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## Hardware-Software Appliance Accelerates NC Work

Cimatron's plug-and-play SuperBox solution is a breakthrough productivity enhancer that serves all CimatronE seats in a facility.

92

### IN THIS ISSUE



- Cooling Channels in Mould Tool Inserts
- Hot Runner Spotlight
- Case Studies
- Sourcing: Software



Turnkey laser systems from Trumpf can be used to repair or functionally enhance parts by means of laser metal deposition.

54



Faro's smallest, lightest 3D laser scanner ever measures complex geometries and documents them in detailed colour images.

110

## Technology

# CAD/CAM Software Specialized for Robot Programming Supports Shop-Floor Integration of Robots

The use of industrial robots to automate such shop-floor tasks as deburring, trimming, polishing and welding, and also for performing rapid prototyping, machining and water-jet cutting with a single part setup, is becoming increasingly common and popular. Robots offer an attractively cost-effective and timesaving solution whose capabilities go way beyond the traditional role of pick-and-place (or load-and-unload) assistant in a work cell. Until recently, however, the lack of availability of good programming solutions for robots was a limitation

axes that compound the challenge. Yet, most robots today are still programmed painstakingly using a teach pendant. Companies using off-line programming solutions typically rely on multiple software solutions plus a simulator to resolve problems.

What is wanted ideally is easy-to-use integrated software for CAD/CAM, simulation and robot code generation. Such a solution would resolve robotic programming challenges easily and would optimize trajectories to ensure smooth robotic movement prior to simulating the part. Manufacturing

their optimal workspace location (user frame) by means of a graphical tool that allows live editing of the location within the robot's workspace. In addition, they can check for challenges to robotic movement and activity and resolve them easily while smoothing the entire trajectory to minimize joint movement. Once the path is verified in the simulator, the programmer can generate specific code for running the robot. External axes (up to three rails and two rotaries for a total of 11 axes) can be controlled and programmed from within the interface.

Robotmaster runs within the Mastercam® CAD/CAM software environment. The powerful CAD functionalities and variety of CAM strategies that are available in Mastercam provide an extensive range of tools for programming robots to perform various tasks once considered tedious, time-consuming and, in some cases, impossible.

The availability of a solution like Robotmaster is changing the perspective of robot integrators. Traditionally, integrators would spend weeks or months programming robot tasks as a service offered to the client. Now, by teaming up with a system

such as Robotmaster, they can focus on selling their hardware solutions (robots, tooling and cell) and worry less about the time-consuming job of programming system components for clients. Robots that had traditionally been used for production runs can now be used for single-run jobs, prototyping and so on.



for manufacturers wanting to adopt robot technology for shop-floor, rather than production-line, tasks. That changed when Jabez Technologies developed **Robotmaster® CAD/CAM software**, now distributed within the European market by **Intercam S.A.**

Programming a 5-axis CNC machine is not easy without a powerful CAD/CAM programming solution, and the same goes for 6-axis robots, which may have additional external

shops already familiar with CAD/CAM for CNC machines could easily integrate robots into their production facility then.

Robotmaster can be that solution. It offers an integrated platform capable of CAD/CAM, simulation and robot code, plus more. Users can easily import, create or modify their CAD model; create trajectories (i.e., tool paths); select the appropriate robot for use, along with tooling; and determine

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