

HI-TECH TIMES

www.hitechmetrology.com.au


Issue 1

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Hi-Tech Metrology was established on the 1st of April 1992 by managing director Ian Martin to promote and support the Sheffield Measurement range of Coordinate Measuring Machines. Since our incorporation 24 years ago we have grown to become the largest specialist supplier of metrology equipment and related services in Australia and New Zealand.

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As the business grew so too did our reputation for excellence in the provision of service and support to our customers. This led to approaches being made from many leading metrology equipment manufacturers around the globe for Hi-Tech Metrology to take on the distribution and support of their products. So it was then that over a number of years contracts were signed with selected key manufacturers such as Micro-Vu, Romer, Brown & Sharpe, Hexagon Metrology, Hommelwerke, etc. along with software developers Innovmetric and Wilcox Associates to promote and support their products throughout the region. This extensive range of products, services and experience now allows Hi-Tech Metrology to tailor complete solutions for almost any measurement or reverse engineering task.

There have been many success stories over the past 24 years, some of which are enclosed and featured on our website, and as technology continues to evolve there will be many more examples of the innovative way in which metrology and scanning equipment can be used to improve

productivity and ultimately enhance a company's bottom line.

Technologies we supply include Tactile CMM, Video CMM, Portable Arm, Laser Scanning, Photogrammetry, Surface and Form, Laser Tracker, Optical Tracker, White Light Scanning, Motion Tracking and more, all of which can be customised and optimised to suit specific applications.

With our staff of highly skilled individuals offering a combined total of well over 250 years experience in the metrology industry we are able to help customers achieve the best possible outcomes with their measurement needs through the supply of world class equipment, training, customisation, advice and support. With such a wide variety of measurement and reverse engineering equipment being available to suit such a diverse range of industries and applications from precision measurement of bionic ear implants to scanning of massive mining components, Hi-Tech Metrology continues to develop innovative and cost effective solutions to many of the metrology challenges faced by companies today.

Date 31/05/2016 – 02/06/2016

NEWS

CALLAGHAN INNOVATION

 **HEXAGON**
Multi-Sensor CMM

**Productivity gains
by combining Laser,
Optical, Analogue &
Touch probes with
2.5° indexing heads**



**Global Silver series
with industry leading
speed and your choice of
sensors will dramatically
reduce your total
inspection time**

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and put us to the test
with a no obligation
demonstration**

 **HI-TECH**
METROLOGY

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In the 4th quarter of 2015 Wellington based KiwiStar Optics, a business unit of Callaghan Innovation, added to their existing measuring capability with the acquisition of a high accuracy Romer PCMM (Portable Co-ordinate Measuring Machine).

Maintaining high accuracy whilst manufacturing large precision glass lenses for Astronomical Research is an intricate business and there was a need to improve the way and reduce the time in which these larger products were being measured. Opto-mechanical engineer, Luke Gers, stated that the Romer 7530 high accuracy PCMM and PC-DMIS software purchased through Hi-Tech Metrology has proved to be the answer.

SPOTLIGHT: ROMER Absolute

A first in the world of portable measuring arms, the ROMER Absolute features absolute encoders and is the first measuring arm which does not require referencing before measurement. When the arm is turned on, it's ready to go.

With volumetric accuracies starting from $\pm 0.020\text{mm}$ and measuring ranges from 1.2m to 4.5m, there is a Romer Absolute arm to suit every application.

Romer arms are available in sizes from 1.2m up to 4.5m, and come in various accuracy grades (73, 75 and 77 series). The higher accuracy 75 series 3.0m arm was the perfect choice for Callaghan.

Their existing Hexagon Leitz CMM, also running PC-DMIS software, of course still measures the smaller parts, however the larger 3m working volume of the Romer 7530 met the requirements for the larger lens manufacture, as well as inspection of GD&T on machined parts, and as an aid for checking the positioning of subsequent assemblies during the manufacture of their Spectrograph for use in astronomical research.

Now with coverage from small to large volume parts, high accuracy measurement is possible not only in the lab, but wherever the measurement is required by KiwiStar Optics.



CallaghanInnovation
BUSINESS TECHNOLOGY SUCCESS

Date 31/05/2016 – 02/06/2016

NEWS

ADEPT LIMITED

Embracing the Vision for the Future

Located in central Auckland, Adept Ltd are leaders in the product development and manufacturing industry, specialising in injection moulding which incorporates precision tool design, toolmaking and CNC machining. With their strict adherence to international quality controls and standards Adept Ltd is able to service the requirements of many of New Zealand's major brands, research institutions as well as SMEs, start-ups and entrepreneurs. Adept's subsidiary company Adept Medical is positioned in the international ENT and Angiography markets.

Adepts Operations were not at the level we require. Our 5 axis CNC machining centres are capable of holding tolerances down to +/- 0.002mm and we are consistently working with injection moulded part

tolerances of +/- 0.02mm. Essentially we needed to be able to measure parts to the accuracy that we can make them at. The requirements of our customers, both internally and externally in relation to tooling validation, injection moulded part validation, in process measurement, etc. are becoming increasingly demanding."

Stuart stated that to meet these strict requirements Adept chose the Micro-Vu Excel 502 vision based 3D measurement system supplied and supported by Hi-Tech Metrology. After extensive comparisons against the other optical/touch probe measurement systems out there, in terms of value for money, local support, ease of use, and build quality,

Micro-Vu came out on top.

Since installing the Micro-Vu Excel 502 Stuart says that "it has allowed us to measure plastic parts that were otherwise impossible with our old manual CMM, we are converting a lot of our traditional Vernier or Micrometre measurements to Micro-Vu routines and collating data without the overhead of manual data entry. Measurement studies and validation is greatly simplified and the inherent subjectivity when measuring flexible plastic parts with contact methods is eliminated."

With the implementation of the Micro-Vu Excel 502 Adept Ltd can foresee a significant improvement in product quality, repeatability, and reliability in general.



SPOTLIGHT: Micro-Vu Vision Centres

The non-contact and contact measurement systems from Micro-Vu use video and touch probe inputs to perform high precision 2D and 3D measurements.

With its ability to measure over 1,200 features consisting of 7,500 dimensions in less than 10 minutes, the Micro-Vu Vision Centres are ready to dramatically improve quality assurance throughput and accuracy.

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NEWS

POLYWORKS 2016

This latest release promises to revolutionise the market by enabling a universal end-to-end 3D metrology workflow

QUEBEC, QC, CANADA, March 30, 2016 - InnovMetric Software Inc., the leading provider of universal 3D metrology software solutions, today announced the launch of PolyWorks® 2016, the latest release of the company's universal 3D metrology software platform. PolyWorks 2016 fully supports probing and laser scanning on stationary CNC CMMs, and delivers a truly universal 3D metrology workflow that will allow users to operate any type of portable metrology and CNC CMM measurement device within a common framework, from a single software module, and using similar tools and methods.

“Portable metrology and CNC CMM metrology devices used to be operated in very different ways. Offline CMM programming and online CNC measurements were traditionally performed in different modules using different tool sets. This time is now over,” said Marc Soucy, President of InnovMetric.

“More than ten years ago, InnovMetric embarked on an ambitious journey to deliver a universal hardware-independent 3D metrology software platform to our customers. With PolyWorks 2016, the definition of what constitutes a universal platform takes on an entirely new meaning: a universal hub that interfaces with any type of 3D metrology measurement device, and offers a universal workflow for performing all inspection tasks. This innovative end-to-end approach will significantly lower the total cost of software ownership for industrial manufacturers as it eliminates metrology workflow silos, decreases the cost of training, facilitates broader collaboration between teams, ensures consistency in measurement results, and increases workforce mobility.”

With PolyWorks 2016, portable metrology and CNC CMM operators are now able to:

- ✓ Define a measurement plan without being physically connected to a specific measurement device;
- ✓ Specify geometry controls on measurement objects and prepare inspection reports;
- ✓ Connect to a non-contact or a contact-based portable metrology device, or to a CNC CMM controller (from Hexagon, Mitutoyo, Nikon, Pantec, Wenzel, and I++ servers), to play the measurement sequence;
- ✓ Review measured object geometry controls and reports, or multipiece inspection results through the built-in SPC functionality.



Contract Scanning Services

On and Off-site

Hi-Tech Metrology's contract services will reduce your downtime safely, rapidly and accurately.

We offer high accuracy in-house and portable on-site inspection, scanning, wear analysis and modelling using an array of the latest metrology equipment.

Contact us now on **+613 9702 3911** to experience first-hand the immediate benefits of this technology.

SPOTLIGHT:

The AICON Scanner



The AICON Scanner Systems are comprehensive 3D optical measurement solutions that will capture the minutest detail at the highest level of accuracy and detail for all scanning projects. Even under temperature fluctuations the AICON Scanner will operate with consistently stable and reliable performance.

Hi-Tech Metrology Pty Ltd

2 Carl Court Hallam VIC 3803 Australia
Ph: +613 9702 3911 | Fax: +613 9702 3933
Web: www.hitechmetrology.com.au
Email: info@hitechmetrology.com.au