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AC&E announces Composite Inspection offline programming software

Robot offline programming specialist, Applied Computing & Engineering (AC&E) Ltd announces E-Hub non-destructive inspection (NDI) software for the offline programming of robots conducting inspection of large composite components typically used in aerospace manufacture. The E-Hub NDI software system, with full 3D visualization, is ideally suited to composite inspection, enabling engineers to create robot paths automatically and to directly write the robot controller program.

Featuring an easy to use and intuitive interface, E-Hub NDI makes it quicker for engineers to optimise the inspection routine, synchronise robot movements and write the program to the robot controller. In addition, it allows users to check for collisions, reach and valid wrist configurations and to predict cycle time for completion of the task.

Ultrasound, phased array and eddy current inspection of large aerospace composite panels can involve inspecting a large number of points on the part, typically several thousand. Inspection by robot is preferred over Cartesian machines. It is easier to use a robot to inspect large complex-shaped parts where the machine's reach and six-axis arm movement locates the measuring head with greater accuracy on the composite's surface.

Until now, engineers inspecting large composites have relied on using off-line programming systems (OLPs) based on traditional automotive or assembly/packaging type applications which are both complex and cumbersome. E-Hub NDI offers engineers a cost-effective, and higher performance alternative. The OLP software is written specifically for non-destructive inspection process using one or more robots.

Trials of E-Hub NDI by leading aerospace manufacturers have shown significant saving in time and increased inspection accuracy, claims Yash Khandhia, technical director, AC&E. "E-Hub NDI is the latest addition to our growing range of E-Hub application-specific robot OLP software packages. These give engineers the levels of performance they have been looking for but without the 'baggage' of unneeded features and complexity that characterises more generalist robot programming software," he said.

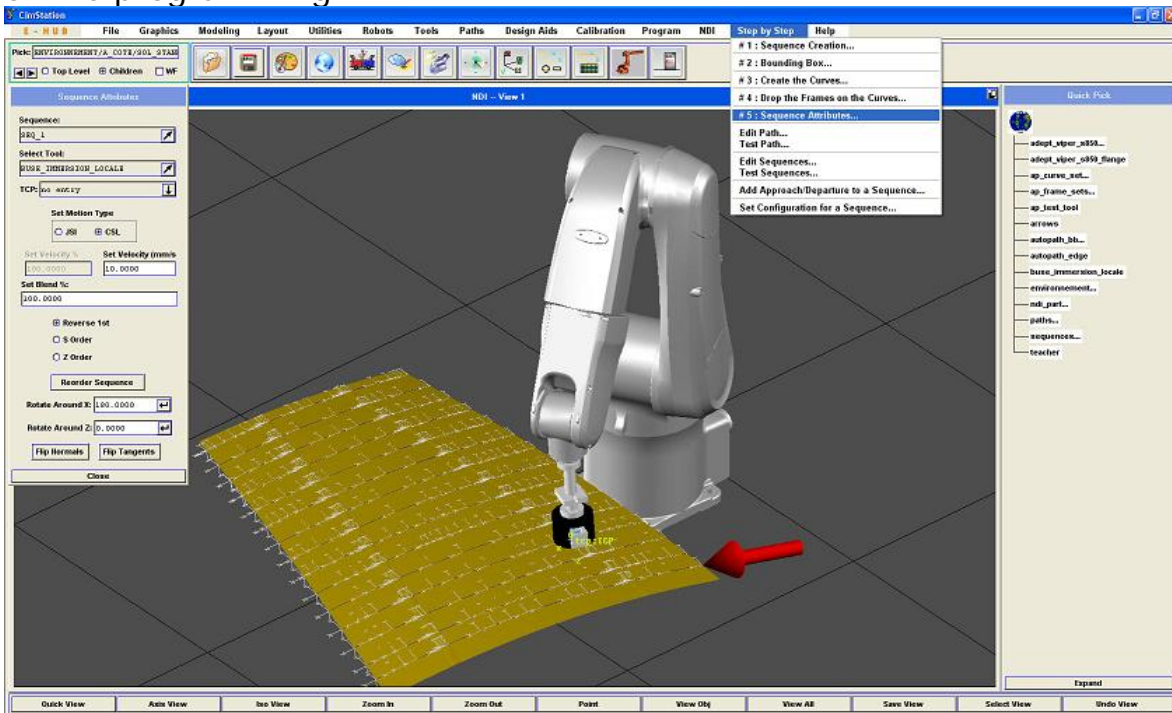
E-Hub – fully integrated robot simulation and programming

The E-Hub approach to OLP is to integrate closely coupled specialist modules, designed to handle specific tasks, within a larger simulation environment. This provides a combined device/machine/robot simulation and programming solution offering superior performance in accuracy and ease-of-use over alternative large and inflexible, generalised factory simulation systems.

E-Hub (Engineering Hub) comprises a suite of modular packages that enable new and experienced users to use simulation and add functionality as their needs, experience and understanding advances.

For more information on E-Hub NDI and the E-Hub approach to offline programming, contact AC&E on +44 (0)1925 830085, e-mail: info@acel.co.uk and AC&E web site: www.acel.co.uk.

Image caption: Creating the composite inspection path with E-Hub NDI offline programming.



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