



# Process simulate

## Features *continued*

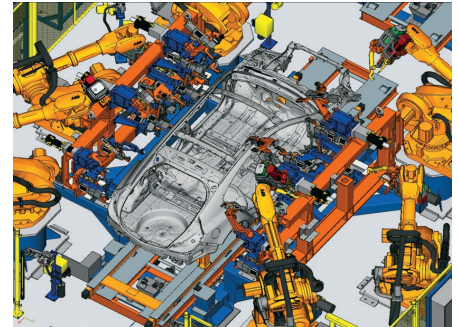
- Assembly and robotic path planning
- Resource modeling (3D and kinematics)
- Line and workstations design
- Documentation tools
- Natively supported JT™ visualization standard
- Human tasks simulation
  - Reach envelopes
  - Vision window
  - Postures
  - Auto grasp wizard
  - Ergonomics analysis
- Discrete and continuous process simulation
  - Projection of welds on parts
  - Gun search wizard
  - Project arc seam
  - Torch alignment
  - Weld gun validation
  - Design/modify weld gun and tooling geometry and kinematics
  - Robot reach test
  - Robot smart placement
  - Robotic simulation editing
- Robotics process simulation
  - Event-driven simulation
  - Detailed robot programming
  - Controller-specific command recognition
  - Boolean and non-Boolean signals exchange
  - Robot logic editing and validation
- Virtual commissioning
  - Model control resources (sensors and controlled devices)
  - Signal definition based on real HW
  - Simulate internal resource logic (Boolean and analog)
  - Connect virtual model with real PLC code
  - Integrated simulation using actual PLC code and HW over OPC interface

## Integrated environment for manufacturing process validation

Process Simulate enables the verification of different segments of the manufacturing process. Assembly processes, human operations, welding, continuous processes such as laser welding and gluing and other robotic processes can be simulated in the same environment, allowing for simulation of virtual production zones. The simulation emulates realistic human behavior, robotic controllers and PLC logic.

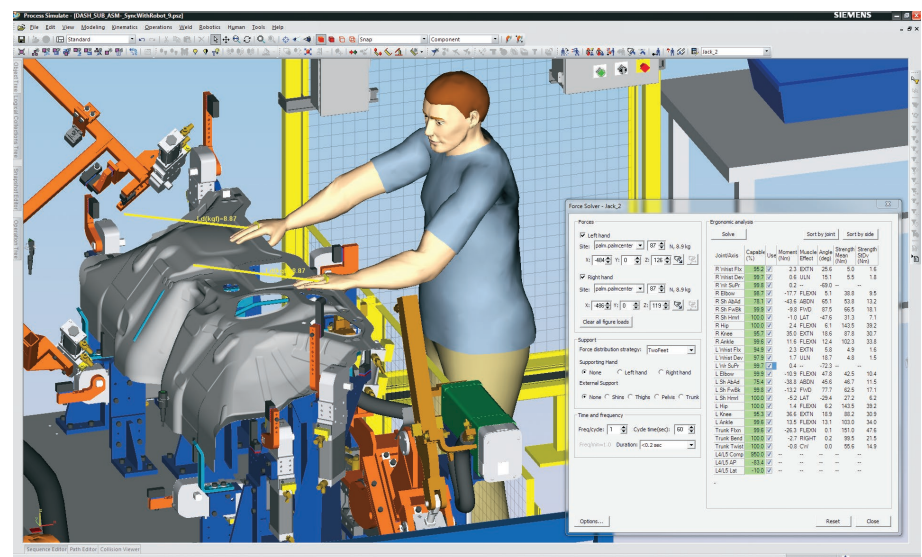
## Process Simulate Assembly

Process Simulate Assembly allows users to verify the feasibility of an assembly process. It enables manufacturing engineers to determine the most efficient assembly sequence, catering for collision clearance and identifying the shortest cycle time. Process Simulate Assembly provides the capability to select the most suitable tool for the process by searching a classified tool library, performing virtual reach tests and collision analysis and simulating the full assembly process of the product and the tool together.



## Process Simulate Human

Process Simulate Human allows users to verify the design of a workstation, ensuring the product parts can be reached, assembled and maintained. Process Simulate Human provides powerful capabilities to analyze and optimize the ergonomics of the human operation, thus ensuring an ergonomically safe process according to industry standards. Using the human simulation tools, the user can perform realistic simulation of the human tasks and optimize process cycle times according to industry standard ergonomics libraries.



### Process Simulate Spot Weld

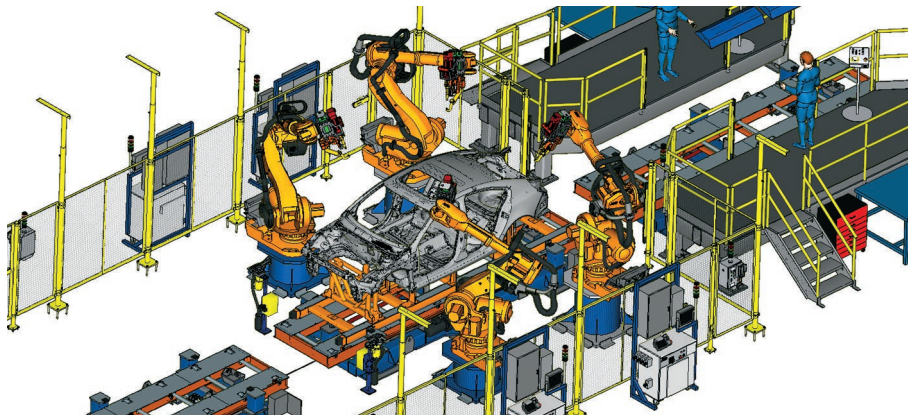
Process Simulate Spot Weld enables users to design and validate spot welding processes in a 3D graphics and simulation environment from early planning phase up to detailed engineering stages and offline programming. Process Simulate Spot Weld facilitates manufacturing engineering tasks such as distribution of weld points to stations catering for geometric and cycle time constraints and selection of best weld gun from a classified library to re-use existing guns and tools.

### Process Simulate Robotics

Process Simulate Robotics enables users to design and simulate highly complex robotics manufacturing zones. Synchronizing multi-robot zones – a highly complicated task – is simplified with Process Simulate tools such as cyclic event evaluator and emulated specific robot controller. The robotics simulation tools provide the capability of designing a collision-free path for all the robots and optimize their cycle times.

### Process Simulate Commissioning

Process Simulate Commissioning enables users to streamline the existing manufacturing and engineering data from conceptual design down to the shop floor. Process Simulate Commissioning supplies a common integration platform for the various disciplines participating in real commissioning of a production zone/cell (mechanical and electrical). Using Process Simulate Commissioning, users can simulate real PLC code with the actual hardware using OPC and the actual robot programs, thus enabling the most realistic virtual commissioning environment.



Siemens Digital Industries Software  
[siemens.com/software](https://www.siemens.com/software)

Americas +1 314 264 8499  
Europe +44 (0) 1276 413200  
Asia-Pacific +852 2230 3333