

4 steps to optimal results

1 Project Planning

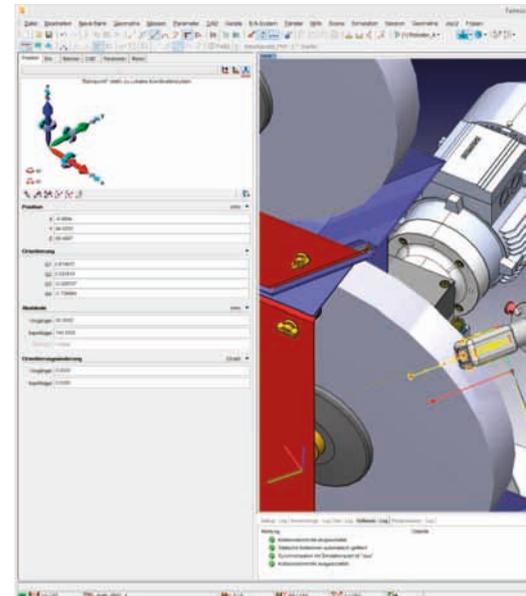
The tasks in automation are diverse and complex. The search for an ideal solution approach is a challenge system integrators and robot users regularly have to face. With the use of Famos robotic in an early project phase, you will obtain the necessary competitive advantage.

In a short time, you can create simulations of your applications and check your solutions in the virtual world. All fundamental questions can quickly be answered: How many robots will be used? Is there a need for external axes or positioners? What type of robot from which manufacturer suits best for your needs? Are all areas of the workpiece accessible? Is it better to choose a different clamping position or

to change the clamping position during the process? Famos offers you early and reliable answers to these and other questions.

You can create presentation material as digital images or videos from your simulation and thus impart greater weight to your offers. You can also use the free viewer to forward the complete simulation to your customers.

In addition to the retrieval of information and of the first 3D images from your system, you also get a good starting point for your next steps. Once created, the simulation can be passed on in the project phase and be used as a starting point for the actual programming of the real system.



2 Programming

You can already start with the programming even when your system is still under construction. Because Famos robotic programming uses CAD data and a virtual cell, you can start very

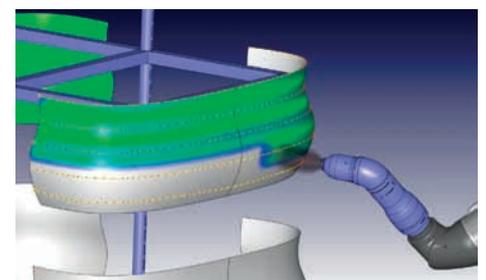
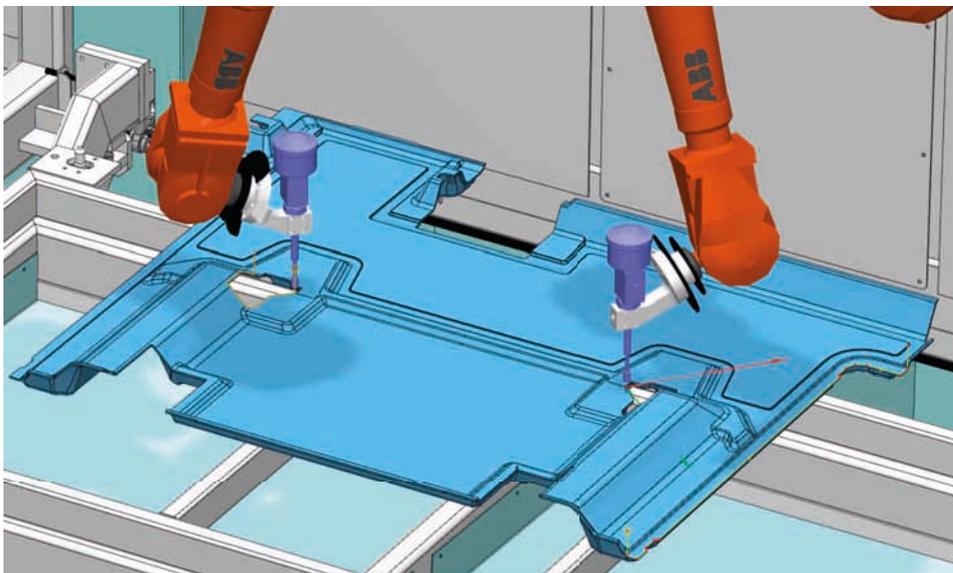
early with your work. You can use the results from the project phase to create machining paths and trajectories for your robots.

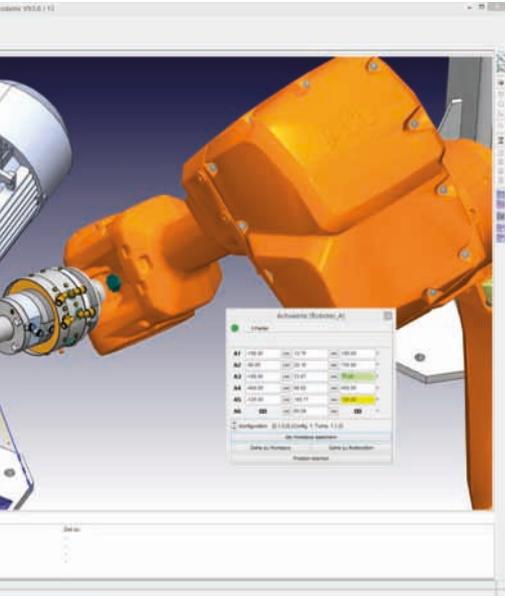
Thanks to the practice-oriented programming features, it is pos-

sible to create programs in a very short time. The geometry of the programming is derived from the CAD-data of the workpiece. With features like position mirroring and a smooth tool orientation alignment, you can refine the program application-related and process-related.

Parameters like velocities, switching points for outputs and movement interpolation are being defined through point features. Numerous practical selection tools for point groups support your work.

With Famos, incomprehensible and unnecessarily nested programs belong to the past. The structure of the program can flexibly be adapted to different application areas.





3 Simulation

You can directly check the results of your work in the simulation. It is an integral part of Famos robotic and is being used in all phases (project planning, programming and optimization).

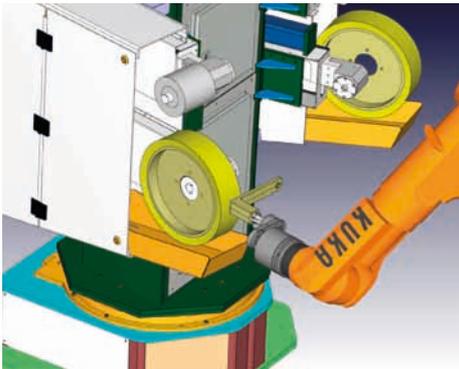
The complete robot library with all obtainable types of robots is available to you. The library is maintained by us; even special kinematic systems can be integrated.

The simulation of robots of different types and manufacturers, several robots at the same time, as well as external axes and positioning devices does not present a problem. Accessibility control, collision control and cycle time analysis provide you with an important information advantage. The visualization of machining processes like painting and coating offers you the ability to evaluate the machining result.

Robots can be locked against each other by logical zones. Famos generates the necessary commands and simulates the robot movements accordingly. Thus, unnecessary delays can be detected early. The signal exchange with other system components

(e.g. frequency converters or clamps) can also be simulated and controlled.

Changes to the robot program are directly visible through the full integration of the simulation and the movement of the robot can immediately be checked for problems in regards to accessibility, collisions or singularities. This is a decisive advantage for the optimization phase.



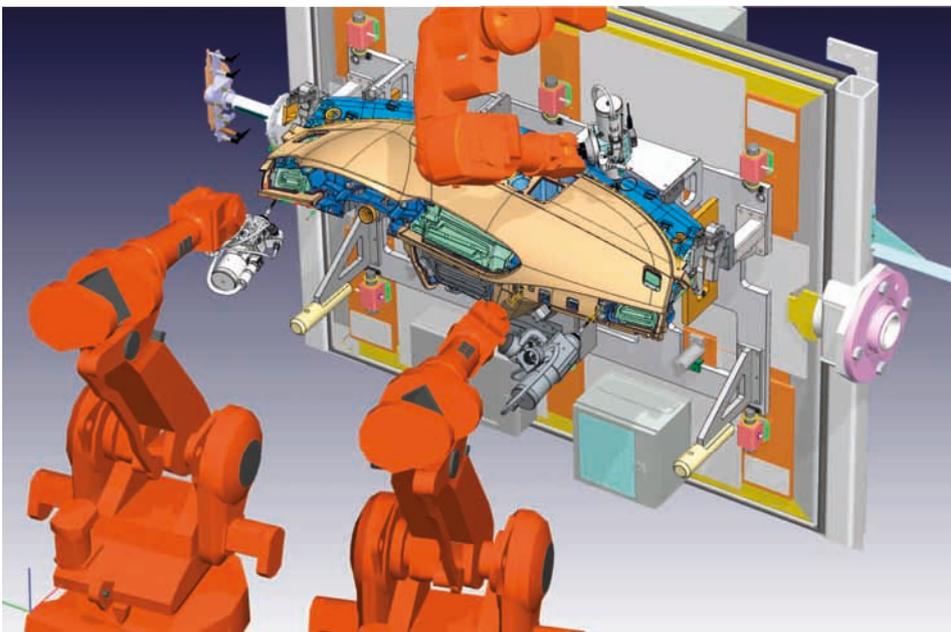
Get your demo version of Famos robotic for your PC and evaluate all its functions for 30 days at no cost. Any questions will be gladly met by our support team

www.famos-robotic.de

In its life cycle, a robot program is frequently modified and adjusted - extensive adjustments at the initial commissioning or small

ones during operation. This can save a lot of time. Famos offers for this application the right tools and active support.

With these numerous opportunities, you can program off-line even small changes to the robot program. In a cycle of rapid and iterative modifications, you come to the optimal result in a short time. Working with Famos does not end with the simulation - but with a finished piece of work in good quality.



4 Optimization



Milling

Milling is one of the top applications of Famos robotic. The fully digital process chain, similar to that in CNC-milling, is only accessible through an offline programming system like Famos robotic. Particularly in the processing of aluminum profiles, Famos shows its advantages. To reach the required quality, exact and minimal adaptations are necessary in the startup phase. Deviations determined in the gauge can be visualized in Famos robotic and appropriate corrections can directly be made in the robot program. Classic teach-in programming with the teach pendant is not possible with these compact systems. With Famos robotic, changes are reproducible, quickly and easily inserted. Later, process-related optimizations are made by the user himself using Famos.

Water Jet Cutting

Also during the programming of water jet applications, Famos shows its strengths. Practical functions for the generation of trajectories accelerate the programming. In this way, trajectories generally can easily be derived from the CAD edges. Functions for standard shapes, such as circles, slotted holes and edges, are also available. In the simulation, the cycle time of the cutting program is examined and, if necessary, optimized. As a result, it is possible to test alternative cutting strategies in the virtual cell without removing the system from production. Special water jet commands are supported. So it is possible, for example, to generate exact position switch points for ABB robots where the speed of the robot doesn't have to be reduced. In systems with multiple robots, the simulation makes work easier in the collision zones and thus helps to reduce the downtime.

Grinding and Deburring

Because of the numerous auxiliary functions for trajectory generation on surfaces, for tool orientation alignment perpendicular to the surface and for plane intersections through components for trajectory generation, Famos robotic is very well-suited for grinding and deburring applications. Moreover, these programs often use a high number of parameters, for example velocities, regrinding behavior, accelerations, contact pressures, angles of attack or tool angles. Famos robotic supports you with its many clear, quick and accurate features. Thus, you reach the desired result in a very short time. Thanks to the operations log, you can track all changes and, if necessary, reverse them.

carat
robotic innovation

carat robotic innovation GmbH
Joseph-von-Fraunhofer-Straße 20
44227 Dortmund
Germany

Telefon +49 (231) 9700-151
Fax +49 (231) 9700-468
info@carat-robotic.de
www.carat-robotic.de