley Systems and Siemens takes software solutions into a new dimension – from 2D to 3D

The cloud-based, open Internet-of-Things ecosystem MindSphere from Siemens helps transform data into concrete competitive advantages

Siemens provides solutions for the digital transformation of companies of all sizes

With Digital Enterprise, large and medium-sized companies can now invest even more heavily in comprehensive approaches for digital industry
Experience the Digital Enterprise live in Hall 11 – We look forward to seeing you there!
Important information about the transaction – Forward-looking statements and other notes

This document contains statements related to our future business and financial performance and future events or developments involving Siemens that may constitute forward-looking statements. These statements may be identified by words such as "expect," "look forward to," "anticipate" "intend," "plan," "believe," "seek," "estimate," "will," "project" or words of similar meaning. We may also make forward-looking statements in other reports, in presentations, in material delivered to shareholders and in press releases. In addition, our representatives may from time to time make oral forward-looking statements. Such statements are based on the current expectations and certain assumptions of Siemens' management, of which many are beyond Siemens' control. These are subject to a number of risks, uncertainties and factors, including, but not limited to those described in disclosures, in particular in the chapter Risks in the Annual Report. Should one or more of these risks or uncertainties materialize, or should underlying expectations not occur or assumptions prove incorrect, actual results, performance or achievements of Siemens may (negatively or positively) vary materially from those described explicitly or implicitly in the relevant forward-looking statement. Siemens neither intends, nor assumes any obligation, to update or revise these forward-looking statements in light of developments which differ from those anticipated.

This document includes – in IFRS not clearly defined – supplemental financial measures that are or may be non-GAAP financial measures. These supplemental financial measures should not be viewed in isolation or as alternatives to measures of Siemens’ net assets and financial positions or results of operations as presented in accordance with IFRS in its Consolidated Financial Statements. Other companies that report or describe similarly titled financial measures may calculate them differently.

Due to rounding, numbers presented throughout this and other documents may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.

Additional Information and Where to Find It

In connection with the proposed transaction, Mentor Graphics Corporation (the "Company") will file with the U.S. Securities and Exchange Commission (the "SEC") a Current Report on Form 8-K, which will contain, among other things, a copy of the merger agreement, and will file with the SEC and mail or otherwise provide to its stockholders a proxy statement regarding the proposed transaction. BEFORE MAKING ANY VOTING DECISION, THE COMPANY’S STOCKHOLDERS ARE URGED TO READ THE PROXY STATEMENT IN ITS ENTIRETY WHEN IT BECOMES AVAILABLE AND ANY OTHER DOCUMENTS FILED WITH THE SEC IN CONNECTION WITH THE PROPOSED MERGER OR INCORPORATED BY REFERENCE THEREIN BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE PROPOSED TRANSACTION AND THE PARTIES TO THE PROPOSED TRANSACTION. Investors and security holders may obtain a free copy of the proxy statement and other documents that the Company files with the SEC (when available) from the SEC’s website at www.sec.gov and the Company’s website at www.mentor.com. In addition, the proxy statement and other documents filed by the Company with the SEC (when available) may be obtained from the Company free of charge by directing a request to Mentor Graphics Corporation, Investor Relations, 8005 SW Boeckman Rd., Wilsonville, OR 97070, 1-503-685-1462.

Participants in Solicitation

The Company and its directors, executive officers and certain employees may be deemed, and Siemens Industry, Inc. and its managing board, officers and employees may be deemed, under SEC rules, to be participants in the solicitation of proxies from the Company’s shareholders with respect to the proposed acquisition of the Company by Siemens Industry, Inc. With respect to Siemens Industry, Inc. and its managing board, officers and employees, certain additional information is available and has been prepared in accordance with the German Commercial Code. Information concerning the ownership of the Company’s securities by the Company’s directors and executive officers is included in their SEC filings on Forms 3, 4 and 5, and additional information regarding the names, affiliations and interests of such individuals is available in the Company’s Annual Report on Form 10-K for the fiscal year ended January 31, 2016 and its definitive proxy statement for the 2016 annual meeting of shareholders filed with the SEC on May 18, 2016. Information regarding the Company’s directors, executive officers and certain other employees who may be deemed, under SEC rules, to be participants in the solicitation of proxies from the Company’s shareholders with respect to the proposed acquisition of the Company by Siemens Industry, Inc., including their respective interests by security holdings or otherwise, also will be included in the proxy statement relating to such acquisition when it is filed with the SEC. These documents will be available free of charge from the SEC’s website at www.sec.gov and the Company’s website at www.mentor.com.