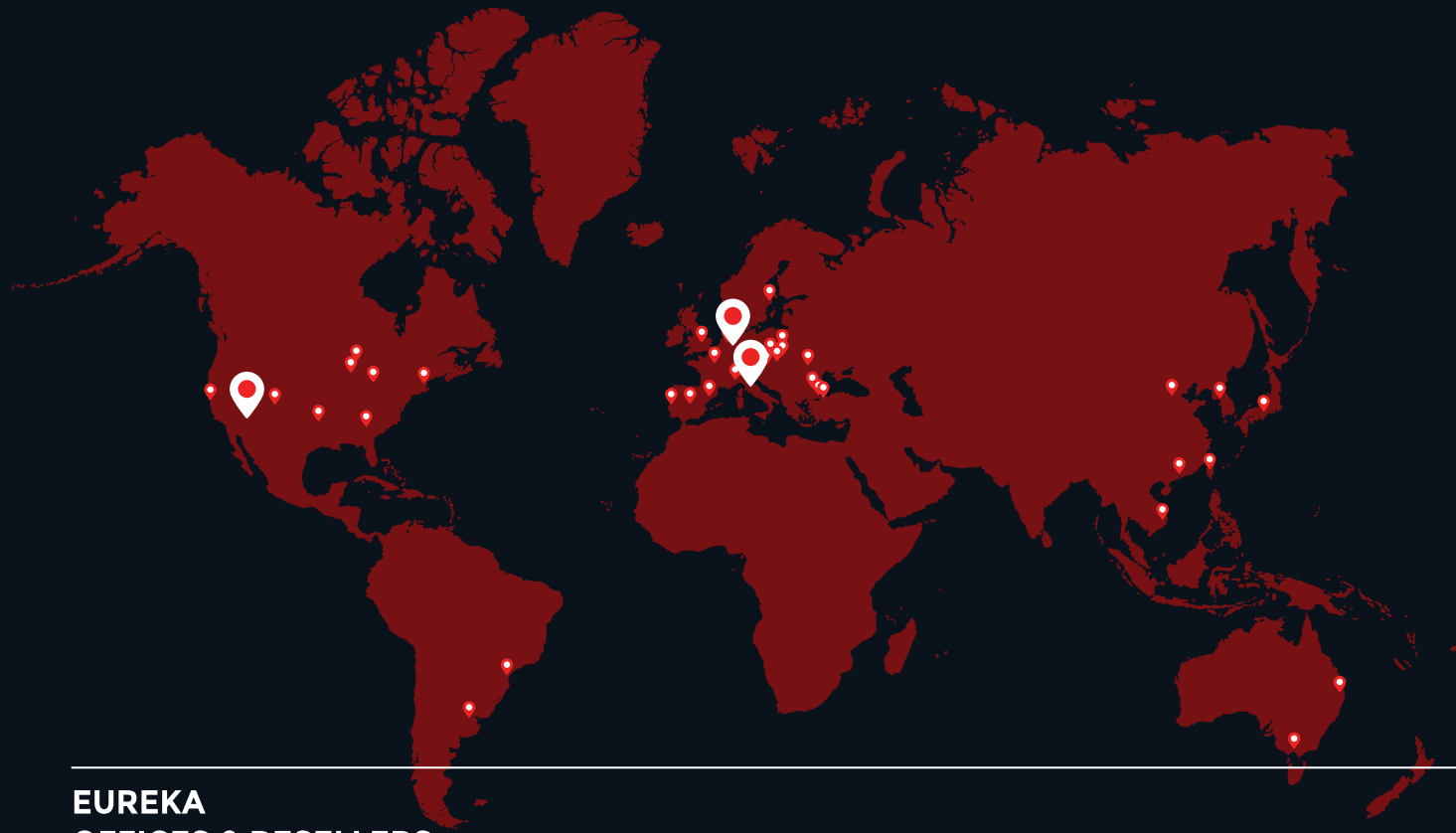


ROBORIS Our Experience at Service

Founded in 2001, **Roboris** develops **Eureka Virtual Machining**, an innovative application for simulating **CNC** Machine Tools and programming **Robots** (through **CAD/CAM**). All Roboris software is designed and

developed internally, allowing for in-depth **customization** at any level. Roboris is headquartered in Ospedaletto (Pisa, Italy), in the heart of western Tuscany.



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Eureka
VIRTUAL MACHINING

design by Conflant

Eureka ROBOT

Simulation and Programming Software for Robots

**SIMULATION OF APT CODE
GENERATED BY A CAM SYSTEM**

**COLLISIONS, SINGULARITIES
AND OUT OF LIMITS DETECTION**

**EXTERNAL AXES MANAGEMENT AND
CONVERSION INTO THE ROBOT LANGUAGE**

Powered by **ROBORIS**

Eureka has been a leader in robot milling applications for many years, making it possible to combine the flexibility of a 6-axis industrial robot and the reliable technology of CNC machining centers for the creation of models and artistic objects.

ROBOT OFF-LINE PROGRAMMING

Eureka converts APT or ISO codes generated by popular CAM systems, enabling the programming of 6+ axis robot cells using a dedicated post-processing module. During this process, Eureka calculates the optimal movements of the robots and external axes by simulating the process in all aspects. The software detects problems like singularities, collisions and out-of-limits, while providing powerful, easy-to-use tools to remedy them. Collisions are computed between all moving parts including machined stock. The 64-bit version delivers the necessary resources to quickly process files of unlimited size.

- Realistic 3D simulation of the whole work cell.
- Real-time material removal simulation.
- Collisions, singularities and out-of-limits detection.
- Automatic tool change management.

- Support for huge tool paths with millions of points.
- Interactive editing of trajectories.
- Automatic robot and external axes movements optimization.
- Powerful visual tools for solving collisions, singularities and out-of-limits.
- Machining with disks and blades.
- Machining with the workpiece mounted on the robot and fixed tools.
- Compatibility with all the robots in the market including ABB, Kuka, Fanuc, Motoman, Kawasaki, Staubli, Comau, etc.
- Can be interfaced with the most popular CAD/CAM systems.

Any configuration can be supported.

Any number of external axes (rotary tables, linear rails, etc.), automatic tool changes, multiple spindles, shared motors, fixed tools and robot-mounted parts.

FEATURES

- Supports all robots brands including ABB, Kuka, Fanuc, Motoman, Kawasaki, Staubli, Nachi, Otc, Reiss, Comau, etc.
- Anthropomorphic and non-anthropomorphic robots.
- Supports any CAM systems including Catia, Nx, Creo/Pro-Manufacturing, CamWorks, Visi, Edgecam, Alphacam, Solidcam, Radmax/Radtube, Mastercam, Surfcam, ZW3D, Worknc, Tebis, FeatureCam, Powermill, Esprit, Cimatron, Gibbscam, Hypermill, Sum3D, Sprutcam, Go2Cam, RTM, TopSolid.
- Highly customizable menus and toolbars through the use of scripts or plugins.
- Built-in robot cell editor.
- Flexible layout and easy wizards.
- Entire plant simulation.
- Multiple robots or robots and CNC machines working tog ether.
- Synchronization commands.
- Background simulation on remote server.
- Configurable output. For example for tool change, cooling and spindle settings, probing and drill/tap cycles.

Fix and optimize

Detect singularities, out-of-limits and any kind of collision, and then fix them in Eureka using powerful, yet easy-to-use tools.

Need to refine your work?

Edit the toolpath directly in Eureka. Apply filters. Interpolate directions.

COMPLEX SURFACES MILLING

Transform your robot into a machining center.

- **Collision detection and material removal**
Real-time material removal simulation provides full-collision detection with machined stock.
- **External axes optimization**
Extend workspace using external axes. Automatically optimize the axes positions.
- **Monitor axes and speed**
Estimate the machining time. Compare machined stock with design model. Save your machined stock.
- **Process any CAM toolpath**
Use your favorite CAM system. No limit on program size. Support millions of points using 64-bit technology.
- **Any configuration is supported**
Automatic tool change, multiple spindles, shared motors, as well as fixed tools and parts on the robot are supported.

DEBURRING, CUTTING AND WELDING

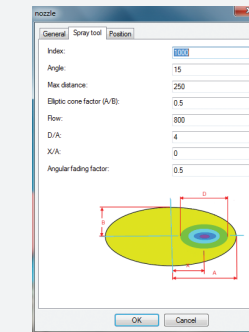
Create complex toolpaths in seconds.

- **Do you have the 3D model?**
Use your favorite CAM system to get a machining toolpath.
- **Pick your toolpath manually in Eureka.**
- **Don't have the 3D model?**
Use a 3D-digitizer to define the toolpath directly on the real part. Use custom macros for fast and easy programming inside Eureka.
- **Are you cutting with blades?**
Automatically exploit all degrees of freedom to keep the blade correctly oriented.

Or, just mix all methods!

The spray pattern can be finely tuned.

Detect singularities, out-of-limits and any kind of collision, and then fix them in Eureka using powerful, yet easy-to-use tools.



PAINTING, THERMAL SPRAYING

Preview of the deposited material.

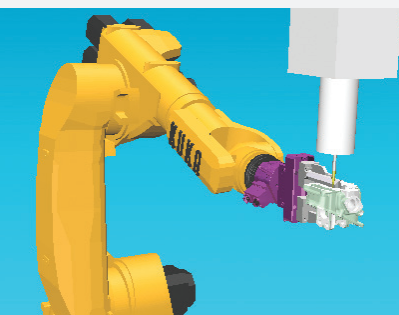
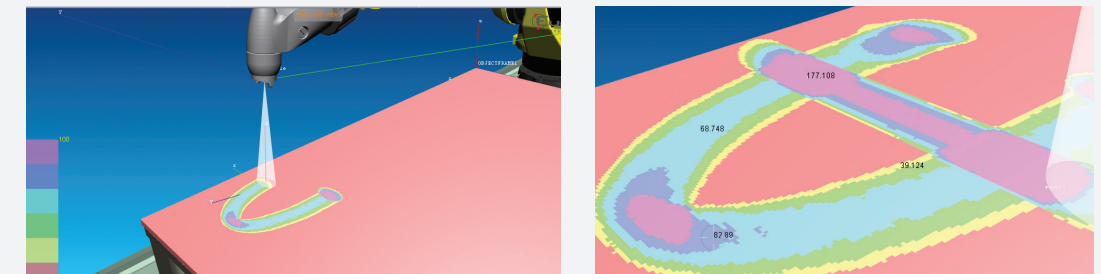
Spraying simulation offers a preview of how the deposited material is distributed on the target surface and can detect any lack of material. For part-surfaces that require extra attention, material can be added or removed by directly modifying the toolpath in Eureka. This prevents the need for multiple real-world tests, which saves both time and money.

The simulated spray pattern can be finely tuned using several parameters and multiple nozzles can be simulated.

Thickness of the deposited material can be calculated and displayed using a configurable color map.

The algorithms consider speed, distance, impact angle, and code or other technology parameters.

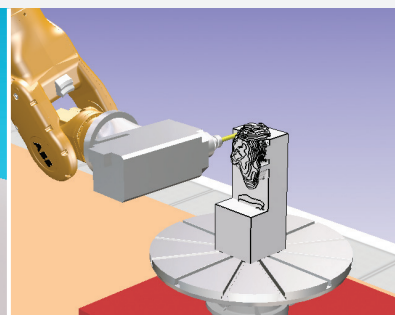
Clicking any point of interest displays the exact thickness at that point.



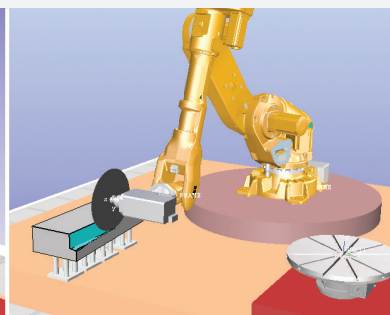
Deburring. The Workpiece can be mounted directly on the Robot Arm



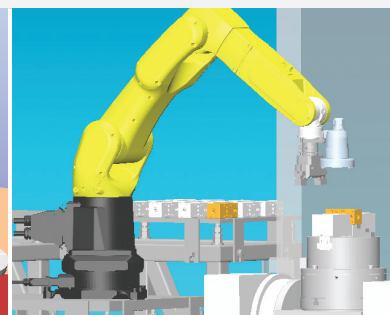
Laser Cut and Material Addition



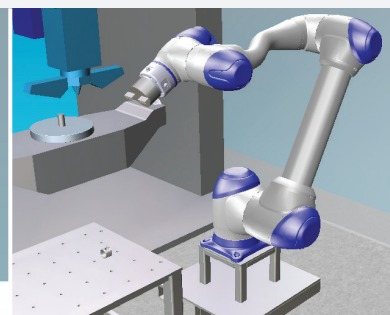
Milling with realistic Material Removal simulation



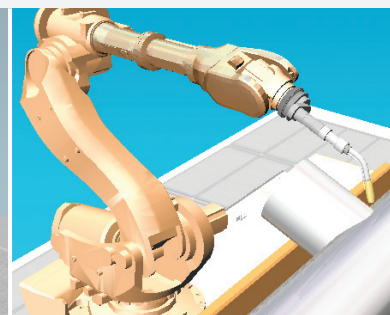
Cutting and Milling with Disc Tools



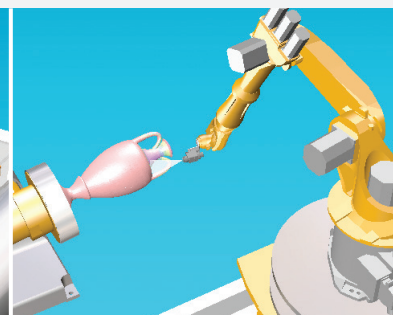
Pick and Place



Any Robot can be simulated



Collision and Over-Travel check on all cell components



Spray Process Simulation, with Analysis of the deposited Material Thickness