



## Production simulation

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**IDEAL** GRP

# IDEAL GRP

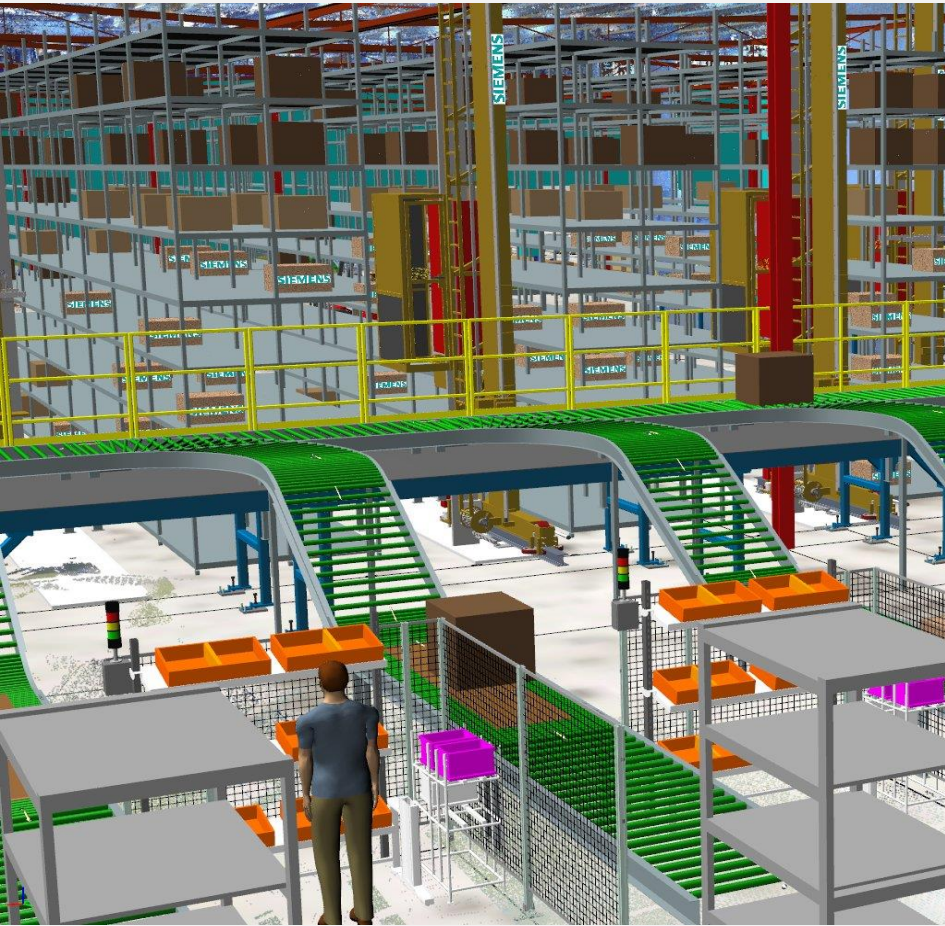
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**SIEMENS Digital**  
*Ingenuity for life*  
**Industries**  
**Software**  
 Partner in  
 EMEA region

<b>+110 professionals</b>	<b>11 offices in 5 countries</b>	<b>17M€ revenue</b>
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Product Digitalization		
3D Design	Engineering Simulations	Product Configuration
Commercial Product Management	Product Collaboration	Quality
Manufacturing Digitalization		
Computer-Aided Manufacturing	Digital Manufacturing	Manufacturing Operations Management
Process Consultation & Services		



# Production Simulation

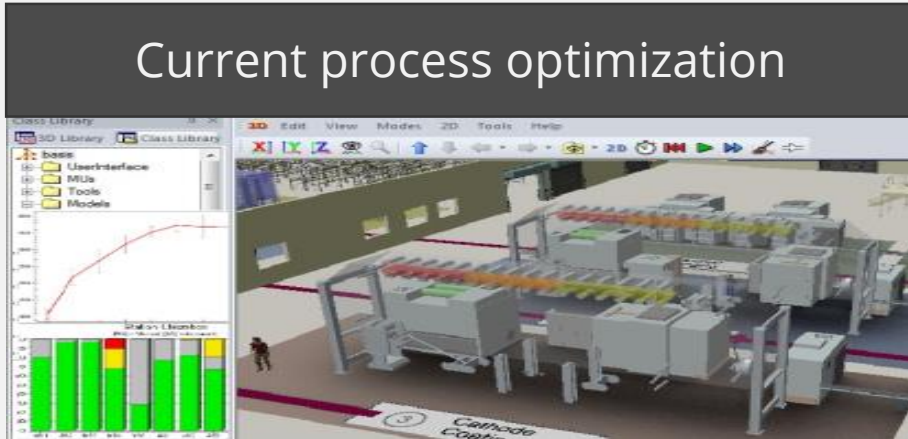


**Production Simulation allows for creating a dynamic computer model of a complex system (e.g. production) to explore its characteristics and optimize the performance of the system.**

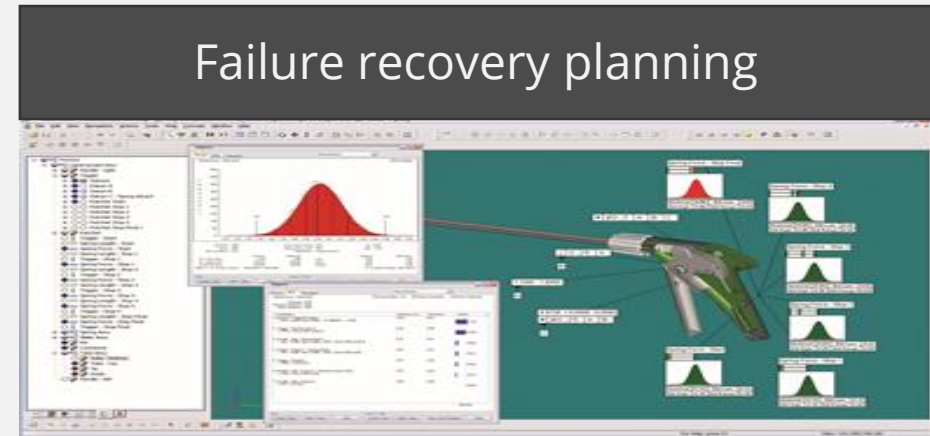
**The computer model enables users to run experiments and what-if scenarios without disturbing an existing production or used in the planning process long before the real system is installed.**

# Some typical production simulation use cases

## Current process optimization



## Failure recovery planning



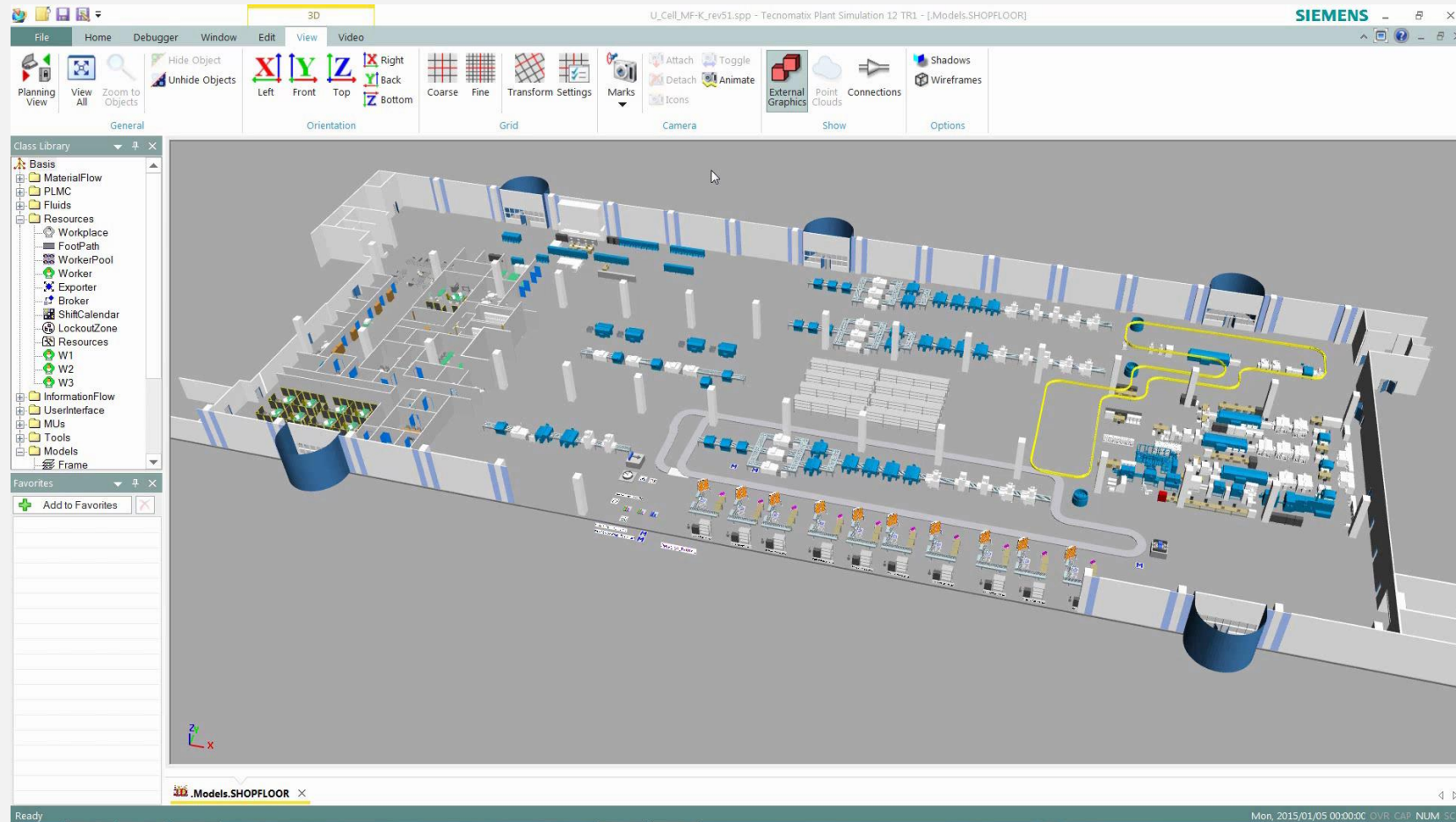
## Production system & layout design



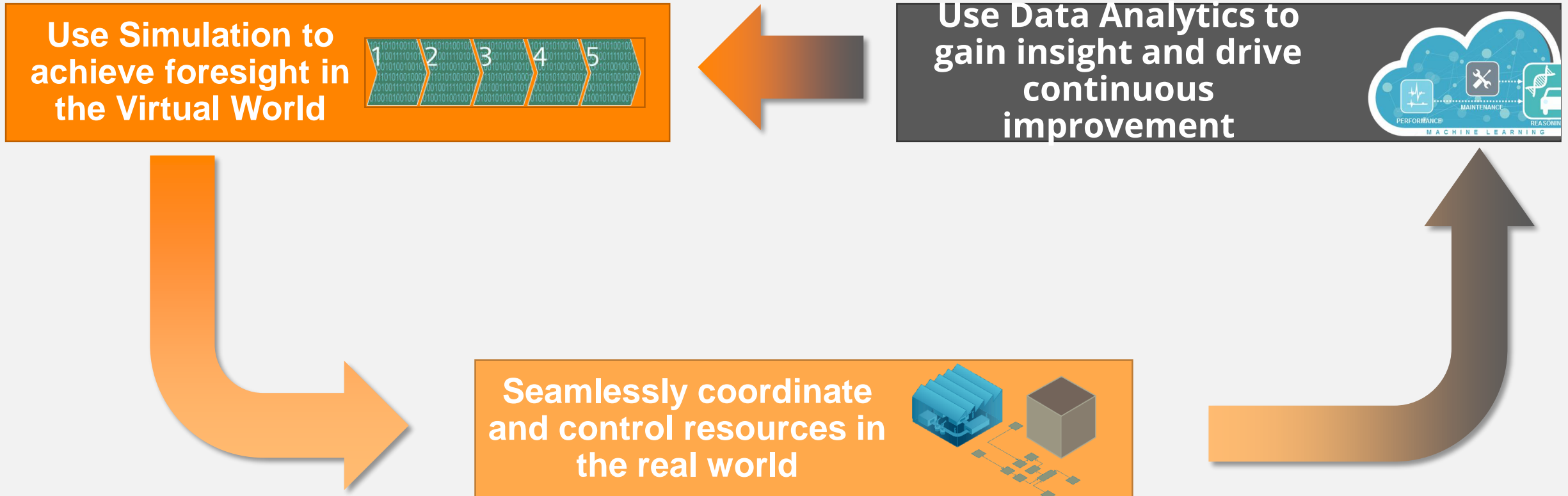
## Future-proofing & Investment planning



# In practise – optimizing resource utilization and throughput



# Production simulation is a fundamental part of continuous improvement in future's data analytics based closed loop manufacturing



# Simulation as a part of production Digital Twin

- PLM** Product Lifecycle Management
- Engineering platform
  - Product definition
  - Change management

- MPP** Manufacturing Process Planning
- Process planning
  - Time-analysis
  - Layout design
  - Work instructions

- SIM** Simulation model of the production system
- Material flow simulation
  - Logistics
  - Robotics & automation
  - Optimization

- CAM** Computer-Aided Manufacturing
- NC programming
  - Machine simulation

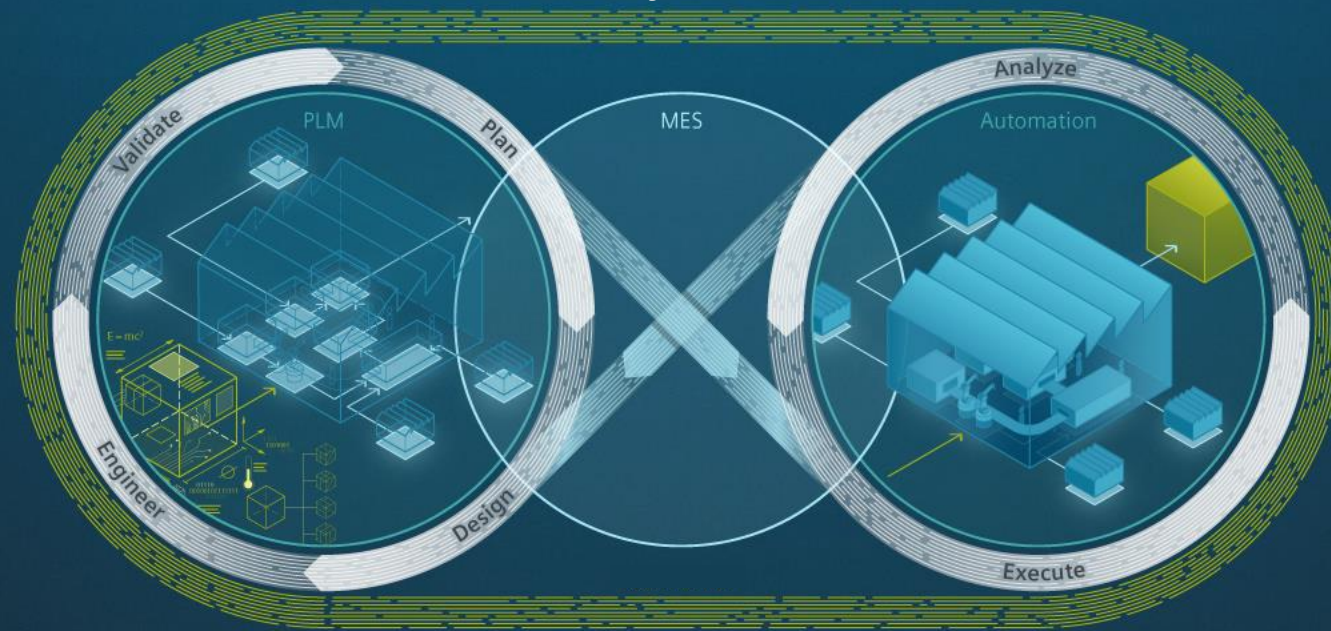
- EMI** Enterprise Manufacturing Intelligence
- Information availability & visibility

- MOM** Manufacturing Operations Management
- Operations platform
  - Integrations up- & downstream

- APS** Advanced Planning & Scheduling
- Capacity planning
  - Resource planning
  - Schedule & plan

- MES** Manufacturing Execution System
- Transparency
  - Traceability
  - Order execution
  - Quality assurance

- AUT** Manufacturing Automation
- PLC controls
  - HMI
  - Commissioning



Digital Twin Production

Closed-loop manufacturing

Real Production

Thank you

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