

The Siemens logo is displayed in a bold, teal, sans-serif font.

Ingenuity for life

RobotExpert

Plug 'n' Play software for robotics simulation and offline programming

Benefits

- Virtual optimization of robotics processes
- Higher throughput due to optimized cycle times
- Standardized robot programming
- Reduced downtime when introducing a change or a new product
- Avoidance of human hazards and costly damage to equipment during new program introduction

Features

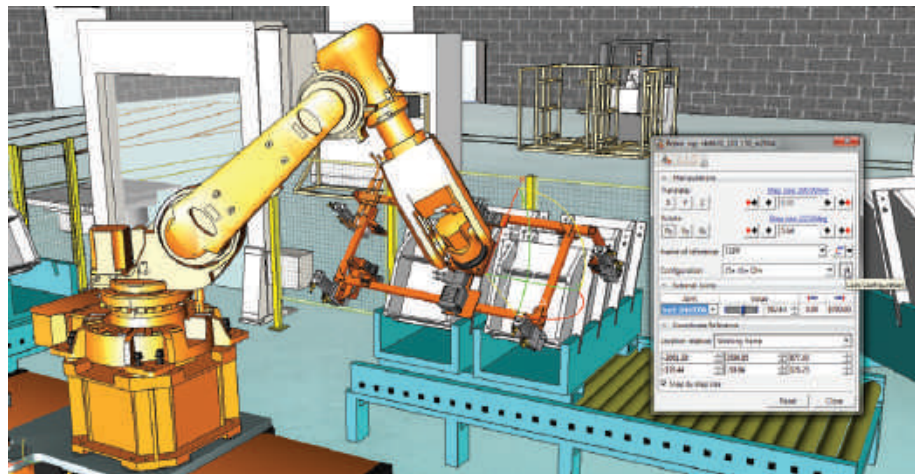
- 3D models and kinematics for robots, tools, and assistors
- Support for robots from a wide array of vendors
- Collision detection
- Gantt chart representation for operation sequencing
- Offline robot programming
- Accurate cycle time calculations using realistic robot simulation (RRS)
- Intuitive, native Windows software environment
- Ability to upload robot programs from the shop floor

Summary

The use of robots continues to expand rapidly in a variety of industries. More and more tasks that were previously carried out by people with specialized tools and assists are now done by robots. With its Tecnomatix® software offering, Siemens Digital Industries Software is a proven leader in the robotics simulation and offline programming marketplace, and now offers RobotExpert – an easy-to-deploy software system supporting unique industry applications, such as material handling, arc welding, polishing, gluing, deburring and more.

RobotExpert software enables the design, simulation, optimization and offline programming of robotic applications to maximize the speed, flexibility and operation of these automated systems. Featuring an intuitive 3D environment, the software combines the simplicity to optimize robotic paths and improve cycle times with the power to simulate virtual mockups of complete manufacturing cells and systems.

As a manufacturer, you need to maximize your return on capital investment. Yet the complexity of options available from today's robot vendors means the planning, design and implementation of your system is critical for getting the highest return. RobotExpert is an independent software solution that supports robots from multiple vendors and is based on more than two decades of experience delivering robotic solutions for some of the most complex applications.



A material handling operation, programmed and simulated with RobotExpert.

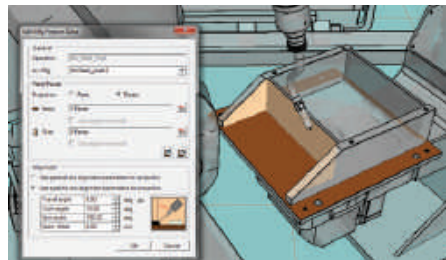
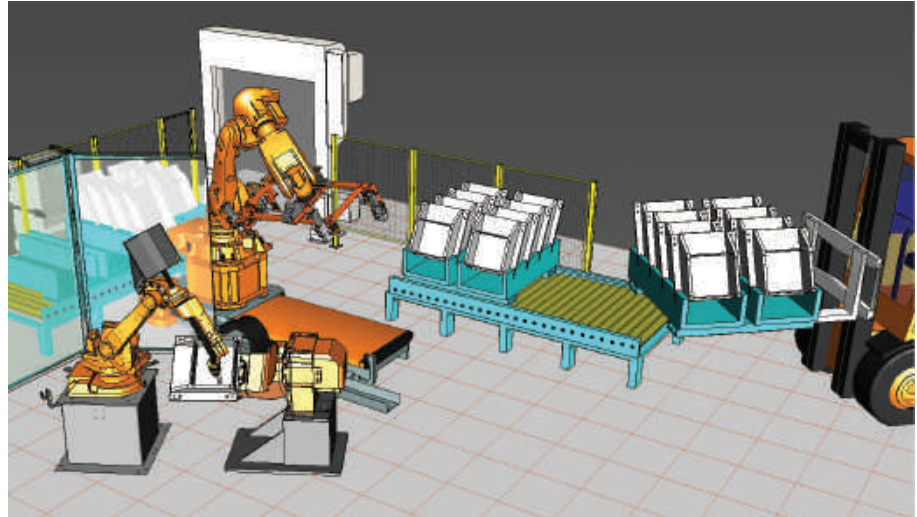
RobotExpert

RobotExpert can generate the most suitable combination of equipment to meet specific manufacturing requests, supporting faster product introduction as well as early evaluation of manufacturing times, costs and project investments.

Workcell layout design and modeling

RobotExpert includes a comprehensive library of robots and facilitates easy 3D modeling of additional robots and automation, with unique capabilities that support modeling of complex kinematics devices.

Utilizing the JT™ data format, which is an International Organization for Standardization standard (ISO 14306:2012), RobotExpert provides smooth 3D data integration with any system that can create JT models. You can create 3D models from scratch using RobotExpert or import 3D models from other computer-aided design (CAD) tools or formats. The import is supported by a rich variety of CAD translators, including conversion from NX™ software, Solid Edge® software, SolidWorks, CATIA and Creo, as well as native formats such as IGES, STEP and Parasolid.



Arc weld programming and simulation with RobotExpert.

Motion simulation for robots and mechanisms

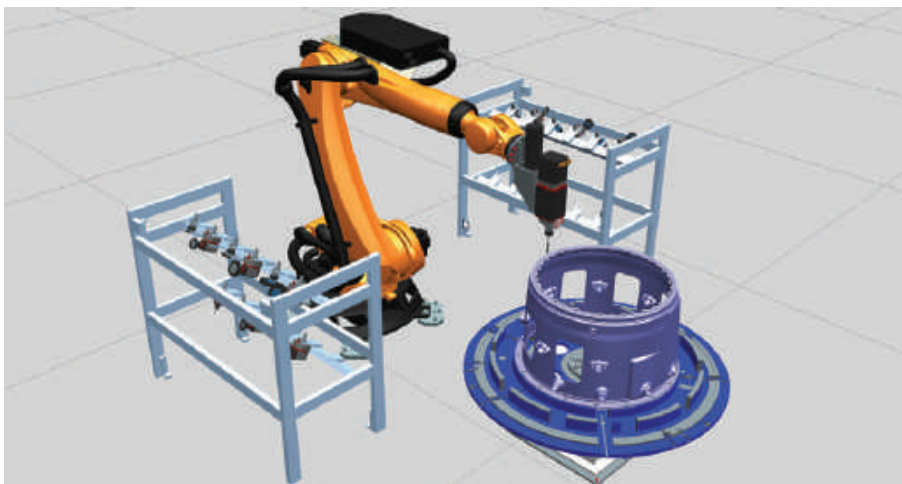
RobotExpert generates configurable motion paths based on the robot controller features. It allows calculation of

cycle times, analysis of real-time performance, and saves testing time.

When used in combination with realistic robot simulation (RRS) based on the actual robot controller motion planning software (provided by the robot vendor), RobotExpert delivers extremely accurate cycle time calculations.

RobotExpert helps you dynamically detect collisions during robot simulation and motion, improving shop floor worker safety and preventing costly damage to equipment. Using the collision detection mechanism you can closely analyze whether there is a penetration, contact collision or near miss.

A Gantt chart is used to represent operations and tasks that are performed with production resources such as robots and automation equipment. This capability enables you to visualize and easily optimize the entire workcell cycle via an intuitive graphical user interface.



Deburring programming and simulation with RobotExpert.

Out-of-the-box solution, with high degree of customization

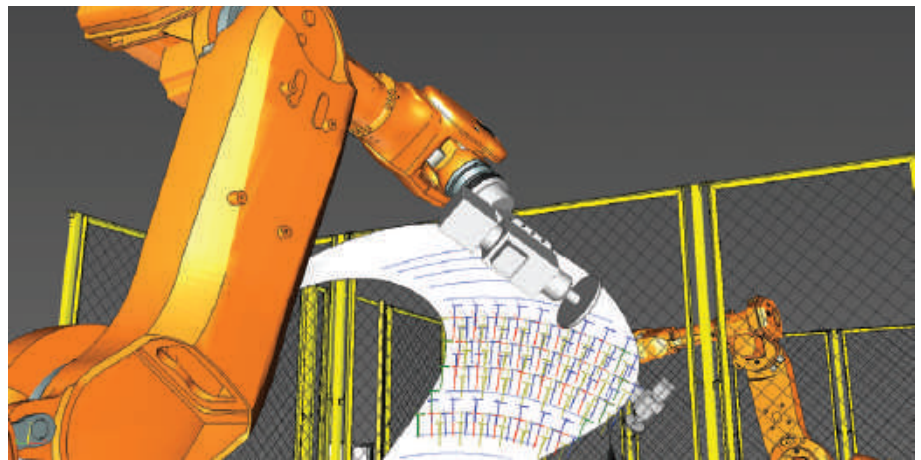
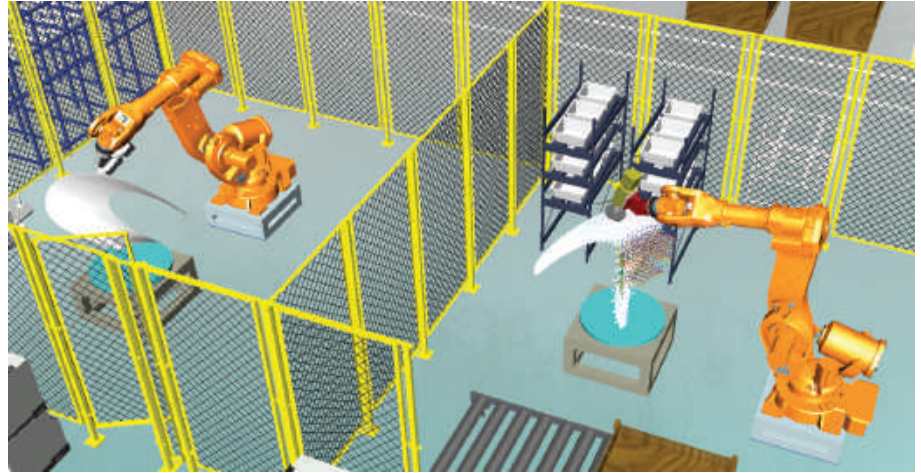
RobotExpert provides an out-of-the-box solution for robotic operation planning, programming and simulation. However, company-specific requirements or standard procedures associated with robot programming can be supported by the RobotExpert software through a very powerful software development kit, based on a state-of-the-art .NET application programming interface. This provides a high degree of possible customization to both the functionality and the look and feel of RobotExpert through the graphical user interface and dialog forms, which can be tailored to specific tasks.

Offline programming

In addition to accurate simulations of robot motion sequences, RobotExpert enables the delivery of programs to the shop floor. The software interfaces with most industrial robots, adjusting the program to the specification of the robot controller. You can add controller-specific information, including motion and process attributes, to the generated robot paths. RobotExpert then generates the program, which can be downloaded to the real robot controller for production execution.

A unique capability of RobotExpert is the ability to upload existing robot programs from the shop floor for re-use and optimization.

You can customize your own offline programming commands in a parametric fashion and maintain commands and macro libraries, thus ensuring program



Blade polishing programming and simulation with RobotExpert.

standardization across the organization. If a special robotics application requires specific syntax through programs, you can easily build this syntax into libraries, which can be re-used whenever needed to avoid extra engineering effort.

Siemens Digital Industries Software
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