# MasTec *Limited*

July 2002 Edition 16

**The Ingenious Devices and Smartworks Company**

***Instrumentation & Automation ◆ QA & QC ◆ AC-DC Power ◆ Life Science***

**Your One Stop for Technology**


WWW.mastec.co.nz

## *Introduction*

**Hello,**

**LabVIEW Training in Fiji**

**MasTec is off to train at the University of South Pacific.**

This is the third training course for Fiji. The University has a 10 user license and has actively trained LabVIEW programmers since 1993.

**Front Page Coverage this Month**

Employment opportunities, more
TIC is officially launched

**MasTec Highlite this Month on Page 2**

**Test - Instruments - GPIB - PXI - VXI**

## *MasTec Ltd Marketing Button*

Have a look at the www.mastec.co.nz side bar button set and click **Marketing**. This covers many of the announcements by MasTec Ltd over the last year or so.

## *MasTec Ltd Specials Button*

Also click our **Specials** Button. After the March 31st stock take, we placed on this "specials" page, a large number of products to clear. We are open to offers on any of these items. We will be changing this page to an auction shortly.

## *MasTec Ltd Employment Button*

MasTec is looking for Sales and Marketing person. CClick on the **Employment** Button for details.

## *New Employee Required*

MasTec is now looking for another new employee to do inside Sales and Marketing.

We really need someone who knows our industry, our product types and/or our brands well.

Our products are primarily Virtual Instrumentation software and hardware, data acquisition, GPIB, distributed I/O, solid state relays, gauges, transducers and sensors, comms ( RS-232, 422, 485 ethernet and USB), imaging, motion and cameras, loggers, controllers, signal conditioners, industrial computers, embedded computers, micros and similar.

Does this sound like a job for you? Even if you don't know all of these things, you will pick up the products and knowledge day by day and we will train you in LabVIEW and other programming systems.

Please send your resume to rob.maskell@mastec.co.nz This is a great opportunity.

## TIC= Technology in Co-Ordination Ltd

***A joint venture company between the principal directors of QIC of Australia and MasTec NZ.***

I would like to tell the TIC story to encourage others.

Adrian Hoffman of QIC and Rob Maskell of MasTec started discussions back about 3 years ago, around the need for a new company to focus on taking **High Tech One Off Projects**and turning these projects into **Products.**

At that time MasTec was doing projects regularly but most were one off projects, leading to no continuous money stream.

An effort was made to focus in on a project that would lead to a new product and/or market and a new money stream.

MasTec had been commissioned at about this time to build a post production image inspection system for a Japanese manufacturer with a plant in Auckland NZ.

This project introduced MasTec to the imaging libraries of LabVIEW in a much more detailed way. Using one of their excellent contract programmers, a simple but very useful inspection system was built with the end result looking like the picture. It has a CCD PAL colour camera, a 200 times zoom lens and halogen lights, X,Y, Z table and a computer system that manages capture, analysis and filing, also compressions.

Adrian Hoffman about the same time was thinking and designing a 2D profiler system for a maunfacturer and was looking for a new way of doing it.

The two ideas were married and after much work, it lead to the iMate 2000 software that uses either a camera or a high res scanner to measure and check tolerances on any 2D Objects (From very small to A4 size using the scanner)

iMate 2002 is now a sophisicated QA tool and is running in plants in Australia, scanning mainly automotive parts.

*(If you are in the cable, pipe, extruding or widget business, this product will revolutionise your QA on all the little bits you make*)

**So if you have a dream to achieve something like this, some advice, only move once you know the market is wanting this product. The difference between iMate 2000 and 2002 is what customers asked for. The iMate 2000 work was the germ of our idea and then the customers took the idea and added to it for us to make iMate 2002.**

Email info@mastec.co.nz for a brochure on this product.

**The complete iMate 2002 system consists of a new powerful pentium computer, an industrial grade flatbed scanner that uses a super high resolution Epson scanning engine and the iMate 2D Profiler Software (Now iMate 2002 version 1.1).**

*Visit our Web Site at* www.mastec.co.nz


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**Call MasTec Limited for information on these exciting new products**

# Test - Instruments - GPIB - PXI - VXI

MasTec has a large range of GPIB, cPCI, PXI, VXI interface and instrument test products from the world's leading suppliers.

Automatic Test Systems are essential in an efficient manufacturing plant. We recommend NI's TestStand software as the test engine for large ATE.

The method for building Test for many years has been GPIB Rack & Stack Instruments.

GPIB PC connectivity to instruments is now available in these formats: plug in cards PCI, ISA, cPCI, PXI, VXI, USB, Ethernet, Serial RS-232/485, Printer port, IEEE-1394 and PCMCIA.

Software drivers have advanced with the hardware and now ATE software is transportable across all major PC interfaces, OSs, buses and platforms, with little fuss.

Writing code for GPIB systems can be complex, especially the instruments section. The new IVI driver technology (Interchangeable Virtual Instruments) brings generic instrument drivers directly to the software builder. These IVI drivers make programming calls to instrument functionality. The programmer no longer has to craft custom instrument code.

IVI does more! If you have a scope from company X and you replace it with a PCI DAQ Scope, the ATE doesn't have to be rewritten, IVI looks after the change transparently.

There is a new trend to develop ATE in PXI or cPCI. The advantages are huge. Windows platform in the chassis, large range of IAC ( instruments on a card ). Lower cost and higher performance, that is more test per dollar and time unit, everything a company is looking for. The picture tells it all, up to 13 slots, PCI bus speeds, the plug in cards may be instruments, DAQ/DAS, imaging,

servos etc or just plain IT cards, SCSI, Ethernet, Comms or Firewire and may others. Some chassis have redundant power supplies for critical applications

Another similar trend is to develop ATE in PCI computers using an expansion chassis to increase the slot count to up to 20 boards. The advantages are huge just like cPCI and PXI.

In many cases it is possible to make Test Systems using standard PCI DAQ boards or make a hybrid using the best of both worlds, that is plug in cards and GPIB instruments.

We encourage people not to build their own front end hardware for Test as it is best long term to buy off the shelf and remove the responsibility back to large manufacturers rather than in house using one or two engineers who may leave the organisation, and have built an Orphan Test System that is near impossible to rework.

Test is very important, it embodies all the secrets, design, specification, genius of the company. It must be taken seriously.

Another trend world wide is for manufacturing companies to build smart ATE Conformance Testers and Field Service Testers for their products.

They sell these on to their Distribution base around the globe. Usually these testers are either the full blown Test system back in the factory or a chopped down version made specifically for a smaller set of tests.

This is an excellent way for companies to make test to become a focal point, also a revenue stream.

We have assisted several companies to build these types of systems, using either PXI or PCI or GPIB or combos. MasTec would like to help any manuafacturer develop this technology and focus on test. This will result in a refinement of design, procedures, software and quality control.

**Quality Control & SPC**

Equally important in factories as ATE, is Quality Control.

MasTec in conjunction with "Technology in Co-ordination" (TIC) and "Quality in Control PTY Ltd" (QIC) will undertake complete factory or individual line quality assessment projects, so as to optimise quality.

The skills we have can be applied across many different industries. We have worked with steel, rubber, plastic, aluminium extrusion, automotive (Australia), film & multi layer film, paper and metal presses, can manufacturing

We can work with any data.

**Internet Smart Instruments** is another form of test that is available . Convert any instrument to have the ability to email or page or telephone mesage directly to their owner or designated service person when a fault comes up.
MasTec can assist in retrofiting or designing with this exciting new technology. Small TCP microprocessors act as the testing system in the instrument. A simple internet connection finishes the solution.



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