



FEDERAZIONE NAZIONALE IMPRESE
ELETTROTECNICHE ED ELETTRONICHE



Simulation in Machine Design

Nicolò Nobili

Siemens

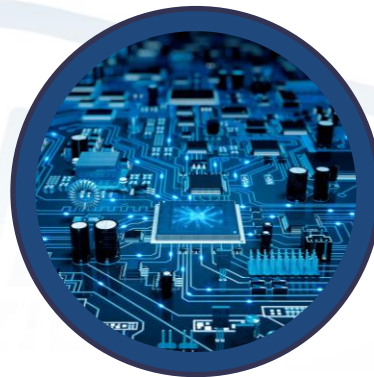
Sustainability



Individualized production



Digitalization



Changes in labor market

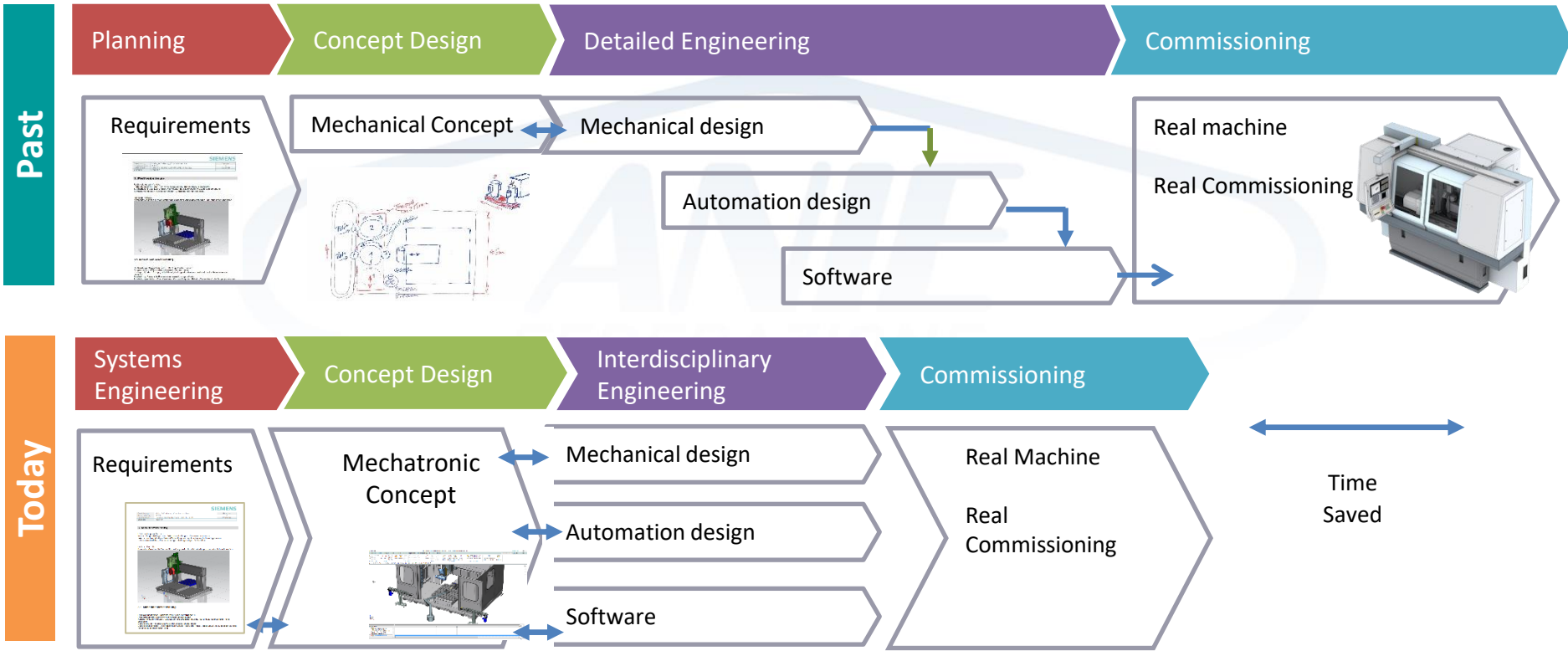


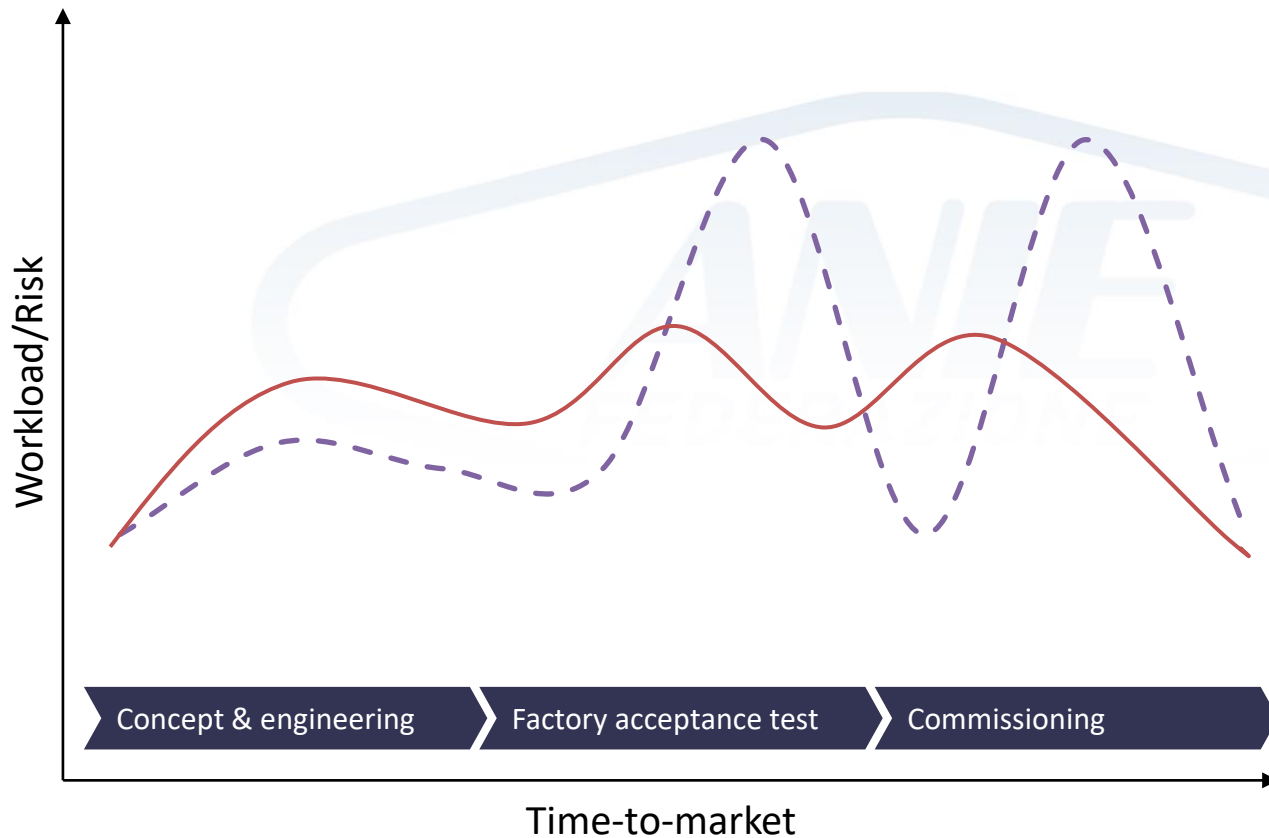
On top of that, **Globalization** continues to change how markets and customers behave, how we produce and how we work and live.

”

It is not the strongest of the species that survives, nor the most intelligent that survives. **It is the one that is the most adaptable to change.**

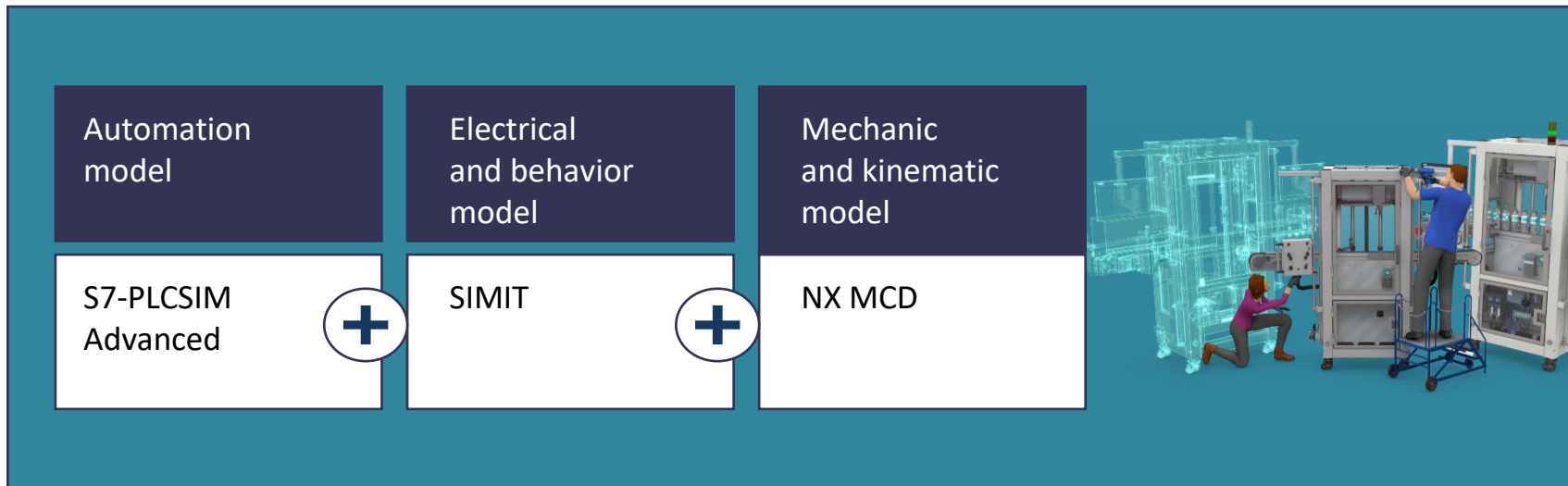
Charles Darwin





Simulation for automation

is an important lever to minimize risk and keep project timeline and budget.



Safe and efficient training with a digital twin



Better collaboration between departments



Earlier error identification



More efficiency in engineering

Assembly Navigator

- Descriptive Part Name
- Sections
- asm_DigiDemo (Order: C)
 - KRC4_Compact_SRL_sk
 - 02191-05000-201-0_sld
 - 02191-05000-200-0_sld
 - 02191-10000-00-1_slda
 - 02191-06000-00-0_slda
 - 02191-04000-00-0_slda
 - 02191-02000-00-0_slda
 - 02191-02000-00-0_Trar
 - 03018-00050-00-0_slda
 - 01982-6101-00-0_sldas
 - Lightstack
 - 01982-1000-00-0_sldas

Discovery Center: asm_DigiDemo.prt

WinCC Unified

DigiMachine

Power: Off

Stored Circles

Stored Rectangles

Placement

Picker: Cam T

Storage

Feeder: Cle

Overview

Elapsed time: 95 sec(s) - Actual Time Scaling: 0.800

1 Notification

Project navigation

Project Simulation

- DigiMachine2.0
 - Project manager
 - Couplings
 - PLCSIM Advanced
 - Distribution
 - PLC1500 - CabinetFront
 - SRL_DT
 - Charts
 - 00_SimulationControl
 - 10_HW_Overview
 - 11_ET200SP_Overview
 - 12_ET200AL_Overview
 - Groups
 - 00_Placement
 - 01_Transport
 - Carrier_Cam
 - IO
 - ToPosBeltConveyor1X
 - ToPosBeltConveyor2X
 - ToPosBeltConveyor3X
 - 02_Storage
 - 03_Assembly
 - 04_Utility
 - 05_Safety
 - =1+CC001-82A50
 - =1+CC001-82A60
 - =1+CC002-83A50
 - =1+CC002-83A51
 - =1+CC002-83A52
 - =1+CC002-84A60.1
 - =1+CC002-84A60.2
 - =1+CC002-84A60.3
 - =1+CC002-84A60.4
 - =1+CC002-84A60
 - =1+CC002-84A61
 - =1+CC002-84A61.1
 - =1+CC002-84A61.2
 - =1+CC002-84A61.3
 - =1+CC002-84A61.4
 - =1+CC002-84A61
 - =1+CC002-84A62
 - GlobalSafety/Reset
 - 06_MachineControl
 - 10_MachineCabinet
 - Monitoring
 - Scripting

00_SimulationControl

Safety

Safety Door

- Safety door front lower switch GoTo
- Safety door front upper switch GoTo
- Safety door backside upper switch GoTo
- Safety door frontside safety switch GoTo
- Safety door backside safety switch GoTo

Robot

Emergency Stop

0 STO_ToPosBeltConveyor1X

Placement GoTo

Vacuum Sensor Tray Handler

Assembly GoTo

Vacuum Sensor Roboter

Roboter Box light barrier 1

PLC SIM S7-PLCSIM Advanced V3.0 Upd2 Control Panel

Online Access

PLCSIM PLCSIM Virtual Eth. Adapter

TCP/IP communication with <Local>

Virtual Time Scaling

0.01 Off 100

Start Virtual S7-1500 PLC

MRES

2 Active PLC Instance(s):

- SIMIT_PLCSIM1500 - / 10.201.1.51
- SIMIT_SRL_DT / 192.168.1.1

Vacuum Sensor Roboter

Roboter Box light barrier 1

00_SimulationControl

General

Runtime Manager Port 50000

Virtual SIMATIC Memory Card

Show Notifications

Function Manual

Exit

