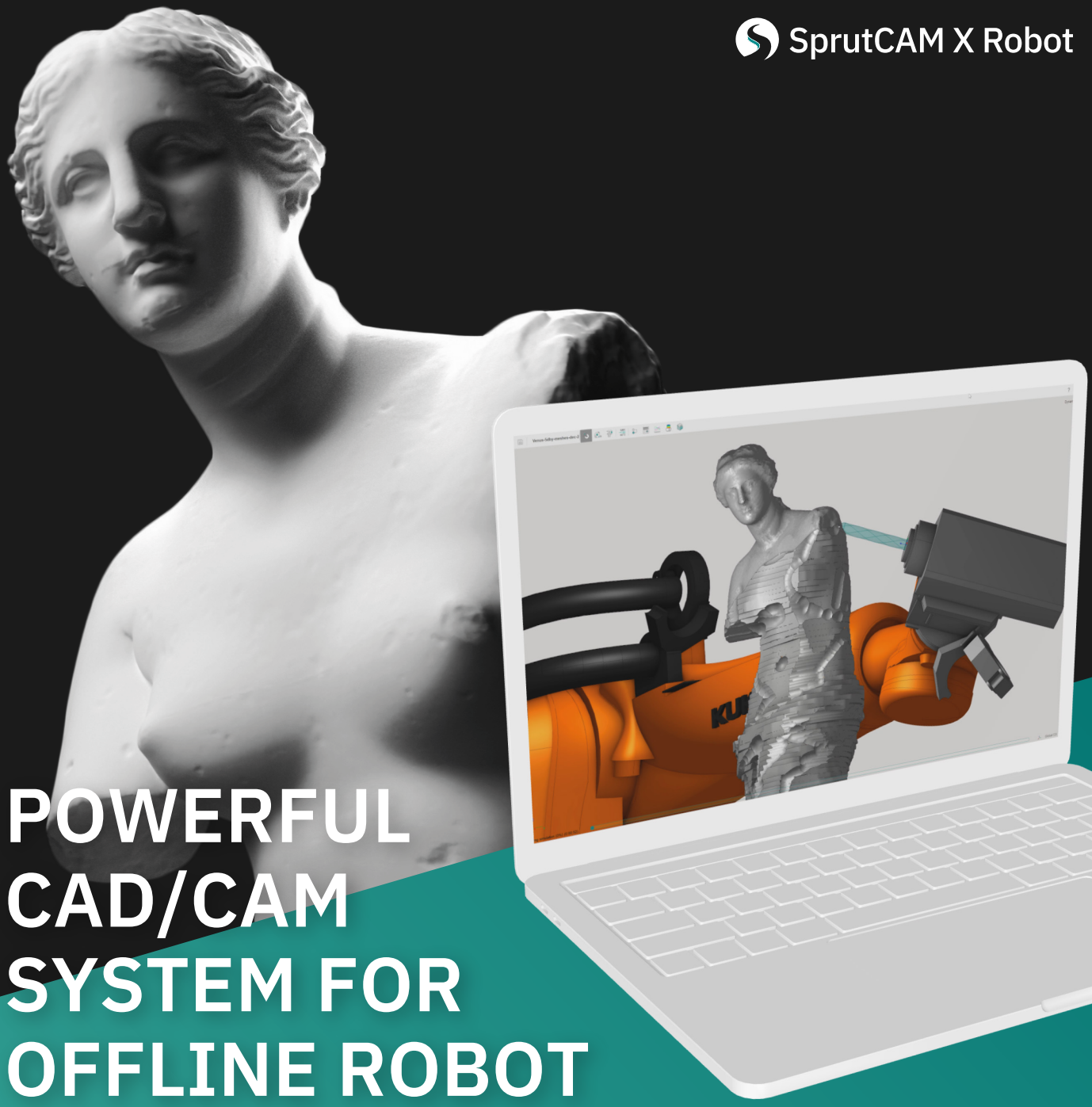
SprutCAM X Robot



POWERFUL CAD/CAM SYSTEM FOR OFFLINE ROBOT PROGRAMMING

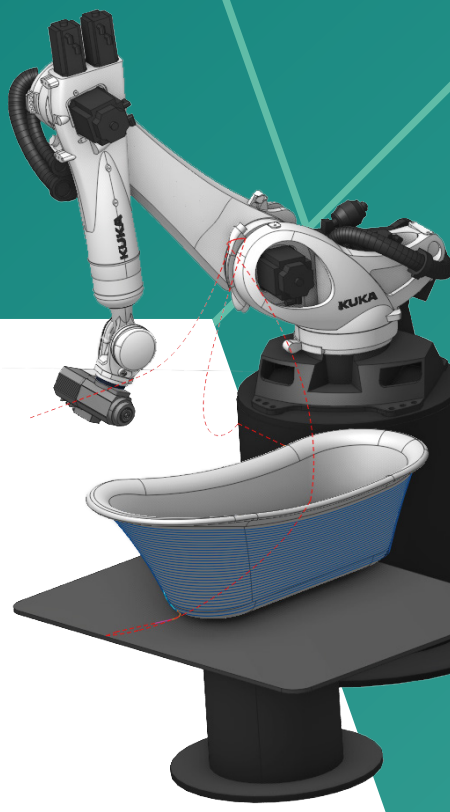
SprutCAM X Robot is a powerful offline robot programming software that allows you to program complex robot applications without disrupting the manufacturing process. Our solution doesn't require you to purchase a separate CAM system or have an onsite robot programming expert.

SprutCAM X Robot supports various brands and configurations of industrial robots, allows the user to work in a single interface for programming and simulation, and output code for use in real world cell application.

For more information on SprutCAM X Robot, please visit www.sprutcam.com

Product Highlights

SprutCAM X Robot seamlessly integrates offline programming, simulation and code generation, delivering quick, error-free industrial robot programs. Some robotic solutions require the purchase of a separate CAM system for full operation. In the case of SprutCAM X Robot, you do not need anything else.



Toolpath calculation for any application

SprutCAM X Robot offers an extensive range of toolpath strategies for milling, cutting, welding, additive, polishing, painting, stone roughing, etc.

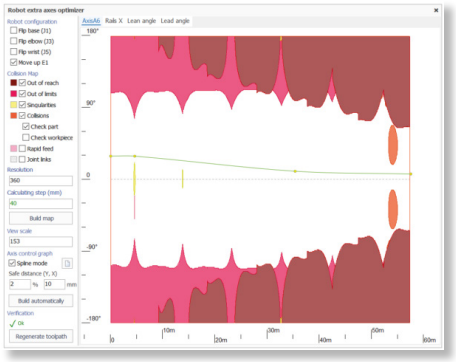
Toolpaths are calculated in native 6-axis codes, and no transformations are required to go from 5 to 6 axes.

SprutCAM X Robot supports simultaneous control of a robot and an unlimited number of linear and rotary positioning axes.

Roughing toolpaths:
parallel, equidistant, high-speed, adaptive roughing, roughing plane, roughing rotary machining, hole machining, and many more.

Finishing toolpaths:
finishing waterline, plane, scallop (3D constant step-over), morph, rotary machining, 5D surfacing. Contouring toolpaths: 2D, 3D, and 5D contouring.

Special toolpaths:
stone roughing, welding, heat treatment, sculpture milling.



Optimization for singularity and collision free movements

Singularity, calibration, collisions, reach limitations, and motion granularity are uniquely complex to robotic systems and can make programming particularly cumbersome. SprutCAM X Robot is pleased to offer a convenient tool for solving such difficulties - the Robot Axes Map.

Axes available in robot axis map:
A6 (6th axis), rails, turn table, lead and lean angles.

What is shown on the map:
Out of reach, out of limits, singularities, collisions. Map also shows the toolpath with rapid and work feeds.

Automated:
Just push “Build automatically”.

Precise control:
Edit any point of the toolpath with simulation preview in real time.

Simulation

SprutCAM X Robot allows manufacturers and integrators to create an accurate real-world cell with equipment and production components in a virtual environment, as well as simulate all robot functions on the screen.

The quality of simulation and detailing of digital twins in SprutCAM X Robot is second to none.

Full robotic cell simulation:
Robot, tables, rails, end effector, fences, fixtures, tool magazine, etc.

Material removal, additive, painting:
Dedicated simulation modes for material removal, additive and painting for result control.

Post-processing

A wide range of certified post-processors for most makes and models of robots guarantee error-free code. SprutCAM X supports the largest selection of industrial robot brands, including ABB, FANUC, KUKA, YASKAWA, KAWASAKI, STAUBLI, etc.

MachineMaker

SprutCAM X Robot allows manufacturers and integrators to create an accurate real-world cell with equipment and production components in a virtual environment, as well as simulate all robot functions on the screen.

Interactivity:
Drag the elements within the cell with the mouse. You can link several elements into one.

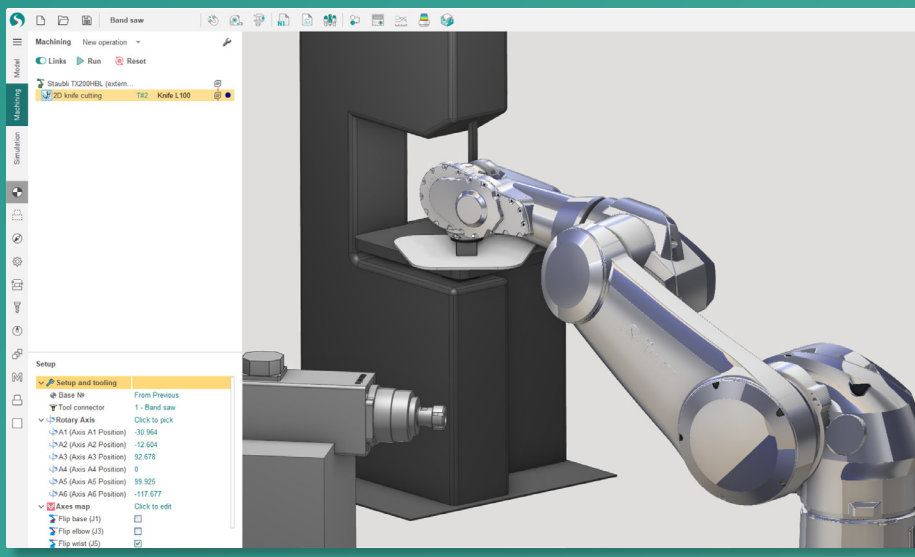
Tool calibration (TCP):
We developed a special smartphone application for precise TCP calibration. It uses two spikes method and transfers data automatically to MachineMaker and SprutCAM X Robot. The app is available in AppStore and Google Play.

Download on the App Store

GET IT ON Google Play

SprutCAM X Interactive Platform

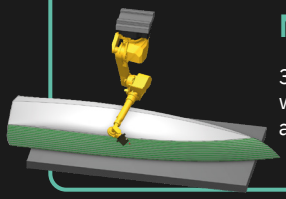
All SprutCAM X products are based on a proprietary interactive platform that immerses the user in a natural production environment through a lot of innovative technological features and provides unique user experience.



- One system for both worlds: Robots or CNC machines - it doesn't matter
- Machine-Aware programming: SprutCAM X uses a digital twin of your Robot, CNC machine, part setup, and cutting tool assembly
- Stock-Aware Toolpath: system dynamically optimizes toolpaths based on the real-time state of the stock, eliminating air cuts and minimizing repositioning for optimized cycle times
- With drag-and-drop you can rotate or move any component of Robot's digital twin for setup and job planning
- Machining area, depth, number of passes, toolpath and other operation parameters can be adjusted using interactive methods
- Support of kinematics of any complexity
- Collision-free rapid positioning between toolpath cutting cycles
- Programming, simulation, optimization in a single interface
- G-code simulation and transformation to other formats
- Parametric CAD
- Crisp and crystal-clear interface with support of 4K display
- The platform does not contain third-party CAD/CAM modules and algorithms, everything is our own development, including CAD data translators
- Increased security: Incognito mode disables any data transmission to the Internet

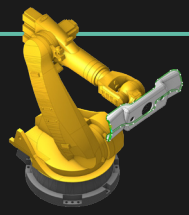
Applications

SprutCAM X Robot is the ideal offline robot programming and robot simulation software solution for all applications that require CAD/CAM for robots.



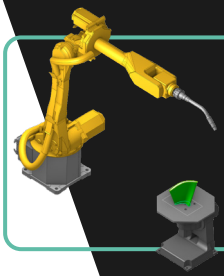
Milling

3—5D milling with redundant axes support



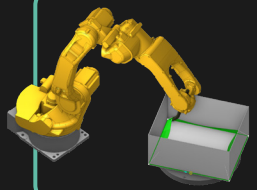
Cutting

Miltiaxis cutting with precise tool vector control



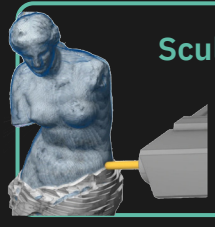
Additive

3—5D cladding with advanced layer thickness control



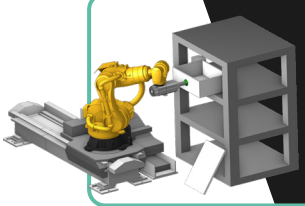
Welding

Simple easy-to-use solution for welding programming



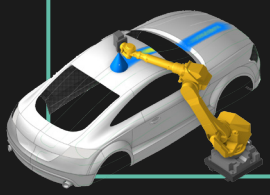
Sculpture/Stone

Stone roughing, disk tool, advanced 5D finishing for mesh models



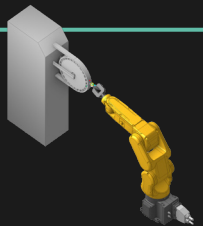
Pick and place

Collision-free automatic pick-and-place



Spray painting

Simulate and test your painting on your PC



Polishing

Tool-to-part and part-to-tool supported

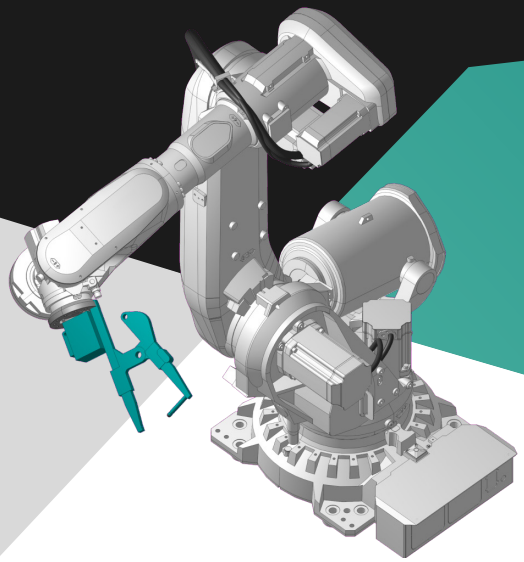
What is OLRP?

Manufacturing facilities around the globe are adopting automation to maximize their productivity and remain competitive. Manufacturing robots have many advantages such as high accuracy and consistent production which result in a much better ROI in comparison to completing processes manually. Robots do have a downside, however, when it comes to programming—most of the time, they must be offline to be updated or programmed, which means production delays and lost revenue.

Offline Programming (OLRP or OLP) software allows manufacturers and integrators to generate robotic code in an offline environment (on a computer) and then upload it to the robots without any downtime.

OLP software works with 3D CAD models to define tasks such as path planning, programming, and engineering.

The OLP environment utilizes a 3D CAD model of the robot work cell. All the programming is completed in the virtual space, which allows for troubleshooting and problem solving before the robot has been installed. Programs can be created, simulated, and edited in the OLP environment, ensuring that the robot will perform as required. Once the robot code is generated it's then uploaded to the robot.



Why SprutCAM X Robot?

- Simplify complex robot programming
- Automatically detect and avoid errors
- Program robot systems with complex configurations
- Validate robotic processes through simulation
- Work with multiple robot brands on a single platform

What we make

Our flagship product, SprutCAM X, is a CAD/CAM system used across countries and industries to program both CNC Machines and Industrial Robots. The uniqueness of the solution lies in a single interface that creates a natural environment for an engineer, that simplifies complex technological tasks. In addition, our extensive network of resellers provides fast technical support from anywhere in the world.

Our customers include small workshops with maybe one or two CNC machines as well as international corporations with fully automated production. All of them deserve to get the best digital tools for a reasonable price.

Who we are

SprutCAM Tech has been developing engineering software since 1987. For more than 35 years, we have gained a great deal of experience and accumulated skills in automated manufacturing. Our headquarters are based in Limassol, where our international team of developers, mathematicians and engineers are inspired by the nature of Cyprus to create new innovations. Today SprutCAM Tech has sixty employees, and more than 100 resellers and thousands of customers all over the world. Our partners include the world's leading industrial equipment manufacturers and CAD vendors.

SprutCAM Tech Ltd.

9, Aiolou and Panagioti, Diomidous 3020, Limassol, Cyprus
+357 95 90 77 93 info@sprutcamtech.io