Save The Date, October 30, 2018

Digital Enterprise Summit for Machine Builders
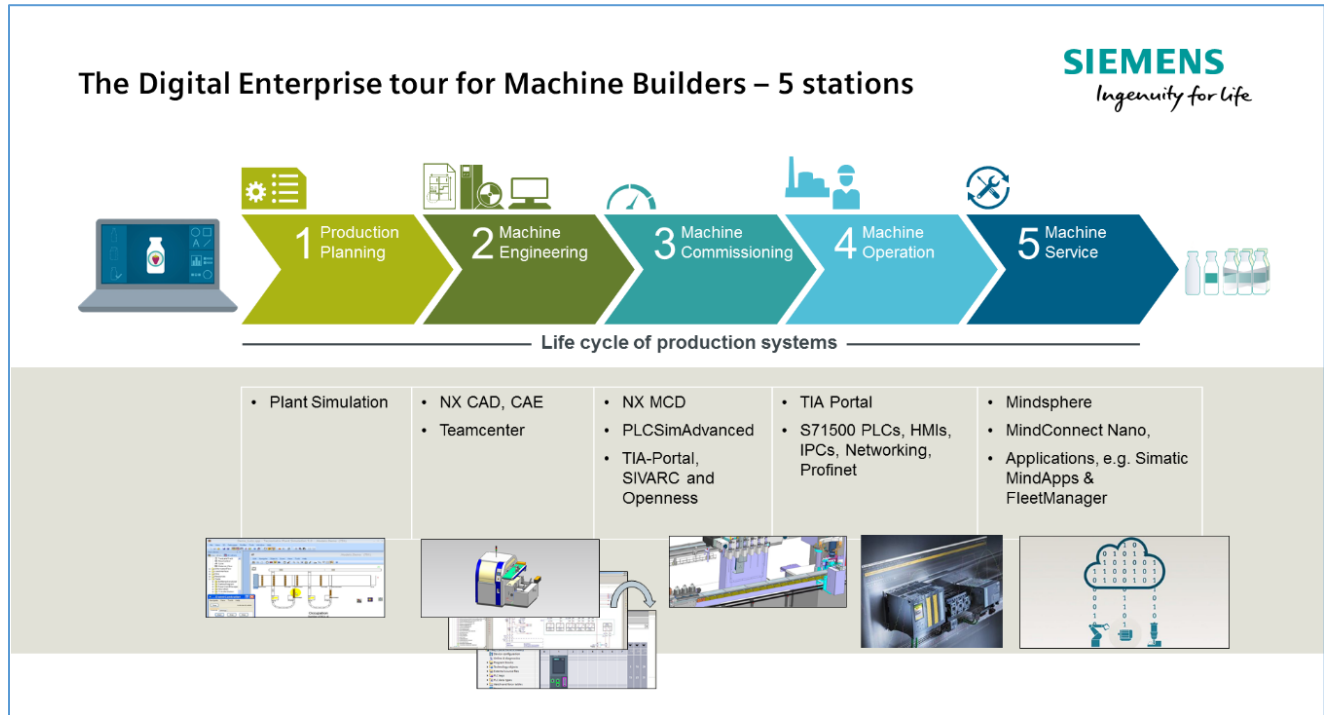
At DMDII, UI Labs, Chicago

Siemens will host a second Digital Enterprise Summit for Machine Builders at the Digital Manufacturing and Design Innovation Institute (DMDII) in Chicago on October 30th. DMDII is a world-class, first-of-its-kind manufacturing hub, and is a unique public-private partnership of which Siemens is just one of many partners. This is an ideal location to hold a thought leadership event dedicated to US machine builders where they can learn how Siemens Digital Enterprise suite of software can shorten their time to market, increase productivity and increase their machine reliability and quality.

The event will consist of presentations, a panel discussion and a tour of the DMDII shop floor. Industry experts and Siemens executives will discuss trends, organizational challenges and how digitalization will allow machine builders to be more efficient, reliable and future-proof.

Benefits of attending:

- Share knowledge to learn how the evolution of the digital factory will affect the way you do business.
- Understand how technology can be a key enabler. What is a "Digital Twin" and how are companies leveraging this to innovate and stay competitive.
- See how cloud based data services can create a new revenue model for machine builders that can add value to their customers with predictive machine operation.
- Discover the latest in design tools, simulation and automation, and verify where your company stands in becoming a digital enterprise.
- Tour the DMDII facility to see a showcase of various technologies that drive a digital enterprise for both machine builders and line builders in production planning, machine engineering, machine commissioning, machine operation and machine service.
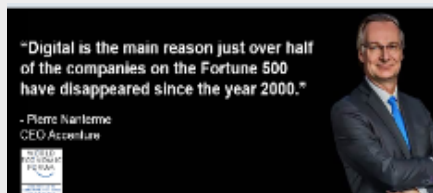
The Digital Enterprise tour for Machine Builders – 5 stations

SIEMENS
Ingenuity for life

1 Production Planning
2 Machine Engineering
3 Machine Commissioning
4 Machine Operation
5 Machine Service

Life cycle of production systems

- Plant Simulation
- NX CAD, CAE
- Teamcenter
- NX MCD
- PLCSimAdvanced
- TIA-Portal, SIVARC and Openness
- TIA Portal
- S71500 PLCs, HMIs, IPCs, Networking, Profinet
- Mindsphere
- MindConnect Nano,
- Applications, e.g. Simatic MindApps & FleetManager

Industry 4.0 Digital Enterprise

- History of Industrial Revolution
- Embarking on 4.0
- Digitalization changes everything
- Empowers early adopters
- Challenges late adopters

Digital Enterprise Challenge

- Fortune 500 fall out
- Corporate Strategy
- Departmental Silos are inefficient
- Organizational & Cultural changes

"Digital is the main reason just over half of the companies on the Fortune 500 have disappeared since the year 2000."

- Pierre Nanterme
CEO Accenture

Digital Thread / Digital Twin

- Ties departments together
- Compresses innovation lifecycle
- Simulate products, people, processes & resources
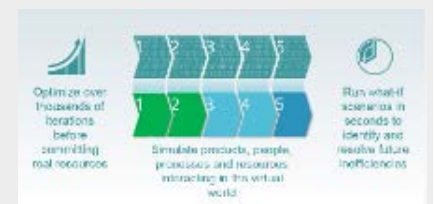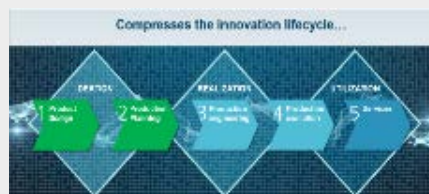
Siemens Digital Enterprise Vision

- The Siemens Vision comes to life
- Simulate in the virtual world
- Control resources in the physical world
- Continuous improvement thru big data analytics

Digital Enterprise Process Highlights

| 1 Production Planning | 2 Machine Engineering | 3 Machine Commissioning | 4 Machine Operation | 5 Machine Service |

Enabling a Digital Enterprise is provided by developing a Digital Twin for both the Product Development and Production Development digitalization threads. Siemens is uniquely positioned to provide a complete end-to-end digitalization solution. These proven value streams allow organizations to be successful in transforming your enterprise to compete in a digital world.

Production Planning

- Evaluate process alternatives
- Early rate analysis & scaling
- Evaluate process & layout alternatives
- Validate worker safety & efficiency
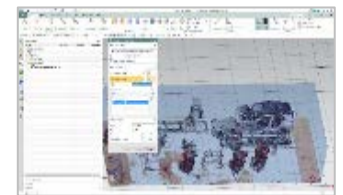
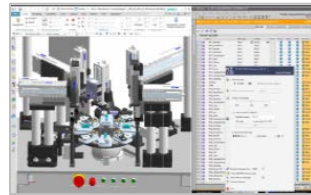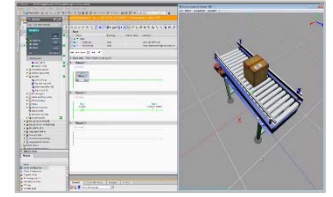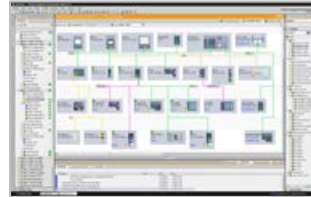## Machine Engineering

- Develop the concept
    - Requirements management
    - System architecture
    - 1D Systems Simulation
    - Early Mechatronics concept design

- Manage the Program
    - Program Execution
    - Supplier collaboration
    - Costing & Bid Management
    - Monitor & report

- Engineer the Machine
    - Multi-CAD Design Collaboration
    - Electrical Engineering
    - Design validation
    - Full Concept Design Simulation

- Validate the Engineering
    - Design Validation with HD3D
    - 3D CAE Simulation
   - Vibration Simulation
    - Kinematic evalutions
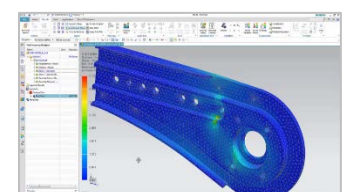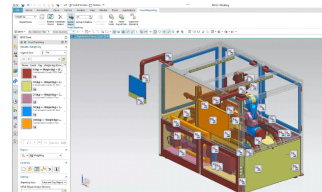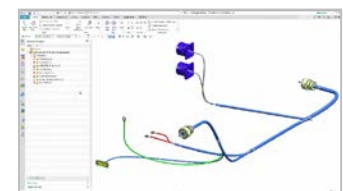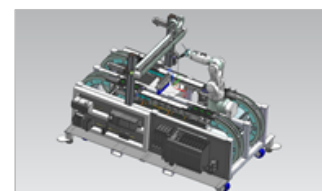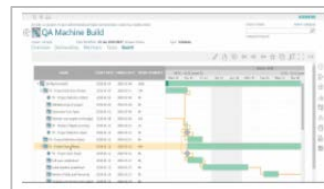
Machine Commissioning

- Automation engineering
  - Totally integrated automation
  - Library concept that promotes standards
  - Automated PLC code generation
  - Rapid HMI screen development

- Virtual commissioning
  - Comprehensive PLC test & simulation
  - Validate sequence of operation
  - Collision detection & error handling
 - Early operator training
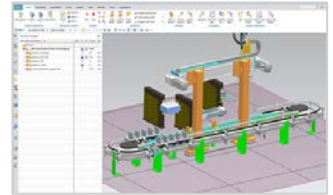
Machine Operation

- Integrated Engineering
  - Unified framework for all automation tasks
  - Machine flexibility with Library concept
  - Reduce downtime via enhanced diagnostics
  - Integrated safety concept

- Transparent Operation
  - Open Ethernet communication
  - Industrial Ethernet infrastructure
  - Integrated security systems & services
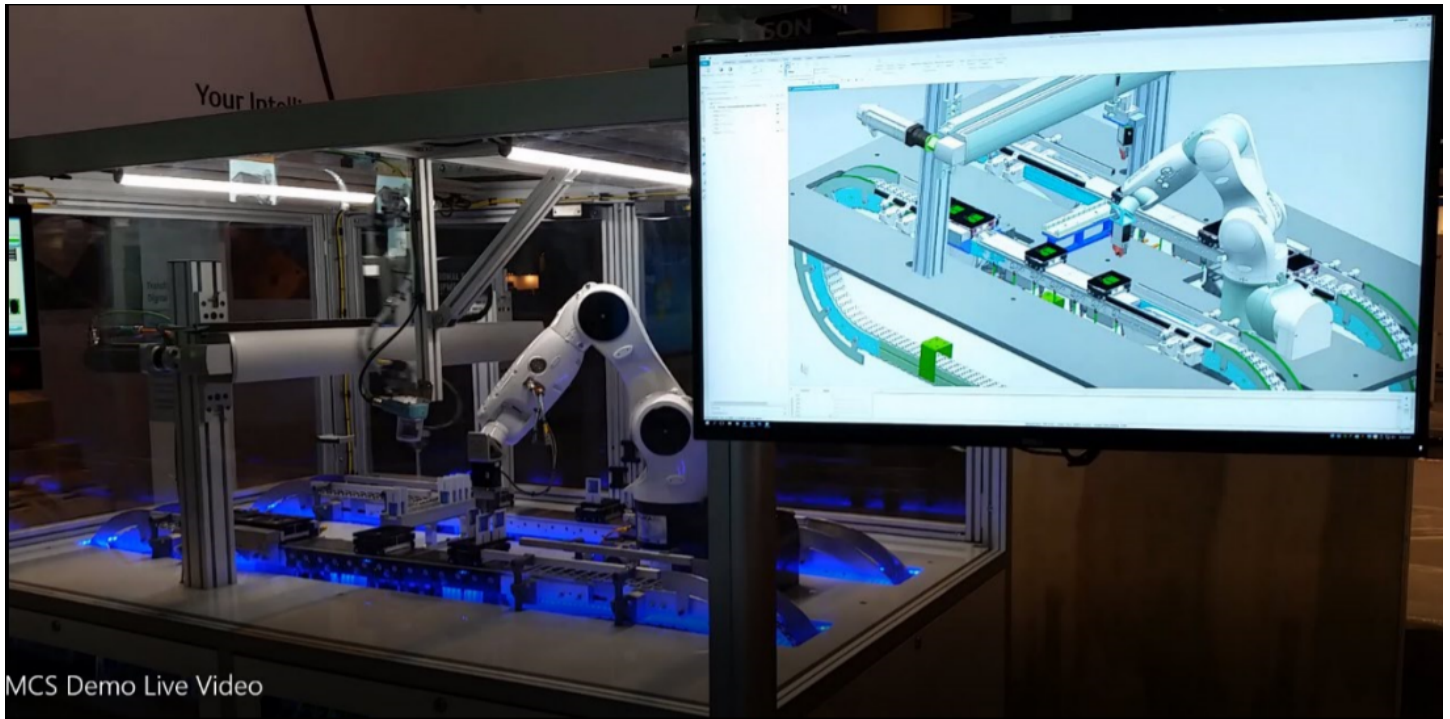 - Complete network security protection
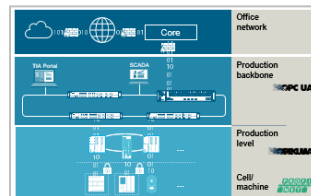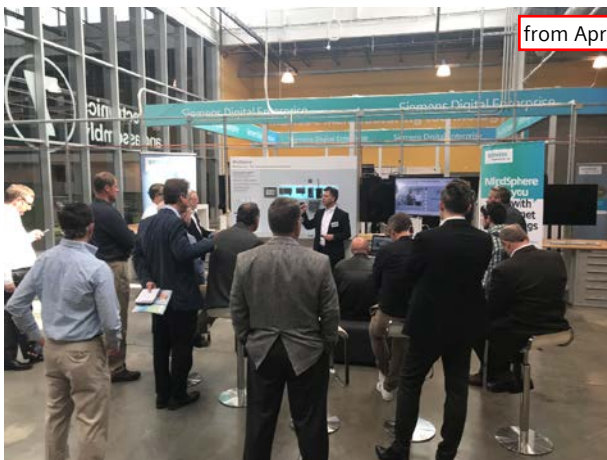
Machine Service

- Collect & correlate globally distributed machine data
- Remote machine Monitoring & Visual analysis
- Reduce downtime with predictive maintenance
- Deploy Mindapp solutions from Partner ecosystem
- Integrate cloud connected Mindconnect devices

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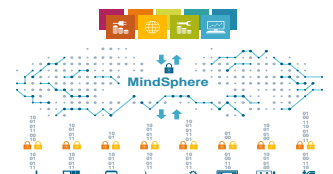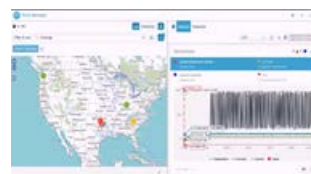
Digital twin and real machine example on DMDII shop floor

Presentation at MindSphere station on DMDII shop floor

Presentations from April, 2018 Machine Builder's Summit

Panel Discussion from April, 2018 Machine Builder's Summit

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