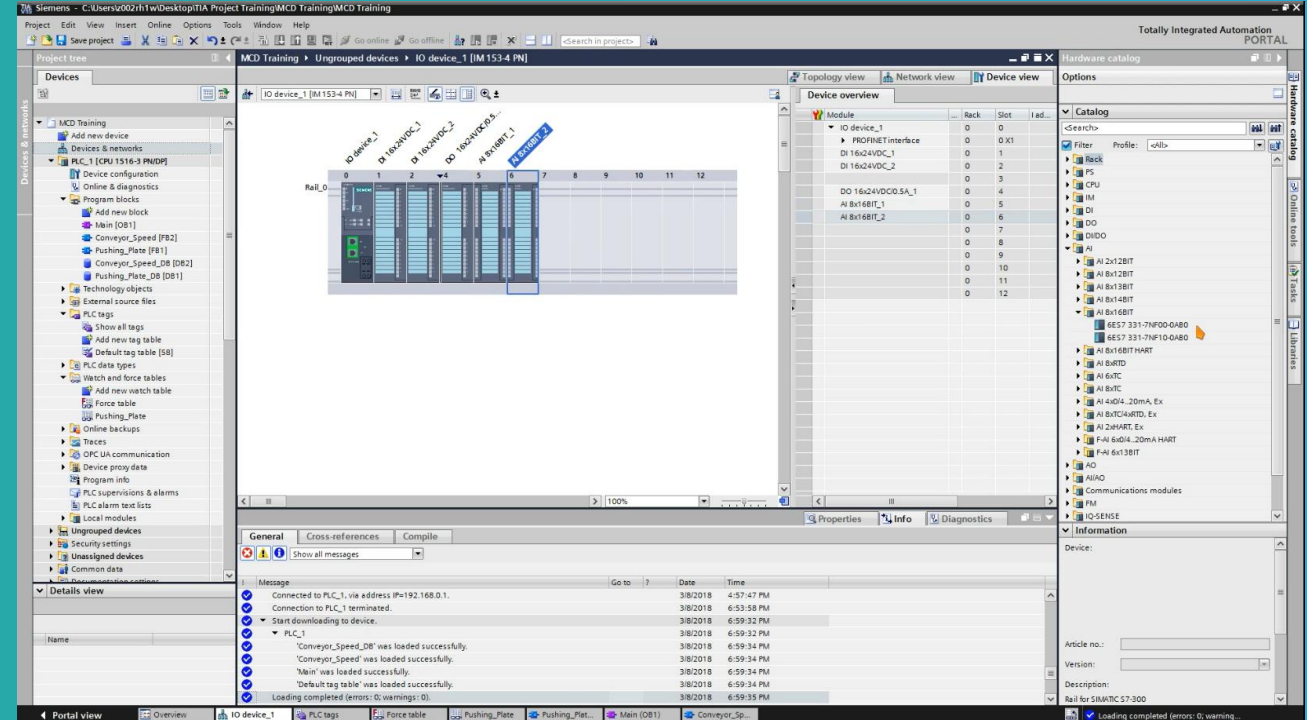


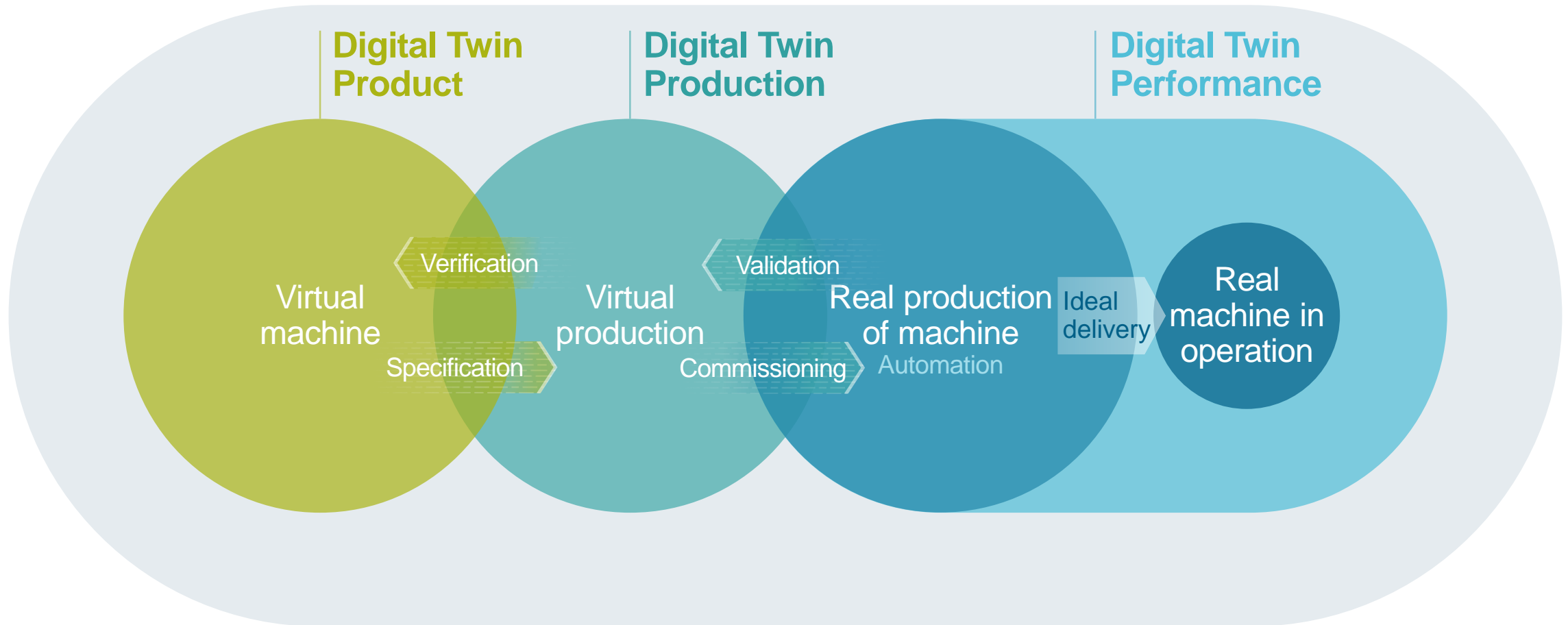
SIEMENS
Ingenuity for life

Commissioning

Virtual Machine Design and



Continuously improve product and production in the real world



Addressing challenges at every level



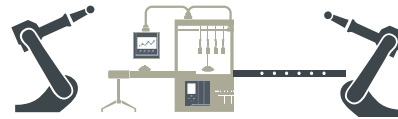
- **Production line**



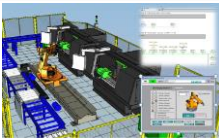
**Tecnomatix
Plant Simulation**



- **Robotic cell**



**Tecnomatix
Process Simulate**



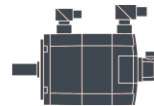
- **Production machine**



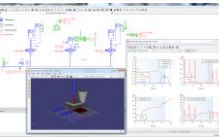
**NX Mechatronic Concept
Designer**



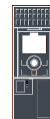
- **Component physics**



Simcenter Amesim



- **Component & Periphery**



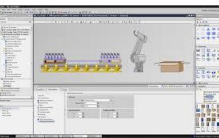
SIMIT



- **Automation**

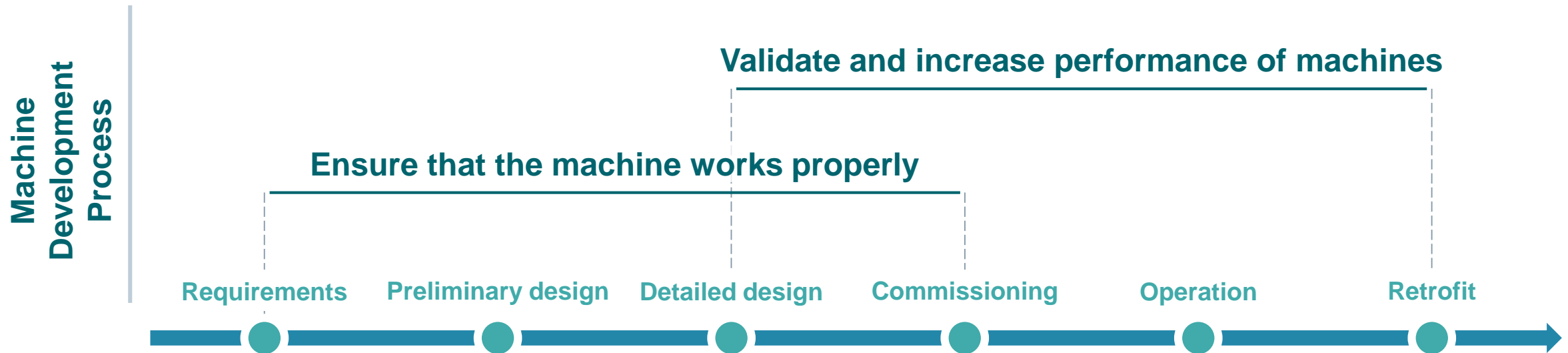


PLCSIM Advanced & WinCC

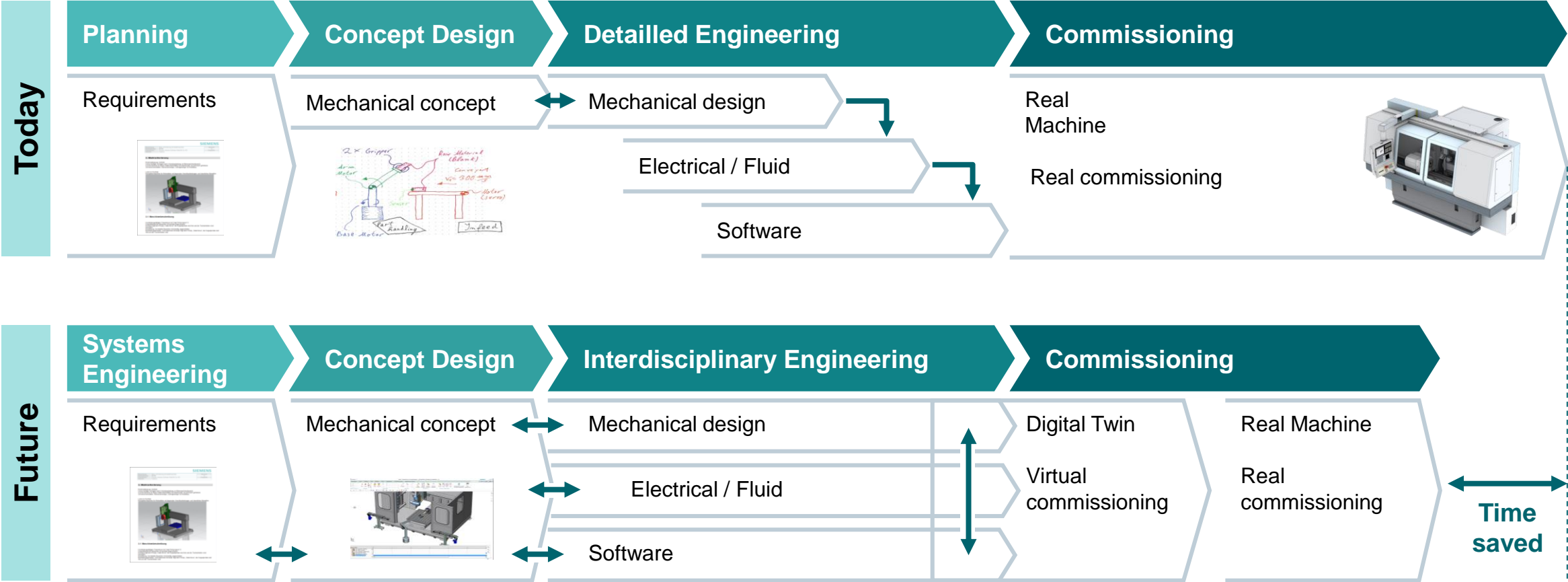


Simulation & Virtual Commissioning

application throughout the lifecycle



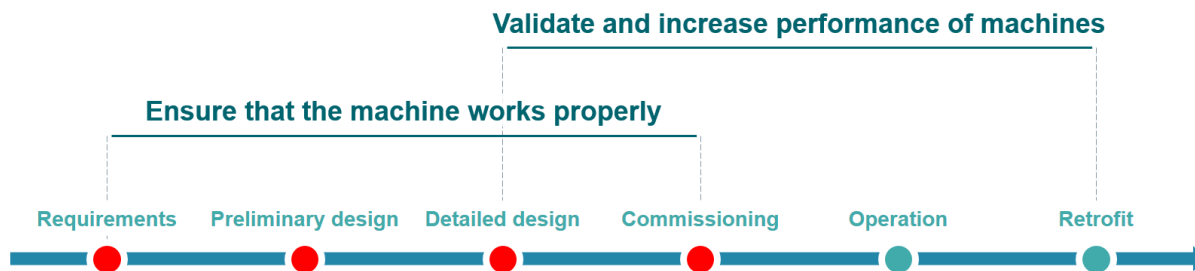
Integrated engineering reduces the time from the first idea to the machine realization



Production Machine Simulation

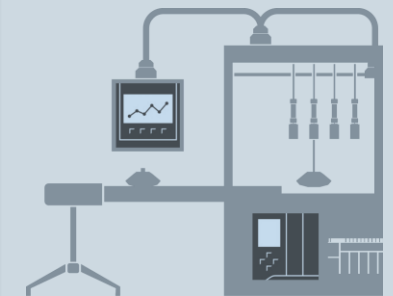
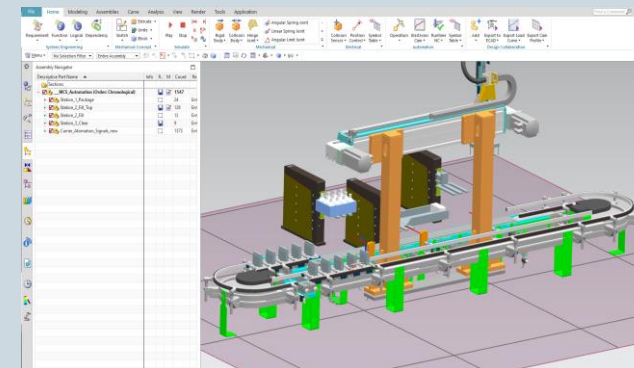
Validate Machine Design and Kinematic - Optimize Engineering

- How does the machine work ? What is the sequence of operations ?
- Is there a risk of collisions ?
- Where should I place a sensor ?
- How should my cam profile look like ?
- What happens if I change the mechanical design of the machine ?



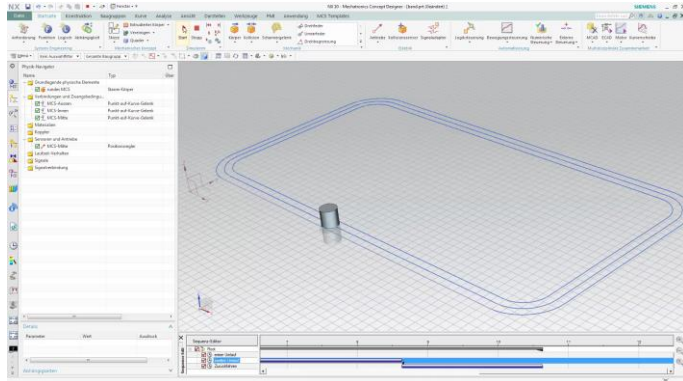
Mechatronic Concept Designer

- Define and Apply Mechatronics throughout the development process
- Collaborate between mechanical, electrical and automation departments
- Standardization expedites current and future machine design
- Optimize machine design and performance (sequence, traveling path, speed of motors, position of sensors...)
- Connect directly with PLC Hardware or PLC Simulation (PLCSIM Adv.)

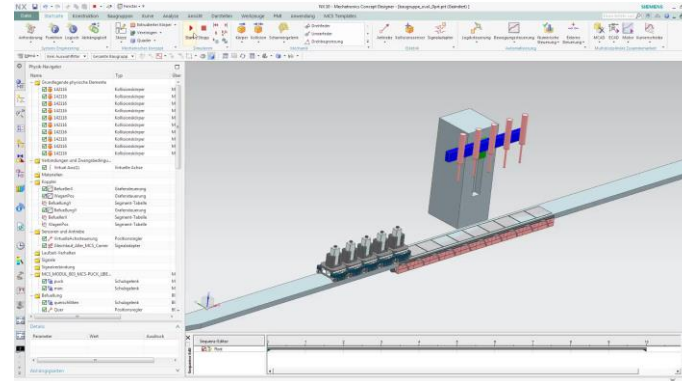


Granularity of the simulation during the concept phase

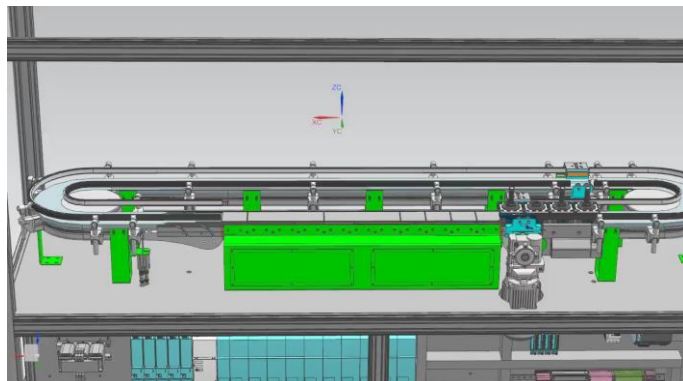
Simple process



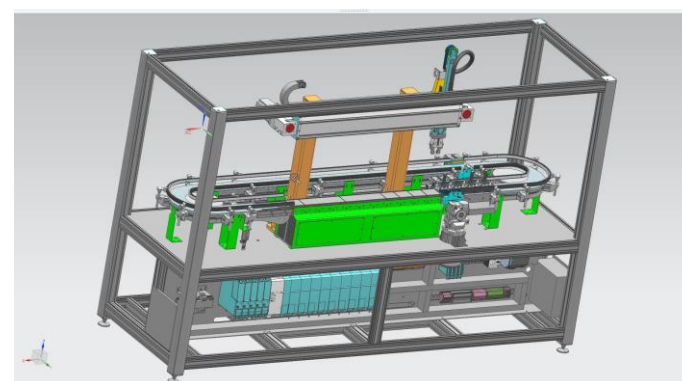
Detailed process



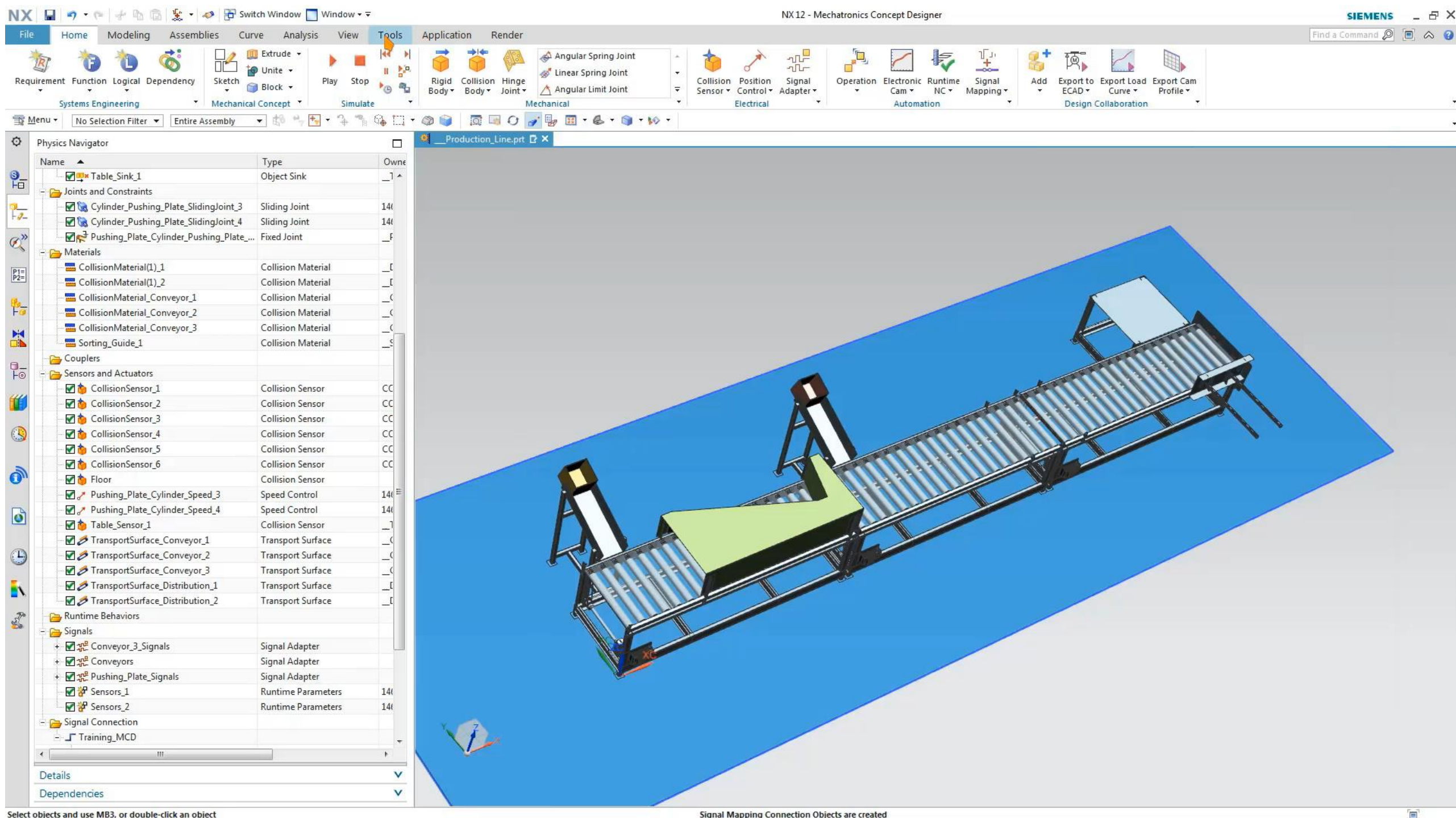
Refined process



Complex process



- Mechatronic Simulation in the concept phase
- Validation of the concept idea
- Present and communicate a concept between the teams and to customers
- Data source for all the future multidisciplinary developments



Thank You!



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