



Project „Flexible Assembly Processes for the Car of the Third Millennium (MyCar)“

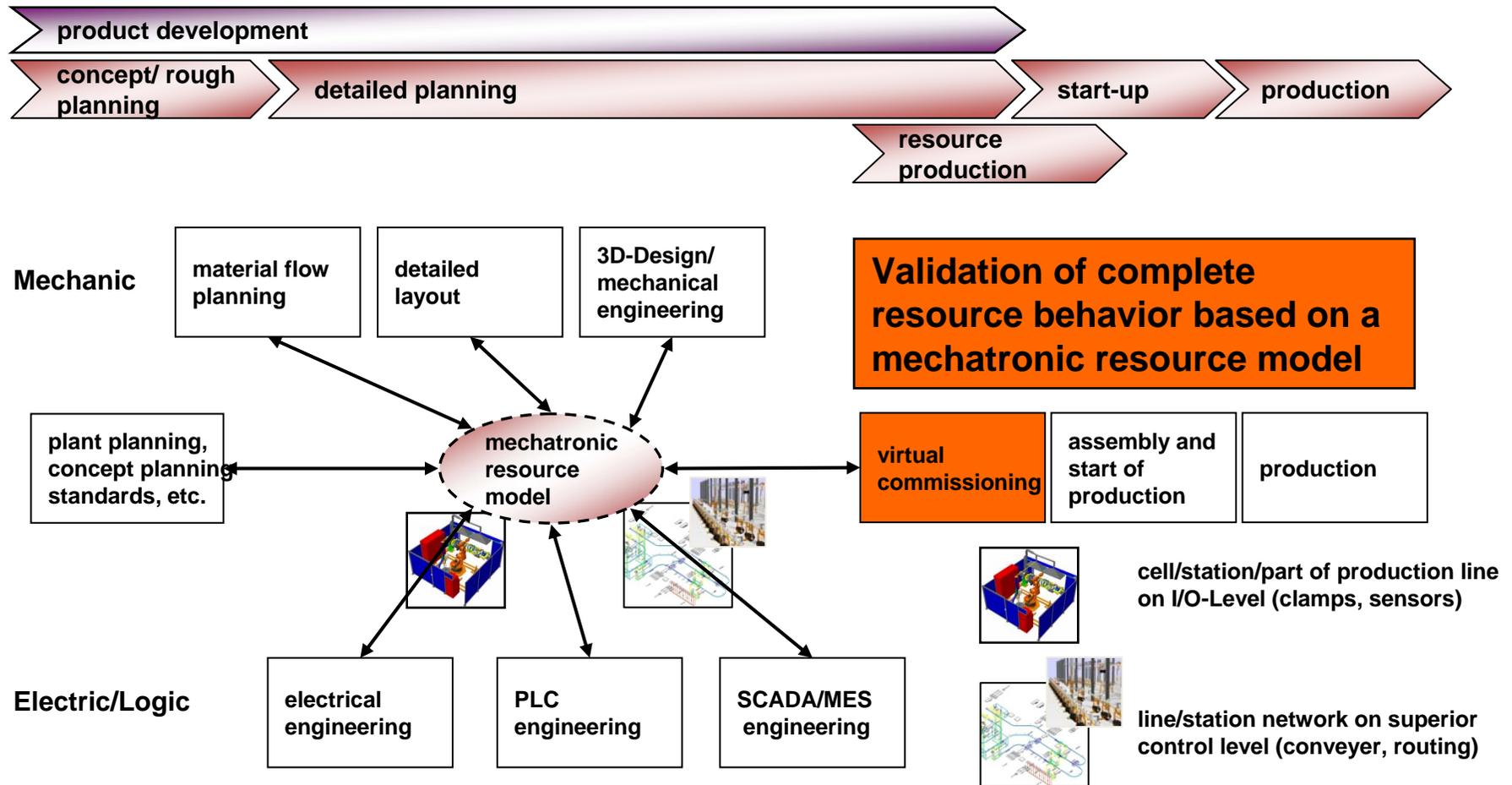
Methodology Description (High Level)

Virtual Commissioning Methodology, Consulting & Services

Methodology Description

- Definition of standard mechatronic components and libraries for mechatronic engineering
- Enabling parallel and synchronized processes for plant engineering
- Integration of new product variants or changes in the virtual model without disturbing the running production
- Verification of PLC engineering in conjunction with the virtual line and cell
- Provisioning of a virtual platform that serves as the basis for the optimization of the line and verification of planned changes in a virtual environment without interrupting existing production
- Description of a generic methodology to perform virtual commissioning of complex lines

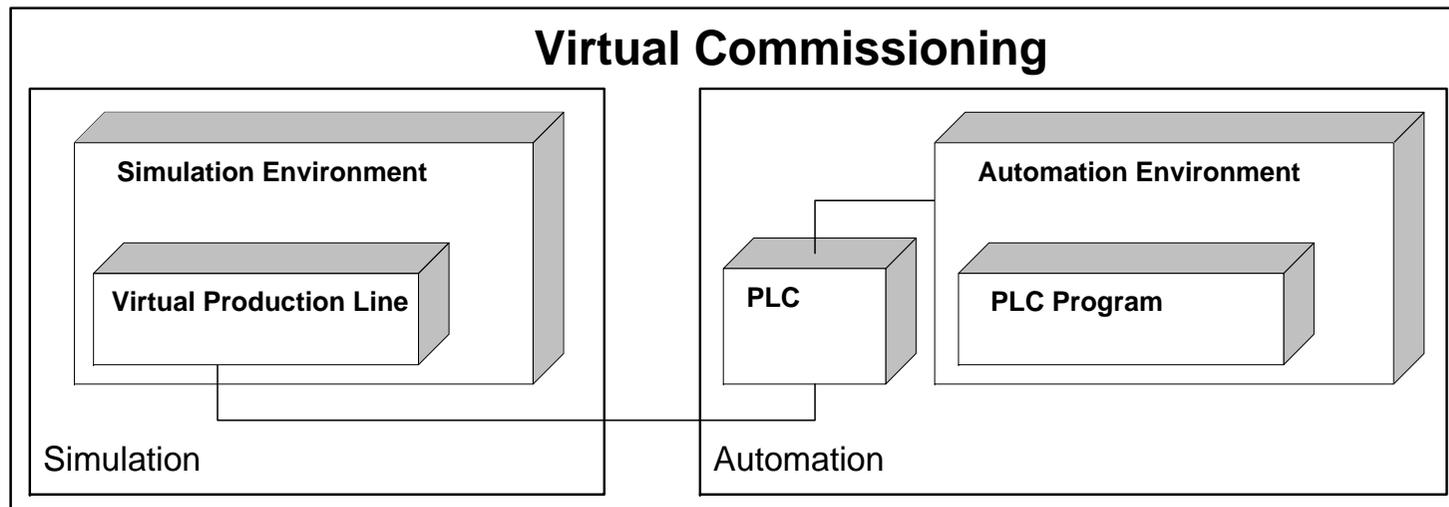
Definition of Virtual Commissioning



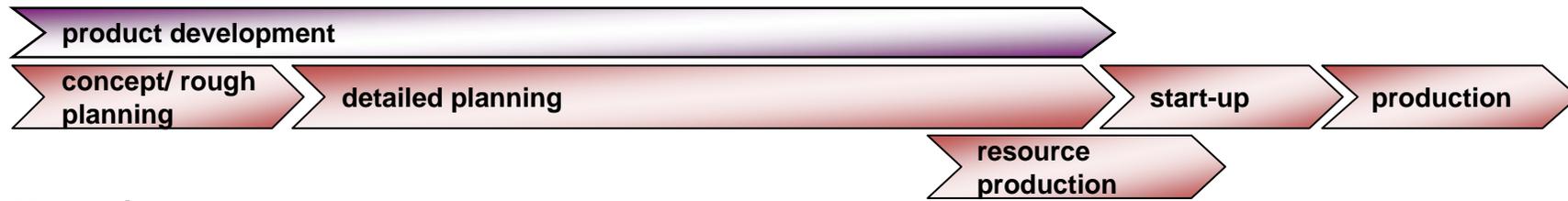
Requirements for Virtual Commissioning

A Virtual Commissioning setup requires at least

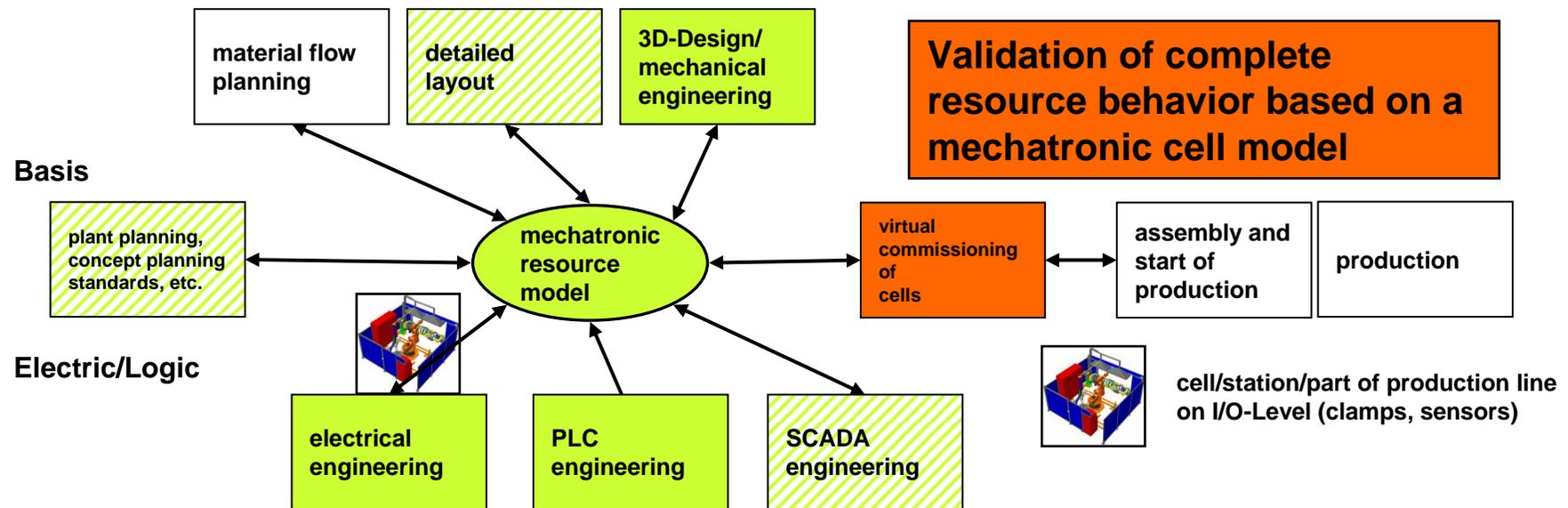
- A Simulation Environment
- An Automation Environment
- A PLC
- An interconnection between the Simulation and the PLC for signal exchange



Concept Virtual Commissioning for Cell Level



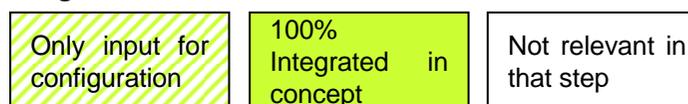
Mechanic



Information transfer (Bottom-Up)

- Detailing of the information (structure, sequences, component, etc.)
- Link to technical information and models

Legend:



Concept Virtual Commissioning for Line Level

- Definition of a virtual production line (layout, behavioural model)
- Description of a tool-independent workflow
- Engineering of a simulation model and its corresponding control logic
- Automation engineering and virtual commissioning of line-level model
- Combined virtual commissioning of line-level and cell-level
- Technological invention: coupled real-time VC on cell and line level, based on standard software tools and OPC Interface

