New CMMs for old?

A software upgrade is the answer for many companies where perfectly good CMMs are outdated due to their software. *Machinery* explains

"Most CMM's in use today are mechanically sound, and still capable of producing perfectly good measurement data," says Measurement Solutions' managing director, Iain Caville. "The problem really lies with the software, which has failed miserably to keep up with technological requirements. Now, we can offer CMM users a cost-effective way to start using CAD-based software, backed up by the world's largest independent CMM software company".

At present, users really only have two choices – high level software that is expensive to purchase, or cheap software that is simply not up to the job, with little in the way of support or future development, Mr Caville says. So Metrolog XG, the world's leading CMM retrofit software, decided to package a CMM retrofit for entry-level inspection applications, where all the "bells and whistles" of the market-leading Metrolog XG are simply not required.

"Many users will never need the latest technology, such as laser and scanning probes, but they still need access to a comprehensive CAD-based measuring system," he adds.

Microlog XG CMM software has been developed specifically for smaller CMMs and portable measuring arms, as these machines are generally used on relatively straightforward applications. With a fully integrated CAD engine to enable users to import 3D CAD models with ease, the software has been designed to provide operators with a simplified user interface that retains the most of the measuring power of higher cost, higher level software. But it doesn't have to be used with CAD software models. The software will routinely create a 3D drawing of the part being measured as each feature is being probed. These features can then be selected directly from the graphics screen in the case of constructions, distances and angles, etc.

Microlog XG is the first "plug and play" CMM software that directly interfaces with most makes and types of CMM controller. This means that any manual or CNC machine from manufacturers such as Hexagon, LK, Mitutoyo, Zeiss, Stiefelmayer, Wenzel, Sheffield, plus many others, can be easily upgraded without new hardware.

If necessary, Measurement Solutions can offer a range of controller upgrades that can have a CNC machine up and running again within a few days.

Unlike traditional CMM software where numerous windows are often on display, Microlog XG has just two – a graphic CAD display, and a special Action Panel that is the only window requiring operator interaction. Common measuring functions have been allocated to the function keys on a standard PC keyboard.□

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Bowers Metrology launches

Bowers Metrology has unveiled several product developments. Its CV Instrument arm has launched an advanced digital surface roughness tester. Boasting an easy-to-read LCD backlit display, the cost-effective, portable TR-110 operates in both Ra and Rt parameters, it has a choice of 3 cut-off lengths, and is suitable for use on most materials. It is supplied with Li-ion rechargeable batteries and charger, a Ra roughness test plate and a tough carrying case. Bowers has also launched 'Impact D', a hand-held, universal hardness tester. This unit provides accurate testing at any angle, while its easy-to-read LCD display shows all functions and parameters. Impact D can output data to computers, etc, via its integrated RS-232 output. Another new product, the CV-HB120 Portable Brinell Hardness Tester is designed to make physical impressions that are used to accurately determine the hardness of metal. The tester is capable of a full 3,000 kgf test force via its hydraulic load system, offering completely autonomous operation – no power cables. The cost-effective, lightweight tester can be used in virtually any position. Bowers Metrology's new range of robust snap-gauges is designed to ensure rapid, precise measuring results, covering external measuring applications from 0-150 mm. Readings are displayed through either analogue/digital indicators or transducer probes/read-out systems. And finally, entering its second century, Moore & Wright has recently launched its largest ever product catalogue. In addition to the company's traditional analogue instruments, the new 100-page, 2007 reference includes many cost-effective advanced digital gauges.

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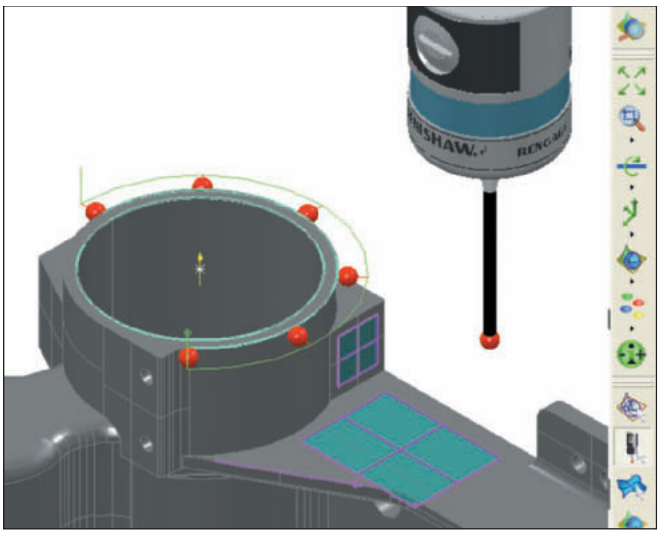
On-machine part verification for complex parts

Renishaw OMV is a verification package for machine tool users, giving 3D verification against a CAD model.

Renishaw OMV allows manufacturers to detect errors earlier and correct them before the parts are removed from the machine tool. The ability to check that the part is reaching specification at various stages of the manufacturing process will save time, reduce the amount of scrapped components and increase confidence.

Native CAD files that can be used with Renishaw OMV include AutoCAD's DXF and DWG formats, Catia, SDRC, Unigraphics and Pro/Engineer, as well as the standard formats of IGES, Parasolid, STEP and STL. The software runs on a wide range of machine tools, including those with Fanuc, Mazak ISO, Pro3, Yasnac, Hitachi Seiko, Mitsubishi, Siemens and Heidenhain controllers.

The software is targeted at manufacturers of complex and large parts, such as mould tools, and combines freeform and geometric features. A straightforward point-and-click approach means that the user can see the inspection path as it is generated and make changes.



Renishaw's non-lobing, high accuracy Rengage probes, such as the MP700 and new OMP400 ultra-compact touch probe, are ideally suited to the 3D inspection routines made possible with Renishaw OMV and offer unrivalled on machine part verification.

Aberlink launches own CAD software

Aberlink has launched its own CAD module that is available to purchasers of all CMMs in its range. It can also be retrofitted to previously delivered Aberlink machines.

Solid models (IGES or STEP format) can be imported simply by clicking a button within the main screen, this allowing the CAD model to be instantly displayed in a superimposed window. The CMM user is able to speedily manipulate the view of the high resolution model by rotating, zooming and repositioning. On-screen buttons rapidly access up to six useful 2D model views or, if preferred, a standard isometric image.

Alignment of the solid model can be achieved either by measuring a geometric feature and linking it to the CAD model by clicking on the relevant characteristic, or solid model alignments can be made by probing six component points, clicking on the CAD model to show an approximate position and then performing a 'best-fit' alignment through the taken points.

Having aligned to the CAD model, any subsequent measurements made on the component's features will appear in the CAD window. Measured points are attached to the solid model by coloured lines that lead to boxes showing all identified errors.

Details about each measured point can be accessed by simply clicking onto the relevant error box. If preferred, results can be graphically represented by lines – their length indicating the magnitude of the deviation of each point from the CAD model.