

# PXI racing ahead



PXI is now a maturing technology, yet its virtues remain unknown by many design engineers who still perceive PXI as a manufacturing platform. One of the measures to counter such preconceptions is the PXI Show, as **Tim Fryer** reports.

**S**ixty eight percent of respondents to the *New Electronics* PXI reader survey cited lack of knowledge as the main reason why they didn't use PXI. In manufacturing test and automation PXI has become established as a popular and useful platform, but design engineers remain either uneducated or unconvinced.

The PXI Show was launched last year to promote the message both to established user groups as well as those yet to address how PXI could be useful to them. Unusually for such events, the Show is organised by the exhibitors and as such is intended to promote the industry, rather than make a profit.

Last year saw the inaugural event take place at Silverstone's International Media Centre, and the event returns there on Wednesday 5 June, just a few weeks before the 2013 British Grand Prix. There are two

streams to the event – the exhibition and the seminar programme.

Kicking off the seminar programme is a keynote from Tom Phillips from major defence company Selex ES. He will argue that advancements in user product technology and functionality mean that PXI vendors can no longer work 'in a vacuum'. They must liaise increasingly closely not only with their customers but also on occasions with other PXI vendors to ensure that overall PXI system performance continually increases to address the user's needs, whilst reducing in cost and also intercepting the ever shortening cycle times driven by new technologies. Philips will conclude by giving specific examples of where close customer/vendor liaison has resulted in significant new PXI product developments.

The universe of PXI vendors is not huge, but the most significant, along with some

system integrators, are represented in the exhibition. Here is a sample of who they are and what they will be talking about:

**ADLINK** is the only Asian sponsor member of the PXI System Alliance, and, backed by decades of embedded computer engineering expertise, it provides more than 100 PXI controllers, chassis, and measurement modules. In particular at the PXI Show the company will focus on developing high-bandwidth and high-speed data streaming application systems.

**Aemulus** designs and develops innovative semiconductor test systems for linear, analogue, mixed signal, RF and digital devices. Aemulus will introduce a new product line-up based on PXI architecture that are optimised for Automated Testing for Semiconductor Ics.

**Aeroflex** will highlight three aspects – the Solutions Group, Service and Support, and its 5800 PXI-based test platform. The Solutions Group offers custom hardware and software test solutions in both the commercial and military market. The 5800 series is a test platform with an open hardware and software architecture that allows integration of PXI instrumentation from third party suppliers in addition to providing dedicated ICT, FCT and RF



functionality through its own suite of test cards.

**AmFax** is an engineering company, focused on customer-orientated applications and with expertise in system integration, software, test development, mechanical and electronic engineering, system design, PXI, signal processing, LabVIEW, and TestStand.

**Applicos** is a Dutch-based company that started in 1993 with an instrument for test and analysis of data converters. It has used experience from this technology area to build PXI instruments, including arbitrary waveform generators, digitisers, programmable power supplies and more. Special attention goes to the PA72 platform that allows mix and match daughter boards.

**ATE Solutions** will be showing the 6TL/22 PXI based modular ATE Range. One of the major advantages of this platform is the YAV Board technology that fits directly into the Virginia panel Mass Interconnect Interface. This removes the need for wiring from the VPC MIC to the Instrument card resulting in improved Signal performance and lower system cost.

**Cal-Bay Systems** will be giving attendees at the show an opportunity to see what it is like to be a UUT by testing themselves in the unique "You are the UUT" demonstration. They will also provide information on its FlexATE, PXI based tester and Measurement Data Intelligence (MDI) solutions"

**Cimtek** offers total test solutions including fixturing and interfacing technologies, automation, and complete system integration and support. With electrical, software, and mechanical engineering teams Cimtek aims to be a single source for test equipment development.

**Geotest Marvin Test Systems** is a global producer of PXI and PC-based test equipment and test solutions. Geotest produces hundreds of products and services for the electronics test industry including PXI chassis and instruments, test executive and development software (ATEasy), test systems and integration services for the military, aerospace, semiconductor, communications, medical and industrial market segments.

**GOEPEL electronic** is exhibiting its PXI 5396-DT/x modules, designed for structural JTAG/Boundary Scan tests as well as dynamic I/O operations up to 100 MHz for

functional test executions. They feature an impedance controlled VPC interface for direct coupling to signal critical load boards or other verification environments.

Consequently, users are able to utilise only one test hardware for both laboratory verification and in the production line with fixture based systems.

**JTAG Technologies** offers a range of PCB test and device programming products based on boundary-scan IEEE Std 1149.x and associate technologies. The PXI and PXIe JTAG controller hardware allows equipment builders to add this capability quickly and simply into their test systems.

**MAC Panel** will be demonstrating the system performance advantages of building PXI ATE systems without the need for cables between the PXI instruments and the system interface. The SCOUT modular interconnect was designed to deliver the full performance potential of the PXI platform without the signal compromise inherent in systems that use cable harnesses.

**National Instruments**, the inventor of PXI, will display a spectrum of PXI capabilities, from programming a digitiser to perform the function of five different traditional instruments, to using FPGAs for inline signal processing. Open FPGAs on the PXI platform have given rise to 'software-designed' instruments, which are fully user-customisable because the firmware is determined by a personality deployed to an on-board fpga.

**Pickering Interfaces** has a development strategy that has resulted in a range of more than 600 PXI switching and utility modules, as illustrated in its new PXI Module Map, which will be available at the show. At the PXI Show, it will be introducing two new families of 2A PXI switching modules that address different ends of the customer requirements' spectrum – a range of ultra high density matrices with up to 448 cross-points per PXI slot and 18 new multiplexers.

**TBG Solutions** integrates, ideally COTS, hardware and software to maximise its power for data acquisition and control solutions. At the PXI Show it will be talking about its software development teams that have National Instruments' Certifications for its LabVIEW Architect/Developers and TestSTAND Architect.

The Show takes place at the **Silverstone International Media Centre on 5th June 2013**. It will open at 0830 and close at 1630. More information, including free registration, is available at [www.thepxishow.com](http://www.thepxishow.com). Lunch is complementary and all attendees will be entered into a free draw to win a voucher for one of Silverstone's most popular driving experiences.

**09:00: Keynote Presentation: 'The PXI/ Customer/ Vendor Triangle'**  
**Tom Phillips, Selex ES**

**09:30: 'An RF capable ATE through PXI - does it make sense?'**  
**Nigel Adams, Aeroflex**

**10:00: 'PXI Application Examples'**  
**TBA, Amfax**

**10:40: 'PXI Test Systems for High Speed Data Streaming Applications'**  
**Catherine Wu, ADLINK**

**11:10: 'PXI Instrument Programming'**  
**Sandy Frew, Agilent Technologies**

**11:40: 'Integration of Software Technologies into a PXI Test System'**  
**Victor Fernandes, Geotest MTS**

**12:10: '10 Questions you should be asking your PXI Test Solution Provider'**  
**Karl Miles, Peak Production**

**13:30: 'New JTAG Developments with PXI application example'**  
**James Stanbridge, JTAG Technologies**

**14:00: 'Inline signal processing on the PXI platform'**  
**Jeremy Twaits, National Instruments**

**14:30: 'PXI Module Interchangeability; the What, When and How'**  
**Alan Hume, Pickering Interfaces**

**15:00: 'PXI Application Examples'**  
**TBA, TBG Solutions**