



IPWireless gains momentum with handset makers...

IPWireless is gaining significant momentum for its IMB wireless multimedia technology through a co-development with ST-Ericsson on a pre-integrated and verified platform for 3G device makers.

“ST-Ericsson is one of the world’s leading providers of wireless platforms and chipsets,” said Dr. Bill Jones, Chief Executive Officer, IPWireless. “Their platforms combined with our key enabling IMB technology will enable our device vendor partners to shorten the time to market for IMB enabled handsets, boost worldwide IMB adoption, and enable operators to more efficiently use intelligent broadcast to address the looming capacity crunch driven by video and other multimedia applications.”

The collaboration brings together IPWireless’ IMB enabling technology with ST-Ericsson’s chipset platforms to enable handset vendors to integrate IMB into future mobile devices and

for existing WCDMA USB dongle manufacturers to enhance their existing devices to allow them to quickly participate in the emerging global IMB market.

As a first step, IPWireless and ST-Ericsson are jointly developing a demonstration platform that device vendors can use to initiate IMB development. The demonstration platform will feature an IMB ASIC supplied by IPWireless and a 3G baseband radio platform from ST-Ericsson. Unlike other broadcast solutions, IMB completely integrates with WCDMA enabling device vendors to reuse existing radio frequency technology and antenna components for a lower overall bill of materials and greater scalability.

IPWireless expects to make the first IMB platform available to coincide with commercial IMB network launches planned for 2011. www.ipwireless.com

Reported in this issue:

- AceAxis p11
- Altran-Praxis..... p8, 13
- Atego..... p13,14
- Deltenna p15
- Icera p6
- IPWireless p1
- IQD Frequency Products.. p12
- NESTA p2
- Ocean Blue Software p14
- Plessey Semiconductor p5
- SMIC..... p2
- Ubiquisys p7
- University of Bath p4
- XMOS p12,13

... as Samsung uses chipset for multimedia wireless

Samsung Electronics is to develop mobile phones with broadcast capabilities based on the 3GPP IMB standard using silicon and software from IPWireless of Chippenham.

“The IMB standard gives an opportunity to breathe life back into the possibility of using part of the 3G spectrum for broadcasting and datacasting, allowing major infrastructure vendors and handset manufacturers, such as Samsung, to refocus their mobile broadcast

technologies on the underused TDD band on UMTS [3G] networks,” said David McQueen, Principal Analyst, Informa Telecoms & Media.

“With mushrooming data traffic caused by the advent of wireless-laptop-connectivity products and smartphones, thereby increasing bandwidth demands on mobile operator networks, the IMB standard is gaining increasing mobile operator interest for use as an overspill for data-intensive multimedia. IMB also

has the further advantage of being able to operate in spectrum that many mobile operators have already acquired so negating the need to build a separate and distinct network,” he added.

“The explosive growth in mobile data created by media friendly devices is creating the need for a more innovative 3G network delivery solution like IMB,” said Dr. Bill Jones, Chief Executive Officer of IPWireless. “As a leader in 3GPP mobile broadcast, we are dedicated to the development of the ecosystem so that operators and their hardware partners are able to confidently and swiftly deploy IMB solutions.” www.ipwireless.com

“The explosive growth in mobile data created by media friendly devices is creating the need for a more innovative 3G network delivery solution like IMB.”

Silicon Gorge welcomes Silicon Roundabout

Despite the doom and gloom of cuts, investing in innovation and enterprise is one area that has rightly been recognised as a way out of the financial black hole. A key focus has been on technology clusters with launch of a new report on the South West Microelectronics phenomenon from NESTA (see page 2) and the recent launch of 'silicon roundabout' in the East End of London. While most of the startups there are for Internet applications, it has attracted an Intel lab and Cisco to make use of the Olympic site after 2012, and the focus on clusters is important and the more the merrier to highlight the importance of technology to the economy.

That can only work in our favour, and with £200m available for Business Technology Centres in clusters around the UK, there's plenty of opportunity – the South West already has two, in materials and metrology.

But raising money for technology startups remains a challenge in the current climate, and the industry is gathering in Bath next week for Silicon 2010 (see page 3) with key industry figures from London, Cambridge and the region to look at the issues and the way forward. This is one of the ways a cluster can make it through the tough times to emerge even stronger.

So from the largest cluster of silicon designers in Europe, Silicon Gorge, welcome – it's going to be a rollercoaster as well as a roundabout!

Nick Flaherty

NESTA charts development of SouthWest electronics

NESTA, the UK government's endowment for innovation in technology and the arts, has launched a report looking at the history and development of microelectronics in the SouthWest and how this impacts on support for technology clusters such as the recent 'Silicon Roundabout' in East London. The report, with input from key players in the region, highlights the role of Inmos and Plessey as well as the Universities of Bristol and Bath in creating one of the leading electronics cluster in Europe.

"NESTA's 'Rebalancing Act' highlights how the continuing success of innovative companies will be important to the UK economy," says the report, Chips with Everything. "A starting point for government in considering how to support innovative, high-tech companies and regional clusters is to understand

the challenges facing these industries. This report examines the semiconductor industry in the UK, particularly in the South West, to identify how this cluster has grown over the past 30 years and how government, with very limited resources, can effectively support regional clusters."

"The South West cluster has grown because of a combination of factors. Large semiconductor companies present in the region in the 1970s and 1980s, such as Inmos and Plessey, have endowed the region with a highly skilled workforce and contributed to attracting entrepreneurs, companies and investors to the region. This has been supplemented by intelligent, targeted support from local universities," says the report.

www.nesta.org.uk/home/1/assets/features/semiconductors_report

SiliconSouthWest

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On the web:

For comment, analysis and the latest videos on what is happening across the electronics industry go to the new blog by SiliconSouthWest editor Nick Flaherty at www.flaherty.co.uk

SMIC accelerates 28nm and targets SouthWest

Senior executives from Chinese foundry SMIC came to Bath to look for partner companies in the South West as it accelerates its process technology to 32nm and 28nm.

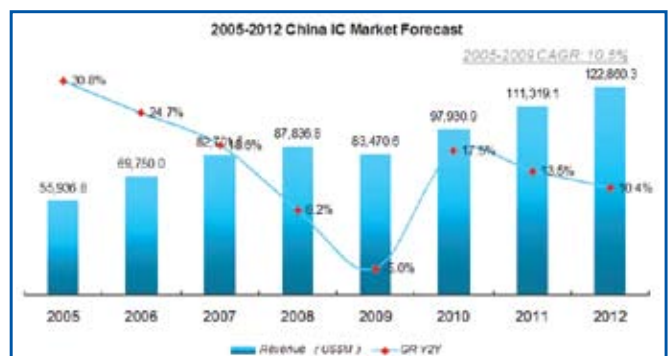
"We are not looking for customers, we are looking for partners, and that's a very different approach now," said Dr Joseph Xie, senior vice president of sales and marketing.

The company had been focussing on the 0.35um and 0.18um technologies for analogue and RF, but in the last year has accelerated the process development, said Xie. A 40nm low leakage logic process is due in production in Q1 next year, followed by a generic logic process in Q3 and a 40nm RF process in Q1 of 2012.

The first tape out of 32nm devices is scheduled for June next year, with production in March 2013.

Part of the push is to meet the booming demand in the Chinese market, said Xie, and the partnership approach is to connect UK chip companies with Chinese manufacturers that are also partnering with SMIC, he added. However, SMIC would not invest directly in UK startups, but work with those other partners if funding was needed.

www.smic.com



The F-Word

Funding for silicon start-ups

Friday 19th November, 2010

Presentations from 9.30am to 12.30pm

Followed by lunch & networking

Bath Ventures Innovation Centre, Broad Quay, Bath, Bath, BA1 1UD

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Funding has become a four letter word for pre-revenue silicon start-ups. Venture capital appears to have no appetite for silicon and angel investors just don't have the resources to take a fabless semiconductor start-up through to a profitable place in the global microelectronics value chain. Then there's government-backed assistance – this can be 'problematic' too!

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Interactive research centre opens in Bath

A new purpose-built research space has opened in the centre of Bath to help researchers understand more about human communication and how people interact with technology.

The Interactions Lab, run by the University of Bath's School of Management, is located at the Bath Innovation Centre and will be working with local people and businesses in researching how people use technology. The lab will be available to technology companies to test out user interfaces.

Researchers will be inviting local people, including school children, to get involved in the research through focus groups, interviews and hands-on

technology-based activities.

The lab has dedicated computing, video recording and editing equipment and space for focus groups, role-plays and behaviour assessment.

Researchers will be linking with schools to work with children on a project that is to develop new video games for managing conflict resolution. The children will work with software designers in the project funded by the European Union and further studies are focussing on how companies use personal information; social networking and virtual communities; and uncovering deception through body language.

"This is an absolutely fabulous resource

that places us in the local and business community," said Dr Adam Joinson, the lead academic behind the new lab. "It is the School of Management's first dedicated research space and its location shows our commitment to working with local organisations. We will be making full use of the networking opportunities provided by the Innovation Centre."

"This is a really tremendous initiative on the part of the School of Management," said University's Vice-Chancellor, Professor Glynis Breakwell. "To have the Interaction Lab within the Incubation Centre is a really wonderful advance."

Research funders already on board include the Technology Strategy Board, the Centre for Defence Enterprise, the Home Office and the Ministry of Defence. Researchers are collaborating with a number of commercial organisations, including British Telecom and Ipsos MORI. www.bath.ac.uk

"It is the School of Management's first dedicated research space and its location shows our commitment to working with local organisations."



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Plessey to develop 8in SiGe RF process...

Plessey Semiconductors has started to develop a bespoke 0.35 micron silicon germanium (SiGe) BiCMOS process technology on its 8-inch wafer manufacturing line in Plymouth. This is a key part of the strategy for its three core product lines of sensors, RF components and power management devices.

The products manufactured on this process will take advantage of having a 70GHz, 2.5V breakdown voltage architecture together with a 40GHz 5V breakdown voltage architecture on the same substrate which Plessey believes

will give it a key advantage over other technologies on the market. The process will also include a range of analogue and high performance passive components including Schottky diodes, varactors, high Q inductors and MIM capacitors.

The combination of a high frequency capability combined with high voltage and the added component features opens up a wide range of applications. Potential products include: high performance transceivers for optical communications, next generation data converters for test and measurement systems and high-speed amplifiers

including logarithmic amplifiers, for example a log amp design using our SiGe technology could operate at frequencies up to 5GHz, a ten-fold increase in performance compared to a previous technology implementation. It is planned that the SiGe BiCMOS process will be generally available by mid-2011 and the first Plessey products will be sampled by end-2011.

“We have looked at SiGe bipolar and BiCMOS process technologies for some time and have developed processes for other fabs,” said Dr. Peter Osborne, Chief Technologist at Plessey. “We believe that our exceptional complementary bipolar processes on SiGe together with our 0.35 CMOS capability should provide a compelling platform from which Plessey can develop outstanding product lines.” www.plesseysemi.com

“We believe that our exceptional complementary bipolar processes on SiGe together with our 0.35 CMOS capability should provide a compelling platform.”

... as it teams with Sussex on new sensor technology

Plessey Semiconductors and the University of Sussex have teamed up to develop a new sensor technology that measures changes in an electric field in a similar way to a magnetometer detecting changes in a magnetic field.

The Electric Potential Sensor (EPS) requires no physical or resistive contact to make measurements and will enable innovative new products to be made such as medical scanners that are simply held close to a patient's chest to obtain a detailed ECG reading or devices that can 'see' through walls.

“The EPS technology created by Professor Prance's team at the University of Sussex is a significant innovation that will have a wide-ranging disruptive impact in the sensor market,” said Dr. Keith Strickland, Technology Director for Plessey Semiconductors. “In conjunction with the University of Sussex, Plessey will be developing a range of EPS sensors using our in-house expertise in semiconductor process technology

and design. In particular, our expertise with CMOS image sensors will enable us create very large chips with arrays of EPS sensors. We expect to have our first product prototype available in Q3 of next year for a medical diagnosis product that will significantly advance the ease and quality of cardiac measurements.”

“This is just the sort of innovative, completely new technology that made Plessey Semiconductors famous,” said Michael LeGoff, CEO of Plessey Semiconductors. “We have only just begun to imagine the products that can be designed to use the unique sensing capability of EPS. It is tremendous that two British organisations are working together on a genuinely disruptive

technology that can deliver products that were previously not possible and in the realms of science fiction.”

The University of Sussex has already negotiated license agreements with a number of OEMs who will be bringing these kinds of products to market and is in active discussion to exploit the many other application areas where EPS provides novel solutions.

The initial application areas for EPS will be in medical and sports as EPS detects the voltage change in muscles and nerves without electrical contact so there is no need to have electrodes on or in the body to detect current changes. www.plesseysemiconductor.co.uk

“It is tremendous that two British organisations are working together on a genuinely disruptive technology that can deliver products that were previously not possible and in the realms of science fiction.”

Icera drives 4G LTE forward with 40nm Multimode Platform...


Bristol-based software-defined semiconductor company Icera has launched two platforms for multimode LTE and HSPA+ based on its new 40nm Livanto ICE8060 and ICE8061 soft baseband processors that it says are comparable to HSPA in cost and power consumption, two key drivers for LTE roll out.

The Espresso410, based on ICE8061 SDR baseband chip and ICE8261 radio transceiver, is the first Icera platform to add 4G LTE in software to its high speed multimode HSPA+ / 3G / 2G technology, offering peak data rates of 50Mbps in up to 10MHz spectrum. In early 2011, Icera will offer an upgrade to add 2G/3G voice,

with 4G circuit-switch fall-back (CSFB) integration and a Radio Interface Layer (RIL) for Google's Android operating system, enabling customers to build high performance LTE smartphones as well as tablets and mobile broadband USB sticks.

The Espresso400 initially supports 21Mbps HSPA+, scaling to 42Mbps and beyond, delivering the fastest user experience and best network optimization of any HSPA+ chipset in real world conditions. The new platform also integrates a USB port and an SDxC controller, reducing the modem bill of materials and enabling even smaller and more cost effective mobile broadband devices.

"Our soft modem architecture is an LTE game-changer, enabling early multimode LTE devices that are comparable with current HSPA devices in terms of form factor, power and cost," said Steve Allpress, CTO & VP Modem Software at Icera. "Our software-defined modem approach is leading once again with performance and early availability of the latest air interfaces."

Scaleable up to 1.3GHz at low supply voltages, the ICE8060 and ICE8061 soft baseband processors deliver 3x the algorithmic computational power of Icera's current 65nm generation. Icera is currently engaged with multiple customers who are developing products based on the Espresso400 and Espresso410 platforms, which are expected to reach the market in early 2011. 

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...as it teams with Teleca on Android for 2011

Icera has teamed up with Teleca of Sweden to develop an Android radio interface layer for its mobile broadband chips that will ship next year.

This is a key step for Icera to move from the USB dongle market for 3G and LTE into the greater volumes of the smartphone using its Espresso 4xx smartphone platform that is based on its Livanto ICE806x reconfigurable baseband chip.

"Teleca's extensive experience in developing Android solutions along with their proven track record for Android RIL, in particular, made them a compelling partner. The Android RIL being developed by Teleca will be a key component in Icera's plan to launch Android solutions in 2011. We are looking forward to Teleca providing integration and customization support to our customers," said Pete Cumming, Icera's VP Systems Engineering.

"With a highly differentiated offering in software defined modems, Icera is emerging as a strong player in the highly competitive semiconductor market," said Andrew Till, SVP Solutions Marketing, at Teleca. "We expect this to be the beginning of a long term relationship. Teleca has experienced very strong growth in its Android based solution sales to both the traditional mobile device market and to the consumer electronics and automotive sectors. This latest project adds a new and significant client to Teleca's customer base and further strengthens Teleca's leadership in developing Android RIL implementations for new platforms and products." 

www.teleca.com

Ubiquisys teams with Nokia Siemens Networks on standardised femtocell

Leading femtocell maker Ubiquisys in Swindon has developed a new standards-compliant WCDMA femtocell solution with Nokia Siemens Networks. The solution features standardized Iuh and TR-196 interfaces between Ubiquisys Femtocell Access Points and Nokia Siemens Networks Femto Gateways and Femto Management Systems. By end the year the solution will have been tested by several mobile operators and becomes generally available in at the start of 2011.

Standardised interfaces make femtocells independent of the network systems they connect to, making them more like mobile phones. This enables mobile operators to offer their customers a range of femtocell devices with specific capabilities, from a variety of vendors.

Operators can specify the design for standalone, integrated or snap-on residential femtocell, based on deployment-proven G3-mini hardware (8 calls, 14.4Mbps HSPA) and the femtocells use just a few Watts for residential models, and the femtocells can also communicate over a LAN to form and maintain a Self-Organising Network (SON) with automatic handovers and load-balancing for enterprise networks.

Nokia Siemens Networks' 3G Femto offering provides simplicity on the network side along with options for the CPE. A highly integrated and compact, yet scalable Femto Gateway integrates femtocells into the core network over a standard Iu interface over IP or ATM transport protocol without changes to the core network elements being needed.

Nokia Siemens Networks' 3G Femto offering complies with 3GPP standard Iuh and TR-069 interfaces, and with the TR-196 data model.

"Together we're responding to operator demand for a sophisticated yet standardized femtocell solution, one that can deal with shared spectrum deployment and that provides complete flexibility in small cell deployments," said Chris Gilbert, CEO of Ubiquisys.

"Based on a relationship that dates from 2008, both companies have worked intensively to create this formidable solution. It is a big step forward in our way towards building a mature femtocell mass market" said Timo Hyppölä, head of 3G Femto product management, Nokia Siemens Networks. www.ubiquisys.com

“Companies have little choice but to develop a fully fledged IP strategy in order to stay competitive. IP is the currency of tomorrow for technology companies.”

[PricewaterhouseCoopers]

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picoChip aims chip at LTE mini basestations...

Bath-based wireless company Picochip has launched the next step in its roadmap for customers working on LTE small cell systems, or mini basestations. The PC500 is a highly integrated and cost effective baseband processor that is code-compatible with the company's PC960x microTCA development system.

The PC500 provides a low-risk platform for carrier-class enterprise and metro femtocell products by running the existing PC860x software-defined LTE modem. All of Picochip's LTE solutions support both FDD and TDD

modes of operation and a wide range of industry standard frequency bands.

"Small cells are vital for the success of LTE but the traditional development model won't cut the mustard for these products," said Rupert Baines, VP of Marketing at Picochip. "With the PC960x we have given our customers a year's head-start in system development. The PC500 extends this advantage. It is compatible not only with our proven LTE solution, but also with our market-leading HSPA+ and WiMAX products, and partner 2G offerings. As a result it offers both a smooth migration path and unmatched

integration potential, paving the way to dual (LTE and HSPA+) and even multi-mode systems in the future."

The PC500 uses Picochip's picoArray signal processing technology for the physical layer (PHY), lower MAC and cryptography that is required for LTE through 105GMACS and nearly 800GIPS. The programmable system is upgradeable to support interoperability, changes in standards or manufacturer-specific features.

The PC500 will be available to qualified customers in Q1 2011. www.picochip.com

... as it enters the Korean market

Picochip's technology is being used by South Korean wireless equipment vendor Contela as the sole vendor for a data-only femtocell deployment.

South Korea Telecom's Data Femto service is the first 3G femtocell in the country and is optimized to offload traffic and solve congestion issues and will launch later this year. It is also the world's first commercial service to use the 3GPP luh interface between the access point and gateway.

Contela is supplying SKT with an end-to-end solution, including not only FAP (Femtocell Access Point) but also FMS (Femtocell Management System) and FGW (Femto Gateway).

SKT plans to cover the rapid growth in data traffic due to the increased use of smartphones in the home, school and offices with its Data Femto service, which it will launch by the end of this year.

"Operators around the world are facing the challenge of rising network traffic

and are turning to femtocells to solve the problems of capacity and offload," said Rupert Baines, VP of Marketing at Picochip. "Given the importance of data and given the sophistication of the wireless market it is no surprise that Korean operators are taking advantage of the technology, and developing innovative approaches. Based around the latest standards from 3GPP and the Femto Forum, Contela has developed an end-to-end solution which dramatically improves network capacity, solving the 'data deluge' that operators are now facing." www.picochip.com

Altran Praxis Expands SPARK Product Team

Bath-based systems and software developer Altran Praxis is expanding its SPARK real time software development team with the appointment of Stuart Matthews as SPARK Product Manager. He will be responsible for developing SPARK's product strategy and roadmap, marketing, sales, training and customer support. He will also continue to maintain and build upon the strong relationship with AdaCore, Altran Praxis' strategic SPARK partner, and coordinate with tool partners, including Esterel Technologies.

He will work alongside Rod Chapman,

who continues at Altran Praxis as SPARK Technical Authority. The new appointment ensures that SPARK customers can benefit from a bigger and highly experienced team, continuing to provide high quality consultancy and support on SPARK.

Matthews brings over 15 years of expertise to the role. He is a Chartered Engineer, a Member of the British Computer Society and a Chartered IT Professional. Whilst at Praxis his work included a number of high-integrity software and systems engineering projects. "I'm really excited about taking on this new role. My first and foremost

objective is to further establish SPARK as a vital tool in the MILS and Security sector whilst continuing our programme of innovation and development," he said "SPARK has diversified and expanded its market and we look forward to pushing into new and interesting sectors."

"Customers will have the continuity of a highly capable team available for technical support as well as the addition of Stuart's product development knowledge. This appointment marks a new and exciting time in the development of our SPARK offering as we broaden into new markets," said Keith Williams, Managing Director of Altran Praxis. www.altran-praxis.com



A Barcamp for discussion, debate and developing new mobile applications & web services

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 - Tom Melamed – **Calvium**
 - Mark Watts-Jones – Head of Product Marketing - **Everything Everywhere**
 - Greg Mertens – **Nokia**
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The speed of change in mobile means that the business can no longer be described as evolving – it’s mutating! Apple’s ‘i’ platforms have created a voracious apps driven global market for smart phones and smart phone content – but will they keep their edge against the Android invasion? Meanwhile ‘walled gardens’ are tumbling down and operators are being forced to allow more off portal commerce than ever before – but will data crunch on their networks cause them to strike back?

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All ideas suggested are open and owned by the break out group that mobilizes to develop them.

Who should attend: DIY developers, ideas people, operators, innovators -> anyone passionate and interested in open group development of new mobile apps for commercial or social use.

Join openMIC & register for this event: open-mic.org.uk

AxisNT to develop in-house manufacturing

Axis Network Technology, a leading supplier of Remote Radio Head technology for 4G telecom networks with a design centre in Bristol is to develop manufacturing plants in Korea, China and India and following its acquisition by Ace Technology in May is changing its name to AceAxis Ltd.

The move reflects the additional resources available to AceAxis since the acquisition, with the first plant to open in Korea in 2011 with additional plants in China and India in 2012. When combined with the continued use of AceAxis outsourced manufacturing, these developments will give the company's Tier One OEM customer base full confidence in the quality and continuity of supply of high volumes of Remote Radio Heads.

AceAxis is an innovating pioneer in Remote Radio Head technology and

a leading supplier of WiMAX and TD-LTE equipment. It is currently developing a new generation of Remote Radio Heads as well as expanding its TD-LTE and FDD LTE product ranges. These 4G technologies are enabling OEMs to help Telecom operators meet the growing demand for mobile wireless broadband services such as those demanded by smart phones, notepads and laptops.

"The unveiling of the AceAxis branding reflects our new position in the hierarchy of 4G infrastructure technology companies" says CEO Simon Mellor. "I'm delighted we are able to leverage

Ace Technology's global scale manufacturing capability in addition to our existing high quality EMS. We're now part of a much bigger organisation and have the resources to match. We're expanding our workforce rapidly and have the additional resource of AceWTL (formerly Nortel's Wireless Technology Laboratories) for R&D as well as Ace Technology's financial stability. So it makes fundamental sense to change our name to reflect that new status."

AceAxis continues to be registered in the UK and all its trading relationships are unaffected by the change of name. www.aceaxis.com

"I'm delighted we are able to leverage Ace Technology's global scale manufacturing capability in addition to our existing high quality EMS."

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Assisted Living Action Network

www.assistedlivingaction.net

We're getting older. Today in the UK there are more people over 60 than under the age of 18 and within twenty years, around a third of our population will be over 60 years old. One recent study predicts that life expectancy will increase by 4.2 years over this period while healthy life expectancy will increase by just 2.6 years. Our ageing population is likely to have more healthcare requirements than fewer, particularly for the management of chronic conditions.

The demand for lifestyle and healthcare solutions that address this demographic shift represents a £1.5billion market opportunity for assisted living technology in the UK alone and the **Assisted Living Action Network** will be holding a series of four networking seminars over the next 12 months to bring together business, healthcare professionals, service user groups and academic researchers to discuss the key issues, identify the business challenges and collaborate and create commercial opportunities in this market.

ALAN Networking Seminars:

Events held at the **Bath Ventures Innovation Centre, Broad Quay, Bath, BA1 1UD**

Delegate Places £10 (inc. refreshments)

ALAN Networking Seminar #1:

Smart Solutions for Assisted Living: Smart Meters, Home Hubs & Networked Healthcare
5.30-7.30pm Monday 8th November 2010

Speakers:

- Stephen Pattenden, **Telemetry Associates Limited**
- Angela Single, **Choose Independence Limited**

[Register Here](#)

OVER 50 DELEGATES ATTENDED THIS SELL OUT EVENT!

ALAN Networking Seminar #2:

The Games People Play: Interactive Systems to promote Rehabilitation, Physical Activity and Leisure
5.30-7.30pm 18th January 2011

Speakers:

- Professor Jane Burridge, Faculty of Health Sciences, **University of Southampton**
- Dr Danae Stanton Fraser, Reader in Psychology, **University of Bath**

[Register Here](#)

ALAN Networking Seminar #3:

From Medical to Mainstream: Business Models to take Assisted Living to the Mass Market
5.30-7.30pm Wednesday 30th March 2011

Speakers:

- David Rogers, Former President and Chief Executive of **Lucent EMEA**

[Register Here](#)

ALAN Networking Seminar #4:

From Health Service to Self-Service: Social Networking Applications for Assisted Living
5.30-7.30pm Thursday 7th July 2011

Speakers:

- Professor Chris Eccleston, Centre for Pain Research, **University of Bath**

[Register Here](#)

ALAN is supported by:




IQD launches smallest crystal oscillator...

One of the world's leading silicon crystal oscillator developers has launched the smallest surface mount crystal in the world for medical equipment such as pacemakers.

IQD in Crewekerne, Somerset,

supplies oscillators to customers in over 60 countries, and has developed a hermetically sealed package measuring just 1.55 x 0.95 x 0.35mm for frequencies between 30MHz and 50MHz.

The CX-18 was launched at Electronica


this week and is aimed at implantable medical applications including cochlear implants, defibrillators and cameras that are implanted into the retina and so has a low aging characteristic of under 1ppm over the first year. 

www.iqd.com

... and a high frequency MEMS oscillator

Building reliable oscillators from a silicon process rather than from pure silicon materials is a key target for reducing the cost and leadtimes of oscillators, and IQD in Somerset has developed a high frequency MEMS oscillator.

The IQMS900 series is built in a standard CMOS process, giving lower costs and lead times of 1 to 6 weeks, and runs from 1MHz to 800MHz by tuning the micromachined MEMS structures. It is aimed at telecoms infrastructure designs such as Fibre

Channel, 10G Ethernet, HDMI and USB3 with a typical jitter of 0.7ps at 200MHz. The frequencies are stable to +/- 10ppm from 0 to 70degC, or +/- 15ppm at -40 to +85degC. 

www.iqd.com

XMOS launches motor control platform

Bristol-based multi-core chip developer XMOS has launched a new motor control platform to enable developers to deliver innovative and highly efficient motor control designs. The XMOS motor control platform is comprised of two XCore processors with a motor control hardware board with support for dual axis motor control and communication and a suite of control, processing and interfacing functions, to help designers quickly develop advanced motor drives entirely in high level software programming languages.

Predictable real-time behavior of control loops is critical for high quality motor control designs. The XCore processor architecture, combined with the XTA static timing analysis tool, provides a programmable platform,


which delivers guaranteed timing of software execution - without requiring a real time operating system.

Integrating the capabilities of processors, DSPs and FPGAs, XCore processors offer scalable performance starting at 500 MIPS. XMOS provides predictability and full programmability at low cost, to meet the rapidly increasing performance requirements of motor control applications, especially in designs for high-efficiency synchronous motors.

“Our customers have requested a flexible, high performance silicon platform that will help them save time in the design process. The new motor control platform from XMOS is designed to provide BOM savings by integrating real-time control, flexible I/O and DSP into a single,

programmable digital IC,” said Joerg Bertholdt, VP of marketing at XMOS. “By replacing several digital components through a single XMOS device, the motor control platform from XMOS provides BOM savings in development costs and time through a unified design flow.”

The Motor Control Board uses one XS1-L1 500 MIPS processor for the three-phase BLDC motor control loops and one XS1-L2 1000MIPS processor handling communication, logging and motion control, alongside a six-channel 14-bit 600KSPS ADC with individual sample/hold, a two-channel hall effect encoder input and an isolated power section supporting up to 24V and 10A. There is also a 7.7 Watt Faulhaber BLDC 24v motor, 32MB of SDRAM and General I/O including a 12 channel 10bit ADC, Ethernet, CAN, LCD and GPIO.

The XMOS motor control platform is currently being used by lead customers and is being demonstrated at Electronica this week. General availability is scheduled for December. 

www.xmos.com

“By replacing several digital components through a single XMOS device, the motor control platform from XMOS provides BOM savings in development costs and time through a unified design flow.”

Multicore design needs a new language....


Multicore developments need a new programming language, says one of the UK's leading experts on the technology. This is particularly important as people start to build massively parallel systems with millions of processor cores.

"Most of our programming languages and processors aren't designed for multicore and the current design practice is not helpful," said Prof David May, head of computer science at the University of Bristol, inventor of the transputer and founder of

XMOS Semiconductor, speaking at the recent SiliconSouthWest Multicore Seminar at the University of the West of England. "In terms of threads it's a disaster," he said, and traditional design approaches just don't work.

"Interrupts are very difficult to use and add long latencies, so trying to build a software model that predicts the throughput is incredibly difficult," he said. He points to languages such as Occam and now CX, developed by XMOS to tackle these problems. "We can build tools that can actually predict the performance of

instructions through the execution unit."

This will become even more important as cores get smaller and there are many more of them in the system. "People are aiming to build computers with millions of processors over the next few years and one of the big bugbears in hardware is that the world is constantly changing," he said. "It would be good to have tools that handle both packets and high level circuits." 

www.xmos.com


... and new standards...

New standards are needed for multicore systems, particularly at the programming interface, says the executive chairman of Cheltenham-based software tool developer Atego

"We need new standards for example in multicore communications APIs," said James Gambrell of Atego. "That's been started but we are very much in the

early days." He also sees the same problems as May. "People will be designing with hundreds or thousands of cores in ten or twenty years and today's languages weren't designed for concurrent design," he said. "We are seeing limitations in languages and a lot more thinking has to go into testing early and often, especially with virtualisation," he said. "Memory

management is also a huge issue and in the long term there are more appropriate languages such as Java. Managing this complexity is about using modern modelling practices."

"We are at the very early stages of experimentation," he said. "Multicore has forced all engineers to realise they are system engineers." 

www.atego.com

... although there is already one to use, says Altran-Praxis

There is already a clearly defined language that's appropriate for embedded multicore developments, says leading systems house, but engineers need to learn it.


"The technology has been around for 15 years but most people have never heard of it," said Rod

Chapman at Altran-Praxis in Bath. "We develop hard real time, high assurance embedded systems, sometimes we have a real time operating system, sometimes not, for customers such as the NATS Air Traffic control, the US FAA CAA and the GCHQ, so these systems have to work."

The company uses a tool called Spark

(no relation the SPARC processor) that uses a language called Ravenscar. This is subset of the Ada language that is optimised for information flow analysis and verification of hard real time, safety critical systems.

"Writing the software is 10 to 15% of the project and verification is a huge huge problem and here there's a skills issue. We take engineers and we train them in the new language because that's what we need to do."

Ravenscar defines a fixed set of tasks with protected objects with inherited priorities that is inherently deadlock free and programmes developed with Spark can be as small as 2kbytes in size. 

www.altran-praxis.com

"Writing the software is 10 to 15% of the project and verification is a huge huge problem and here there's a skills issue. We take engineers and we train them in the new language because that's what we need to do."

Atego ships its first multicore Virtual Machine for ARM processors

Cheltenham-based embedded software tool supplier Atego has launched its first multicore virtual machine for ARM processors. The Aonix Perc Ultra SMP 5.4 adds support for concurrent symmetric multi-processor (SMP) Garbage Collection (GC) technology in processors such as those based on the ARM Cortex A9. Initial testing of this port was done using a four core ARM processor running Linux.

“Atego extended the Aonix Perc Ultra SMP line to include ARM processors based on customer demand,” said James Gambrell, Executive Chairman at Atego. “Having already demonstrated success with its non-SMP version of Aonix Perc Ultra for ARM processors in a number of deployed systems such as in-flight entertainment & cabin management systems and a shipboard defence control application, our customers were anxious to move up to multi-core functionality. With this SMP version being introduced Atego is pleased to fulfill the customer demand in such an exciting growth market.”

“We are impressed with the scalability of benchmark results from Aonix Perc Ultra SMP on the quad core Cortex-A9 MPCore processor,” said Ian Rickards, Product Manager for the Processor Division at ARM. “Having an advanced real-time virtual machine with the ability to effectively scale across ARM multi-core systems opens exciting new opportunities. The combination of Atego’s Perc and power-efficient Cortex-A9 processor technologies will be very interesting to many projects looking to leverage the wealth of downloadable Java libraries now available to them for multi-core deployment.”

In addition to the enhanced concurrent GC technology, and multi-core ARM capability, the product supports AWT/Swing libraries for embedded platforms giving graphics developers the immediate availability of hundreds of downloadable community projects. AWT (Abstract Window Toolkit) is a portable GUI library for stand-alone applications and/

or applets and provides the connection between a Java application and the native GUI. Swing implements a set of GUI components that build on AWT technology and provide a pluggable look and feel. Swing is implemented entirely in the Java programming language, and is based on Lightweight UI Framework. Support of these graphics libraries enables faster development and provides the foundation for more extensive use of graphics in embedded and real-time Java systems.

The Aonix Perc Ultra is a virtual machine and tool set expressly created for demanding embedded and real-time systems requiring Java Standard Edition support without sacrificing integrity, performance or real-time behaviour. The product line offers Ahead-of-Time (AOT) and Just-in-Time (JIT) compilation, remote debug support, deterministic garbage collection, standard graphics and extended commercial RTOS support. www.atego.com

Ocean Blue backs YouView standard

Bristol-based digital TV developer Ocean Blue Software is developing software for a new generation of Internet-linked set top boxes for YouView, the soon-to-be-launched joint venture video platform backed by the BBC, ITV, Channel Four, Five, BT, TalkTalk and Arqiva.

“YouView promises to give viewers all the plug-in-and-watch simplicity of Freeview, plus the UK’s leading Internet catch-up and video on-demand services through one simple set-top box,” said Philip Evans, director of

Ocean Blue. “It’s a user-friendly solution for those who love TV but don’t want to pay a subscription fee. I think it’s a great innovation.”

After a shaky start that included a challenge from the Competition Commission says OBS, YouView now looks set to launch in the first half of 2011 and for the first time ever viewers will see their on-screen programme guide going both backwards in time as well as forwards. It will have High Definition (HD), a limited choice of pay-TV channels and on-demand

programmes. It is also a personal video recorder, so consumers can pause, rewind and record live TV whenever they like. All the usual parental controls, plus some exciting new accessibility features will also be included to ensure YouView is made accessible to as many people as possible. Ocean Blue is working with their Asian set top box manufacturer to develop a full solution, to be released early 2011.

Ocean Blue has been working closely with the RNIB to produce software that enables the visually impaired to enjoy television more than is currently possible. It has its own ‘app store’, Treasure Box, where consumers can download audio books, music, quizzes and films, and link to local community information will be available through the YouView set top box. www.oceanbluesoftware.co.uk

“YouView promises to give viewers all the plug-in-and-watch simplicity of Freeview, plus the UK’s leading Internet catch-up and video on-demand services through one simple set-top box.”

Deltenna's WiBE goes on direct sale...

Chippenham-based wireless technology developer Deltenna is now selling its WiBE device that deliver fast broadband to rural areas to consumers and businesses in the UK and Ireland through its reseller network.

The gadget connects to the 3G mobile network and creates a web hotspot – even when a mobile phone, dongle or MiFi device wouldn't register a 3G signal. Recent independent tests for a UK broadcaster showed that in areas of weak signal the device delivers a data throughput 30-times greater than a 3G USB modem dongle. The connection range is typically between three and five-times that of the 3G dongle.

The WiBE's maximum throughput is 7.2Mbps and extensive tests in the UK demonstrate a typical download speed of 2.8Mbps in rural regions.

These are achieved through Deltenna's patented directional antennas and alignment algorithms. The device automatically tests each mobile cell in range to determine the fastest available download speed and configures its aerials to achieve the best possible connection and block any interference.

The first companies to offer the WiBE are Cetag Systems (<http://www.wibe.ie>) in Ireland and Buzz Networks (<http://www.buzznetworks.co.uk>) in the UK. Buzz will resell the WiBE with its VoIP service under the name Hubb@, while the unit is available from Cetag directly for £425, although Deltenna expects that to fall quickly once network operators start offering the technology.

The WiBE is undergoing trials with major network operators. www.deltenna.co.uk

... as it wins 'Best Mobile Technology' award

The WiBE high-speed rural broadband device developed by Deltenna of Chippenham has won a 'mobile communications technology innovation' award.

The device was judged to be one of 2010's top four UK mobile technologies by an independent panel of industry experts. This included

members of the UKTI and Digital Communications Knowledge Transfer Network (DCKTN) who organised the competition at Mobile Monday in London.

The competition was created to highlight the innovative strength of British technology sector. The UKTI and DCKTN will arrange for the four winners to receive prominent stand space at Mobile World Congress in February. www.deltenna.co.uk

SW Events

Silicon 2010 – F for Funding

Fri 19th November
Innovation Centre, Bath
www.siliconsouthwest.co.uk

UKTI: Doing Business in Asia

23rd November
Bristol Marriott
www.bristolenterprise.com/events

Using MISRA for Safety related Systems Development

24th-25th November
London SCSC
www.scsc.org.uk

Against The Odds - Martin McCourt, CEO, Dyson

29th November
UWE
www.bristolenterprise.com/events

Military, Defence & Aerospace Electronics 2010 (MAE)

Tue 30th November
Royal Berkshire Conference Centre, Reading
<https://ktn.innovateuk.org/web/1942502>

Power of Windows 7 in an Embedded Device

Thurs 9th December
IET, Austin Place, Birmingham
www.directinsight.co.uk/contactus/wes-7-training.html

UK Plastic Electronics Showcase

15th – 16th Dec
Ambassadors Hotel, Bloomsbury, London
<https://ktn.innovateuk.org/web/uk-plastic-electronics-showcase>

The Future of Cloud Computing

20th January 2011
Watershed, Bristol 4pm Digital Systems KTN
ktn.innovateuk.org/web/dsktn/events

Consumer Electronics Show

6-9 January 2011
Las Vegas
www.cesweb.org

Mobile World Congress 2011

14-17 Feb 2011
Barcelona, Spain
www.mobileworldcongress.com/

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