

# Productivity+™: PC-based probing software for machining centres

## Productivity+ version 1.91.0

Productivity+, Renishaw's PC-based software solution for integrating process control into machining programs, brings further enhancements and capability in the latest version of the stand-alone, Active Editor Pro application.

Building on existing compatibility with multi-axis horizontal and vertical machining centres, Productivity+ Active Editor Pro 1.91.0 introduces support for multi-tasking (mill-turn) machine tools.

Initial support, provided under a 'Technology Evaluation' programme, offers compatibility with the Mazak Integrex i-Series of multi-tasking machine tools. Functionality within the application allows the measurement and inspection of, and reporting on, the condition of milled geometric features and automatic, in-cycle updates to milling tool geometry.

Support for further multi-tasking platforms will follow in subsequent software releases.

Key to the simplicity of Productivity+ has always been the ability to use imported component solid models to generate inspection routines. The application's 'point-and-click' programming methodology allows users to select a geometric feature type from the menu bar, and then pick corresponding feature types from the solid model.

Compatibility with common solid model formats is strengthened by the introduction of support for an extended range of solid model file versions:

- CATIA V5 R22
- NX 8
- SolidWorks 2012
- Wildfire 5
- Creo 1.0
- Inventor 2012

## Key benefits of Productivity+

### In-process measurement

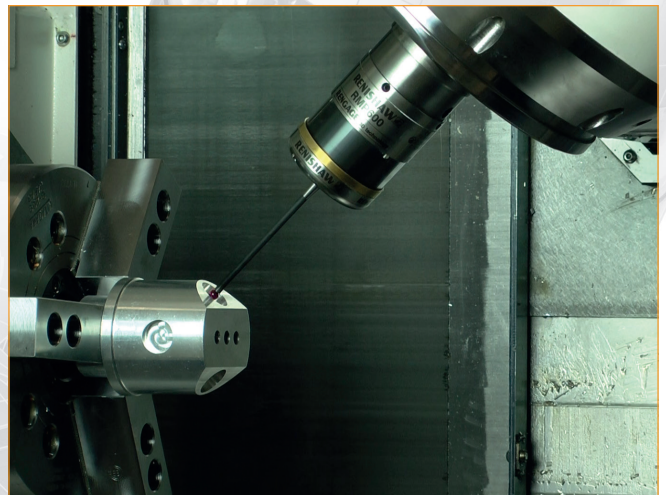
Facilitates the production of a single NC program combining all measurement, inspection and metal cutting elements. Feature geometry is checked automatically, and integrated logic statements allow intelligent decisions to be made on how to proceed based on results obtained.

### Integrated workflow

Solid-model-based program generation increases programming speed and eliminates the need for specialist machine and program code knowledge. Users without solid models can also take advantage of Productivity+ functionality.

### Automatic machine updates

The integrated logic builder allows the use of results data to automatically set work co-ordinates, update tool length and/or diameter, machine variables and rotation updates in-cycle.



Introduction of multi-tasking (mill-turn) machine support

## Innovations in Active Editor Pro 1.91.0

### Multi-tasking machine support

Introduction of support for and compatibility with the Mazak Integrex i-Series of multi-tasking machine tools. Users can measure and inspect milled geometric features, and perform automatic updates of milling tools based on these results.

Optionally, text based results files can be exported and analysed further in external software programs.

### Enhanced CAD (solid) model support

Extension to the supported file versions of common solid model formats – CATIA, NX (Unigraphics), SolidWorks, Wildfire, Creo Elements/Pro (Pro/E) and AutoDesk Inventor – that may be imported and used to generate inspection routines within Productivity+ Active Editor Pro.

## Key features

### Sophisticated part set-ups and operations

Integrated logic builder adds intelligence to machining programs with measurement results being used to determine process flow.

### Point and click programming

Simple-to-use, icon-based software. Individual view windows for solid model, probe program, G-code and probing statement. Program using solid model features, or using Basic Statements where no model exists. Create 'virtual' features from existing measurement data using 'Constructed Features' functionality.

### Multi-axis capability

Support for multi-axis milling machines – including controller specific PLANE, CYCLE800 and G68.2 (Tilted Working Plane) commands – and multi-tasking machine tools (milled features and milling tool updates only).

### CAD/CAM compatibility

Import a variety of CAD model formats. Import G-code, then split/re-combine as necessary around the probe routines.

### Integrate tool setting and probe routines into existing G-code

Determine and update length, radius and/or diameter of cutting tools mid-program for maximum machining accuracy. Select where to add probing and machine or tool updates to existing machining programs.

### Integrated dialogs and wizards

Dialog boxes with step-by-step instructions. Extensive on-line Help plus sample tutorials. Post Processor tool transforms probe routines into machine readable G-code.

### Program simulation

Perform program 'prove-out' before loading to the machine controller to eliminate the risk of damage to machine and probe. Visual identification of current program position. Support of multiple probes during simulation.

### 'Material Condition'

Determine the error in the probing direction between expected and actual values.

### Probe database

Record of available probes including full stylus configuration and carousel location. Select standard Renishaw probes or define individual parameters to create 'custom' probes.

### NC updates

WCS (G54, G55 ...); Rotation; Tool length and diameter; Macro variables.

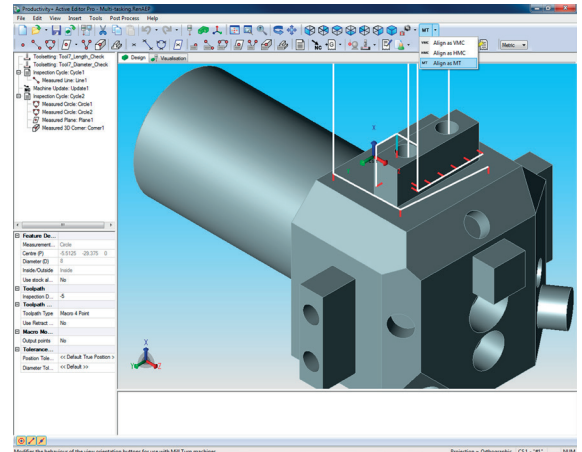
## More information

Details of Renishaw's software solutions for machine tools and a comprehensive list of supported CAD formats can be found at [www.renishaw.com/mtpsoftware](http://www.renishaw.com/mtpsoftware)

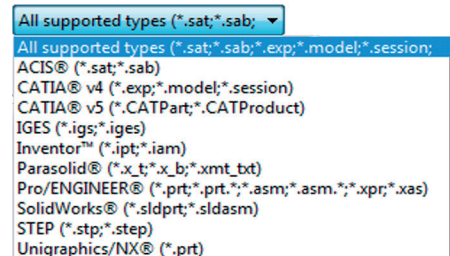
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Generate measurement and inspection routines for multi-tasking machine tools



Compatible with an extensive range of solid model formats and file types