



## Altium sets up prototyping lab in Bath

Australian design tool company Altium is to set up a prototyping lab for startups and new ideas in the SiliconSouthWest Labs at the Innovation Centre in Bath.

The lab will have two full licenses of Altium's design tools, two of its Nanoboard 3000 FPGA-based prototyping boards, three peripheral boards for adding custom devices and six connectors to other development boards such as FPGAs and microcontrollers. The Nanoboard systems can then have cases and displays added to provide a fully functioning product for demonstrating.

"I believe in supporting the UK electronics industry and organisations like SiliconSouthWest are trying to build activity from the ground up which is what I believe in and I want to be part of it," said Phil Mayo, managing director of Altium's UK representative, Premier

EDA. "We have had a university programme for years but this opens things up to more people."

The Lab will be available to anyone with an idea that involves electronics when it launches later this month. "Anyone, really anyone, that has an idea for designing electronics can use our tools in the Innovation Centre," said Mayo. "They can then use this as a vehicle to further funding."

Premier EDA and Altium would support any company going forward with tools and technology. "If they capture our imagination then we will help them in whatever way we can," said Mayo.

SSW Lab Director, Surendra Kaushik, said: "I'm delighted with Altium's support and the opportunity to grow the capabilities of the Lab - this is a flexible tool set which will be invaluable for start-ups. [www.siliconsouthwest.co.uk](http://www.siliconsouthwest.co.uk)

*"I believe in supporting the UK electronics industry and organisations like SiliconSouthWest are trying to build activity from the ground up which is what I believe in and I want to be part of it."*

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## Wiki charts development of the South West cluster

SiliconSouthWest has launched a collaborative encyclopedia, or Wiki, charting the development of the silicon and electronics cluster in the SouthWest.

The Wiki is based around the recent 'Chips With Everything' report on the cluster by NESTA and like Wikipedia

can be edited by anyone, with changes tracked and controlled to ensure accuracy. This will allow the Wiki to grow as new developments and new technologies emerge.

It currently covers the rise of Plessey and Inmos as key factors for the region, as well as highlighting some

of the serial entrepreneurs who have created several silicon startups, with contributions from a wide range of people involved in the industry in the region.

The Wiki is available from the SiliconSouthWest web site. [www.siliconsouthwest.co.uk](http://www.siliconsouthwest.co.uk)

## 2011 starts off with a bang

This year has started with a bit of a bang. Good times on the horizon for the chip market, as charted by Malcolm Penn on p10 comes opportunities to grow, and SiliconSouthWest is becoming a key part of that. The new prototyping lab in the Innovation Centre in Bath, backed by Altium and Premier EDA, will help start-ups develop their ideas without having to spend the earth. That should boost

This is even more important as electronics makes its way into other areas, most notably medical systems. Later this month (see page 3 for details of the iMed seminar) we are looking at the opportunities in medical systems with the brightest and the best, from the chips to the apps, with technologists and the leading healthcare experts.

We are also celebrating our heritage with a new editable encyclopaedia, or Wiki, all about the growth and activities in the region (as on page 1). It is at an early stage but it will grow as new content is added and new things happen. News, as ever, will come from the newsletters and the constant updates on the website, clearly showing the strength of the activities across the region.

**Nick Flaherty**

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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](http://www.flaherty.co.uk)


# ProVision launches world's first multichannel HD wireless TV system

**P**roVision Communication Technologies in Bristol has teamed up with Californian chip startup Zenverge to launch the world's first multi-channel, multi-room HDTV over Wi-Fi gateway.

The AXAR2010i system is based on the Zenverge ZN200, a four channel HD media codec and transcoder system on a chip. The ZN200's application processor executes ProVision's end-to-end wireless video software can handle up to four 1080p video streams simultaneously by using a video quality based statistical multiplexing algorithm to ensure video quality. ProVision's dual band directional antenna system also provides significantly enhanced range and throughput at significantly lower cost than other antennas.

The software is licensable for OEMs

and can operate either standalone or as an add-on module to multi-room set-top boxes and residential gateways and can be applied to coax, power-line and wireless technologies.

"Consumer demand for wireless multi-stream, multi-room High Definition TV is clear; whether the source is set-top box, DVR, Blu-rayplayer or IPTV" said Steve Cliffe, chief executive of ProVision, which raised \$1m at the start of last year for the product development. "Coax, power-line and wireless technologies will all play their part in the connected home, but clearly the need to deliver to laptops, smart phones and other mobile devices will drive wireless connectivity. Zenverge's ZN200 provides an ideal platform for our quality of service software as it allows for managing multiple streams of HD." 

[www.provision-comm.com](http://www.provision-comm.com)


## Dialog buys low power RF chip designer

**D**ialog Semiconductor in Swindon has bought SiTel, a designer of voice over IP and cordless phone chips in Holland that was a spin off from National Semiconductor, for \$85m.

The deal adds key short-range wireless connectivity and VoIP to Dialog's existing technology as well as major global customers in the portable device market, including Gigaset, Panasonic, Microsoft, Plantronics and LG Ericsson.

"We see the acquisition as highly complementary to our existing business and it will allow Dialog to address adjacent emerging connectivity markets in a compelling way," said

Dr. Jalal Bagherli, CEO of Dialog Semiconductor. "The acquisition adds an established team of nearly 100 engineers, including expertise in low power RF. Dialog now benefits from a differentiated technology portfolio and an extremely competitive platform for our customers, leveraging both our superior power management technology with low power short-range wireless technology," he said.

"Our ultra low power wireless technology, including both innovative proprietary and standards-based solutions has allowed SiTel to become a leader in wireless connectivity," said Dr. Asmund Tielens, CEO of SiTel.   
[www.dialog.com](http://www.dialog.com)

*"The acquisition adds an established team of nearly 100 engineers, including expertise in low power RF."*

# i-Med: How medical electronics will deliver patient power

Dinner on the evening of Thursday, 24 March  
& Networking Seminar on the morning of Friday, 25 March

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

The Silicon South West network is supported by:



This networking seminar looks at the increasingly important area of medical electronics and applications, particularly with the use of wireless networks. Speakers from the NHS, silicon and embedded systems companies and applications developers will explore the opportunities for developing the next generation of medical systems and their place in the healthcare ecosystem.

## Delegate Fees:

### Silicon South West Dinner:

£55 (+VAT) per person

### Silicon South West Seminar:

£20 (+VAT) per person

### Combined Dinner & Seminar:

£70 (+VAT) per person

## Speakers:

- **Noel Hurley**, Chief Operating Officer, **Toumaz Technology**
- **Phil Evans**, Director, **Ocean Blue Software**
- **Tim Phipps**, **Cambridge Consultants**

## Plus healthcare expert panel led by:

- **Dr Nigel Harris**, Director, **Bath Institute of Medical Engineering**
- **David Rogers**, Ex President and Chief Executive, **Lucent EMEA**

## Chair

- **Nick Flaherty**, Editorial Director, **Silicon South West**

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- Software applications

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# Toumaz launches ultra-low power self-powered radio chip

**T**oumaz Technology in Oxford has launched an ultra-low power radio chip aimed at wireless sensors in environmental and medical systems that can use solar or energy harvesting systems and so be self-powered. The chip can be used both for the sensor and in the hub that collects the data.

Toumaz has rejected using existing standards such as Zigbee and Low EnergyBluetooth and developed its own protocol to provide continuous power of under 3mW in the Industrial, Scientific and Medical bands under 1GHz.

“Bluetooth at 2.4GHz suffers from interference from Wifi and microwaves while we do not need the mesh capabilities of Zigbee and the ISM band gives us more range” said Paul Padden, Head of Toumaz’s Low Power Radio Business Unit.

The system-on-chip is built on Toumaz’s proprietary AMx Mixed Signal technology and includes an 8051 processor to make it easy to use and runs at 1V using a single button cell battery and consumes less than 3mW continuous use power consumption. “This is the worst case performance and with a duty cycle it is considerably better,” said Padden.

“With this important addition to our ‘Connected Consumer’ portfolio, we are harnessing our strengths in ultra-low energy wireless healthcare to create solutions for high-volume consumer markets,” said Professor Chris Toumazou, founder and CEO of Toumaz. “TELTRAN is uniquely placed to support the development of a range of new ultra-low energy wireless applications, and we are very excited by the product opportunities that we will be enabling for our customers with today’s launch.”

The TELTRAN contains an enhanced 8051 running Toumaz’s Nanopower Sensor Protocol (NSP) allowing developers to program and control the TELTRAN device easily with high level commands either over a standard interface eg UART or “over the air”.

Target applications include the development of two-way communication remote controls for consumer electronic devices; wireless sensor networks based on TELTRAN sensor nodes and basestations; environment monitoring and room temperature control; remote controls and toys/games; and smart metering, using TELTRAN wireless sensor networks to connect multiple meters for the two-way transmission of status data and firmware upgrades. [www.toumaz.co.uk](http://www.toumaz.co.uk)

*See also iMed, page 3*



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# MPC Data at heart of UK Cores and More strategy

European distributor Silica has launched a 'Cores and More' strategy to provide more software support around the latest ARM chips, and plans to make use of MPC Data in Trowbridge as a key partner. MPC Data is already a major partner for Microsoft Embedded software and Silica sees the company as key to rolling out the capability on ARM chips with other software support.

"Core 'n More will help customers to build smarter applications with the industry's widest microcontroller choice

in the shortest time frame and with the best technical back-up resources," said Miguel Fernandez, Silica president. "Silica's microcontroller portfolio includes eight of the world's top ten MCU manufacturers. We called the programme Core 'n More because it extends far beyond the distribution of Microcontroller components. Core 'n More also recognises our unrivalled ecosystem of design and software partners and our strong collaboration with ARM whose processor technology provides one of the most established, technically advanced building blocks for embedded designs."

The company is focussing on the Cortex M3 and M4 and A8 and A9 processors and future variants to support developers with development tools, operating systems, stacks and board support packages and partners with companies to provide modules and engineering support for development systems, including Compilers, Debuggers, Simulators, Emulators and Development Boards.

"In past years we have proven our ability to deliver in-depth technical support primarily for programmable logic designs and in the analogue world," said Karlheinz Weigl, regional vice president Central Europe, and Silica's executive sponsor of the programme, speaking in the UK. "We are now taking this further to provide the most solution-oriented support for Microcontroller designs from any distributor in Europe." ■

[www.silica.com](http://www.silica.com)  
[www.mpcdata.co.uk](http://www.mpcdata.co.uk)

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# Nujira backs alliance for Envelope Tracking

A new alliance has been launched to encourage faster adoption of Envelope Tracking (ET) technology to reduce the cost and power consumption of wireless transmissions for cellular, broadcast, and wireless communications. The OpenET Alliance, initially set up by Nujira, has appointed a board, is accepting members and has published standard interface specifications accessible to any device or terminal manufacturer interested in implementing the technology.

Nigel Dixon has been named as Chairman of the OpenET Council, a role he takes over from interim chair Simon Whittle who heads up Nujira's design centre in Bath. He is

joined by Steven Baker as Technical Director. "Envelope Tracking is attracting growing interest as the most effective wide-band power optimisation technology for wireless transmissions in cellular and other applications," said Dixon. "We are currently in discussion with a number of Tier 1 manufacturers in the cellular terminal and base station ecosystems regarding membership."

The Alliance is publishing open, industry-standard Interface specifications for ET implementation in chips and products to reduce development and adoption risk for all ecosystem participants. The specifications enable ET capability to be added to chipsets for mobile terminals, cellular base stations and other applications with

minimal impact on the cost and power consumption of the chipset itself.

"We aim to be a centre of excellence for Envelope Tracking and other power optimisation techniques in wireless transmission systems, and will play a central role in defining next generation Envelope Tracking and power reduction interface standards," added Dixon.

The Alliance is publishing an OpenET Terminal Interface specification for handsets alongside the existing specification for base stations. Nujira, the developer of ET technology, is sponsoring the Alliance and making its IPR in the interface specification available to OpenET members. [www.open-et.com](http://www.open-et.com)

## Exeter University joins SETsquared

Exeter University has joined Bath, Bristol, Surrey and Southampton in the SETsquared Partnership, one of the UK's most successful and long running university enterprise collaborations.

"It is excellent news that the University

of Exeter has now decided to become a member. It produces outstanding research and is strongly engaged with its regional business community," said Ron Humphreys Director of Bath Ventures. "We look forward to working together to bring further beneficial impact to the economy and wider society through

our business support facilities and our combined research portfolio."

Between them, the five SETsquared universities have nearly 7,500 academics and are jointly responsible for nearly nine per cent of the UK's research budget and the has supported 650 companies, helped raise more than £150m in capital and created over 1,000 new jobs. [www.setsquared.co.uk](http://www.setsquared.co.uk)

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# Hiwave taps SW talent ... again

**H**iWave Technologies – formerly NXT – has appointed Caroline O’Brien as Chief Commercial Officer. O’Brien has a heritage in the SouthWest, having been vice president of sales for chip designer Sondrel, global sales director at Oxford Semiconductor and she did her MBA at the University of Bath.

She comes to the Cambridge-based provider of electronic solutions for

audio and haptic touch from NASDAQ-listed PLX Technology where she was sales director for the Europe, Middle East and Africa, and joins Oxford Semiconductor founder James Lewis who is now CEO at HiWave.

“Caroline’s combination of technical and business track record, together with her global commercial experience, make her ideal for this role as we continue the transformation of the company into

a vendor of semiconductors, electronic modules and transducers for audio and next-generation touch panels,” said Lewis.

O’Brien joins SW veteran Michael Davison who started with HiWave in January as as Chief Operations Officer after orking for Audium Semiconductor and picoCHip, as well as GEC Plessey Telecom, Brooktree/Pioneer, Oak Technology and Conexant in Bristol. [www.hiwave.co.uk](http://www.hiwave.co.uk)

# Icera appoints chief of Amalfi for push into smartphones

**I**cera has appointed the former chief executive of Silicon Valley chip startup Amalfi Semiconductors as Vice President Marketing. Jim Finch will take overall responsibility for product marketing, strategic marketing and corporate communications activities.

“As Icera expands into the smartphone segment from its already strong mobile broadband position, establishing leadership in our product definition and positioning is vital,” said Stan Boland, President & CEO at Icera. “With an excellent track record at

major semiconductor companies and in building new businesses, Jim is an outstanding addition to our executive team and I am delighted to welcome him to Icera.”

Jim was previously Founder and CEO at Amalfi, pioneering CMOS technology for cellular power amplifiers, and before that was Marketing Director at Broadcom. [www.icerasemi.com](http://www.icerasemi.com)

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# Whatever happened to Plan A?

Malcolm Penn of Future Horizons looks at how last year performed and the prospects for the semiconductor industry in a bumper 2011

The latest semiconductor market results were as boring as they were predictable, with no serious data revisions (thankfully) and the results right where we expected. The yearly growth vs 2009 weighed in at 31.8 percent, hitting US\$298.3 billion, just shy of the elusive US\$300 billion threshold, and so we still think 2011 will be a good year for the industry. There will be choppy first-half waters for sure, but watch out for a whopping ricochet in the second half.

December's year-on-year IC unit growth was 8.9 percent that, with the 3.5 percent growth (yes growth) in average selling prices, gave a respectable double-digit value growth of 12.8 percent. And this on the back of a weak Q4 memory market that saw ASPs fall 13.1 percent vs Q3-10.

Already the early warning signs are there for the ricochet: HP has warned of slipped Q1 PC shipment due to component shortages, from sensors to CPUs; TSMC and UMC are curtailing their Chinese New Year annual maintenance programmes due to serious capacity shortages; there is no excess inventory in the pipeline and capacity is maxed out; the front-end book-to-bill has now dropped back below unity; and memory prices have rebounded sharply in the pre-Chinese holiday period. The whole industry food chain is now an overstretched taunt spring ... with no easy roll back option. Last year's industry model is way past its sell by date ... is it time for a radical rethink? Plan A is NOT sustainable.

## Connector boom

It is not just semiconductors that are off to a good start ... the connector

industry is tight as a drum too. Orders in December 2010 were up 13.3 percent versus December 2009, with full year orders up 29.3 percent on 2009, down sequentially 11.1 percent from November 2010. The comparable data for sales was plus 18.7 percent, plus 28.4 and minus 13.7 percent.

The December connector book-to-bill ratio was 1.01, unchanged from November - this industry still publishes orders and book-to-bill data by the way, unlike the chip industry which very foolishly stopped publishing this several years ago.

All this in the seasonally slow first quarter of the month ... yet few people believe there is a supply problem in prospect. Just as this time last year, industry denial is rampant, way beyond reasonable caution and ignoring the underlying trends.



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### About Cascoda:

Cascoda is a dynamic startup company, with a portfolio of IP and patents which will enable RF products to dramatically increase area coverage whilst reducing power consumption.

### Contact:

**Bruno Johnson**  
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[www.cascoda.co.uk](http://www.cascoda.co.uk)

## TSMC digs in for growth

In January TSMC forecast the semiconductor market to grow 7 percent in 2011, in line with our own expectations, with its revenues increasing a massive 20 to 22 percent as they gain share in advanced and specialty technologies.

Despite their massive billion Cap Ex spend in 2010, the firm expects to be running at 100 percent utilization throughout the whole of 2011, and both they and UMC cancelled or reduced maintenance downtime during the Chinese New Year holidays.

This has never happened before, and the temptation of do this is, along with cutting back on engineering access, restricting wafer variety runs and ignoring small volume/low yielding device orders, is an obvious one during periods of tight capacity but not doing annual maintenance might just backfire later in the year. There is a real danger that yields will start to uncontrollably drift as a result of skipping the annual-maintenance. That would carry a

massive risk for the world's IC makers, affecting every single Fabless and Fablet vendor alike.

## The supply chain remains tight


Signs of a normal first quarter seasonal slowdown are now scarcer than hen's teeth. There is simply no breathing space left in the supply chain and no chance to catch up before the 2H11 seasonal rebound.

Several OEMs are already reporting component-restricted production problems and foundry capacity remains tight and overly stretched. There is a clear warning here to all fabless and fablet firms alike ... no wafers, no ICs – and no sales for you or you OEM customers.

That is the real strategic value of IDM. In CPUs, Intel controls the OEM sales channel (by deciding which CPUs to wafer fab) ... in the logic market, for 'Intel' read 'foundries' (i.e. THE foundry!), especially as we move down to sub-30nm technology. Dual foundry sourcing was never a problem at 90nm

## Industry gathers in Marrakech

Future Horizons has added new speakers for its gathering of the industry at the International Electronics Forum in Marrakech from Wednesday 4th - Friday 6th May.

Speakers include Hossein Yossaie, CEO of Imagination Technologies, alongside Zvi Or-Bach of Monolithic 3D (formerly NuPGA), Mojoy Chian of GlobalFoundries, Joseph Sawicki of Mentor Graphics' Design To Silicon Division and Dr Lode Lauwers of imec. 

[www.futurehorizons.com/page/71/International-Electronics-Forum-2011](http://www.futurehorizons.com/page/71/International-Electronics-Forum-2011)

and above ... at 32nm and below, there will be no second source possible, porting a design simply will not be an option.

As we said in January's Report ... we are in for a very strong year indeed and Fab-Tight is the new Fab-Lite.   
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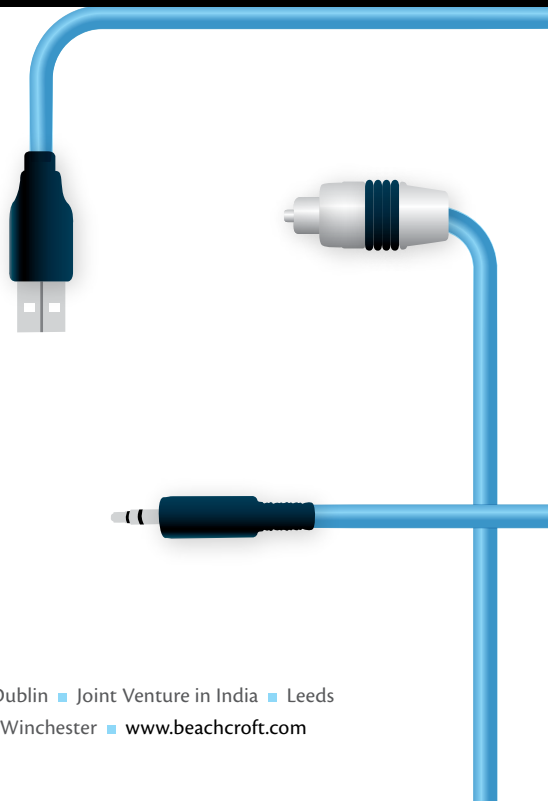
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# Wolfson launches its first programmable DSP

**W**olfson Microelectronics has launched its first programmable digital signal processor (DSP) chip for audio systems that can reduce power consumption in portable systems such as smartphones and tablets and uses software developed by a team in Newbury.

Previous Wolfson chips have used dedicated DSP, but opening up the core to third party developers is a major step forward for the company and the software support is key. The

WM0010 uses the HiFi2 DSP from US IP provider Tensilica, which also comes with tools such as compilers and debuggers, which is vital as smartphone, tablet and TVmakers will use the chip to add their own audio algorithms and those developed by the Newbury team.

The chip uses 12mA at 1.3V, and the performance allows the chip to switch off for 7/8ths of the cycle for operations such as MP3 decoding. This reduces the power consumption to around a third of

a typical audio SoC for this function, says the company.

The chip will also run a real time operating system, although the licensing agreement hasn't been finalised for this yet. Samples will ship in Q2 with volume production in Q4.

Edinburgh-based Wolfson had a hardware design team in Swindon but moved to Newbury in 2009 and concentrated on software. [www.wolfson.com](http://www.wolfson.com)

## Developing medical systems in the South West

**S**iliconSouthWest is running a networking seminar that looks at the increasingly important area of medical electronics and applications, particularly with the use of wireless networks. Running on Friday 24th March, the seminar 'IMed: How medical electronics will deliver patient power'

includes speakers from the NHS, silicon and embedded systems companies and applications developers will explore the opportunities for developing the next generation of medical systems and their place in the healthcare ecosystem.

Confirmed speakers include Noel Hurley,

Chief Operating Officer of Toumaz Technology, Phil Evans, Director of Ocean Blue Software and Tim Phipps of Cambridge Consultants. The seminar also includes a panel of healthcare experts led by Dr Nigel Harris, Director of the Bath Institute of Medical Engineering [www.siliconsouthwest.co.uk](http://www.siliconsouthwest.co.uk)



Assisted Living Action Network

[www.assistedlivingaction.net](http://www.assistedlivingaction.net)

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- ✓ Design, layout, verification
- ✓ Product test requirement plan
- ✓ Evaluation, characterization & qualification of silicon
- ✓ Productionisation and supply
- ✓ Yield optimization

### EVALUATION

- ✓ Ensure implementation meets all necessary system requirements.
- ✓ Verify all key performance metrics are met over environmental conditions

### CHIP SUPPLY

- ✓ Foundry interface
- ✓ Handle production test, package and any QA issues.
- ✓ Customer receives parametric tested and packaged Si.

## Riverbeck Ltd (founded 2003) is an Intellectual Property and Silicon Product Provider

Its internationally respected ASIC design team has secured design wins and chip supply contracts around the world.

Proven wired and wireless physical layer interfaces, using our core strengths of RF analogue and digital systems design and implementation, are our specialization leading to complete systems-on-chips (SOC) tailored to your requirements.

Our service includes choosing the process technology to meet your goals together and a detailed system analysis to optimise the architecture and design concepts. Deep sub-micron analogue circuits employ digital assistance and calibration methods.

### Teamwork and Partnership

- ✓ Promote mutual confidence, concept to delivery
- ✓ Work to gain a complete understanding of product requirements, options and expectations.
- ✓ Generate and agree a detailed IC specification with customer
- ✓ Agree a detailed project plan

### Riverbeck's commitment to customers

- ✓ Keeping you informed with regular updates
- ✓ A partnership where we welcome your input
- ✓ Competitive and quality products and application solutions.

### Supporting Services

- ✓ Application, demonstration and evaluation PCBs
- ✓ Application software and firmware to support solution.
- ✓ Programming of FPGAs (Lattice and Xilinx)
- ✓ Chip evaluation, characterization, qualification

### Business Models

- ✓ Prestudy followed by fixed price IP development.
- ✓ Prestudy plus royalty based payment.
- ✓ Chip supply. Discounted development costs with a contract to supply tested silicon chips.

### Using Industry Standard Design Tools

- ✓ Cadence, Matlab, Mentor and Agilent

### Design Flow

- ✓ System modelling to establish optimal analogue, digital and software partitioning
- ✓ Block level design, simulation and post layout verification including high level modeling.
- ✓ All designs simulated over environmental and process extremes to verify production robustness and yield
- ✓ Floor planning and layout to minimize size, and interaction effects e.g. thermal and substrate noise
- ✓ Design and yield optimization

### Silicon Proven Designs

- ✓ Line drivers & wireless transceivers for a wide variety wireless and wired communication standards (UWB 802.15.3a, DECT, GPS, Bluetooth, DVB-S2/T, ADSL).
- ✓ Data converters to 220MSps. 12 bit ADC, 10 bit DAC
- ✓ Wideband satellite TV distribution system.
- ✓ Low noise amplifiers and I/O buffers with <10dB return loss up to 6GHz. Wideband LNAs with <3dB NF.
- ✓ HDMI 1.3 PHY and video interfaces
- ✓ Tuners for Bluetooth, GPS & ISM band radios
- ✓ Type II LC based PLLs - VCOs up to 10GHz. Very low phase noise for above standards. Integer N, FracN dividers, chargepump, digital synths. Inductor synthesis and design.
- ✓ High frequency continuous time filters, 650MHz 5<sup>th</sup> order lowpass. Polyphase, bandpass, LP and HP.
- ✓ Touchpad capacitive sensor detector amplifiers
- ✓ Image and harmonic reject mixers
- ✓ Bandgaps, references and bias generation
- ✓ Crystal oscillator cells
- ✓ Display drivers

# SouthWest shines at Mobile World Congress

Companies across the SouthWest have been making a splash at the global gathering of the mobile industry last month in Barcelona. Deltenna, picoChip, Ubiquisys, Icera, IPWireless, Mirics Semiconductor, Lime Microsystems and AceAxis were all showing new technologies at Mobile World Congress this year.

## Picochip shows world's first end-end demo of LTE femtocell

**P**icochip has demonstrated the world's first public demonstration of a commercial LTE femtocell eNodeB basestation working with terminals. Picochip's PC960x is the only LTE basestation specifically designed for cost-effective 'small cells', and combines the company's OFDMA expertise with its high-volume 3G femtocell experience.

The end-to-end small cell demo combines Picochip's picoArray-based hardware and modem, Continuous Computing's upper-layer software,

and dongles (user equipment, or UE) using Wavesat's Odyssey 9000 family of chipsets. Picochip's PC960x crams a complete LTE basestation into a chassis barely larger than a hardback book.

"For LTE to deliver on its potential, carriers must deliver high-speed data with a lot of capacity – and that requires small cells," said Doug Pulley, Co-Founder and CTO at Picochip in Bath. "Picochip is the leading supplier of optimized 'small cell' technology and this demonstrates that our carrier-class LTE and dual-mode products are ready

now. They build on our experience in cost-effective 3G femtocells and scale up - a more sensible approach than trying to cram a full macrocell into a small box. It may be a few years before operators need residential LTE femtocells, but carriers are already asking for cost-effective solutions for urban hot-spots and 'metrocells' and we have solutions available today to meet that need."

Picochip's PC960x eNodeB integrates radio, PHY and Continuous Computing protocol stacks into a complete system and supports all the standard modes of LTE up to Release 9, with both TD-LTE and FDD variants. Picochip has also announced dual-mode (LTE and HSPA+ in one platform) variants. [www.picochip.com](http://www.picochip.com)

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## IPWireless teams with Samsung on multimedia broadcasts

**I**PWireless has teamed up with Amdocs to run various IMB multimedia applications on the Samsung Galaxy S phone and Galaxy Tab tablet PC, both running the Android operating system.

"IMB has the potential to deliver the

multimedia experience consumers want at an economic model that makes sense for operators," said Rebecca Prudhomme, vice president of product and solutions marketing at Amdocs.

"Amdocs and IPWireless bring advanced application features that enable service

providers to move beyond Mobile TV and offer innovative and intelligent new broadcast services that will lead to an enhanced consumer experience."

The demo is using chips developed by IPWireless in Chippenham. [www.IPWireless.com](http://www.IPWireless.com)

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## Icera launches world's smallest HSPA+ chip for Android

**I**cera has started sampling its latest Espresso chips, targeted at HSPA+ smartphones. The Espresso450 combines Icera's latest baseband and RF technology and delivers quad band HSPA+ up to 28Mbps together with full quad band 2G/3G voice support functions in the industry's smallest footprint, a tiny 700mm<sup>2</sup>.

The 450 is also the first to include a complete radio interface layer for the Android operating system and full validated voice technology. "Icera has

evolved quickly from its start-up phase to being established now as one of only two major vendors in the data-intensive mobile broadband chipset market, with Icera being famous for continuously offering the world's highest performing chipsets," said Stan Boland, President & CEO of Icera.

"We are now taking the important step of applying this knowhow to the much larger Smartphone market. We're sure to produce the same results – transformation in user experience, much smaller form factors, new competitive cost points - and now with great voice quality too."

The Espresso450 uses Icera's latest radio technology, the 65nm Livanto ICE9225 multi-mode transceiver in a 6x6mm package and the 40nm Livanto ICE8065 soft baseband processor in a 7x7mm package.

Icera is engaged with leading application processor partners on pre-integration of the 450 platform and samples of first phones using the chips were shown at Mobile World Congress to ship in late 2011. [www.icerasemi.com](http://www.icerasemi.com)

# Lime teams up on LTE femtocells

**L**ime Microsystems of Fleet has teamed up with two key partners – AirWalk Communications and Mindspeed Technologies – to develop an LTE small cell base station.


AirWalk is an expert in small cells with a broad portfolio of IP-based products including femtocells, enterprise femtocells and picocells, while Mindspeed's Transcede system-on-chip processors have low power requirements

*“We are very happy to be building on our success with Airwalk's best in class CDMA product by delivering our transceiver technology for their new LTE platform.”*

and complex processing capabilities. Lime Microsystems offers a unique wideband multi-standard transceiver technology enabling the deployment of high performance, cost effective CDMA, WCDMA and LTE (TDD and FDD) small cell base stations.

“We are very happy to be building on our success with Airwalk's best in class CDMA product by delivering our transceiver technology for their new

LTE platform,” said Philippe Roux, VP business development at Lime Microsystems. “Airwalk is leading the way in providing innovative solutions to the market utilizing our multi-standard transceiver IC, LMS6002DFN. Our chip supports all frequencies from 400MHz to 4GHz and data bandwidths up to 28MHz.”

The LTE small cell technology is planned to be extended into a complete portfolio of products over the next few years. The introductory product supports the 700MHz band, utilizes 500mW power output, accommodates up to 200 simultaneous users, and supports S1 packet core network interface. 

[www.limemicro.com](http://www.limemicro.com)

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## AceAxis Launches All New LTE radio system

**A**ceAxis, formerly AxisNT, launched its new generation of LTE remote radio heads at MWC.

The Atlas Remote Radio Head (RRH) features the world's most cost efficient LTE 2x2 MIMO RRH. Also being launched is a highly flexible multimode, multicarrier,

multiband 4x4 MIMO RRH and the top of the range 8x8, the world's first LTE multi-antenna beamforming enabled RRH. The company has a key design centre in Bristol and last year was bought by Korean equipment maker Ace Technologies.

“The AceAxis Atlas RRH range will redefine the Remote Radio Head market

in terms of value, quality, reliability, efficiency and continuity of supply,” said CEO Simon Mellor. “Any OEM that is currently producing Remote Radio Heads in-house or outsourcing to another supplier should take the time to visit our stand at MWC to talk about a superior product at a better price” 

[www.aceaxis.co.uk](http://www.aceaxis.co.uk)

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## Ubiquisys shows 20 new femtocell designs


**U**biquisys in Swindon powered over 20 new femtocells at MWC, from consumer femtocells with integrated Wi-Fi and apps to enterprise femtocells that form a self-organising network (SON), and outdoor models that can bring coverage to rural areas via satellite and extra capacity in metropolitan environments.

These all use the Ubiquisys Femto-Engine system which separates device innovation from cellular software complexity. This modular approach gives leading consumer electronics firms a fast-track to work with operators to produce new types of femtocell devices.

“The key value in femtocells is their intelligence, not their miniaturisation. This intelligence, the ability to listen and

make autonomous decisions in real-time, opens the door to a new generation of low-cost cells of all sizes that actively complement traditional macro networks,” said Chris Gilbert, CEO of Ubiquisys. “By encapsulating that intelligence in software, we have released a wave of innovation from leading device manufacturers as they work with operators on new femtocells for new environments. This is just the start

of the proliferation of intelligent femtocell technology.”

The new femtocells come from Public Wireless in the US, Sercomm and Tecom. Ubiquisys' technology is now deployed in volume by several mobile operators across the world, including SoftBank Mobile in Japan and by SFR in France. 

[www.ubiquisys.co.uk](http://www.ubiquisys.co.uk)

*“The key value in femtocells is their intelligence, not their miniaturisation. This intelligence, the ability to listen and make autonomous decisions in real-time, opens the door to a new generation of low-cost cells of all sizes that actively complement traditional macro networks.”*

# XMOS launches its Open Source manifesto

Bristol-based multicore processor designer XMOS Semiconductor has launched its open source manifesto to encourage more people to use its chips and share their developments by providing not just software but also hardware designs.

“XMOS is supporting a collaborative open source community to enable more people to benefit from its great technology,” said the company, started by Prof David May of the University of Bristol. “We know that there is a wealth of talent in the community that can make this happen - in open source projects, entrepreneurial endeavours and commercial companies. Whilst we must protect our core technology, XMOS is committed to openness in tools, software and board designs.”

The company is contributing to already existing open source projects and

sponsoring the XCore Open Source Project, a global partnership developing free software, with intellectual property and enabling technology. “Our objective is to provide a foundation for the collaborative development of both today’s tools and applications and those we have yet to dream of. The open source technologies are developed under free and open source license from inception so anybody is free to study, adopt, modify commercialize and incorporate in commercial products.”

XMOS is providing its contributions under licenses derived from the NCSA/ University of Illinois for software and hardware, as well as providing a community manager and employees to maintain existing designs. The company will also provide access to hardware infrastructure for build and test systems. [www.xmos.com](http://www.xmos.com)

## Ocean Blue warns of digital TV virus risks

The latest generation of TVs and set-top boxes are at risk of virus infection unless manufacturers take steps to build in protection, says Bristol-based digital TV specialist, Ocean Blue Software (OBS). The company, which has developed TV application software for many of the major manufacturers, says the majority of new TVs and set-top boxes that allow for connection to the Internet will be exposed to new forms of viruses never before associated with TVs and STBs.

“Almost any TV based product with a processor, enough memory and an

Internet connection is at risk,” said Ken Helps, founder and CEO of OBS. “That describes today’s digital TVs. Previously, these devices could only receive new software updates ‘Over The Air (OTA)’ which was controlled entirely by the broadcasters. But now, most are connected to the web and have built-in web browsers. Owners can access any internet address and potentially download anything.”

Although every TV and set-top box is different most connected systems now use Linux and widely available software packages such as graphics engines and codecs. Opening up Digital TV receivers to PC centric technologies means that anyone can author the content and with an increasing

proliferation of Pay-Per-View services, personal details, such as credit card information, will be stored within TVs and set-top boxes.

Ocean Blue is developing Neptune software, a firewall for its DVB core, but warns this will provide only rudimentary protection. “TVs do not have sufficient power to run full Anti-Virus (AV) protection,” added Helps. “We have the technology to link our software to a cloud-based AV service that can provide AV scanning before downloads reach the TV set. That would solve the processing issue, and ensure protection was always up to date.” [www.oceanbluesoftware.com](http://www.oceanbluesoftware.com)

See also Ocean Blue at iMed, page 3

## SW Events

### ENIAC Information Day

17 March  
University of the West of England  
South West Microelectronics iNET  
[www.inets-sw.co.uk/micro.aspx](http://www.inets-sw.co.uk/micro.aspx)

### Integrated Systems for Energy Efficiency

24 March  
Plymouth  
South West Microelectronics iNET  
[www.inets-sw.co.uk/micro.aspx](http://www.inets-sw.co.uk/micro.aspx)

### i Med: How medical electronics will deliver patient power

Dinner 24 March  
& Networking Seminar 25 March  
Bath Ventures Innovation Centre, Bath  
[www.siliconsouthwest.co.uk](http://www.siliconsouthwest.co.uk)

### The Rise of Silicon Gorge

6 April - 7pm  
British Computer Society,  
City of Bristol College  
[www.bristol.bcs.org.uk](http://www.bristol.bcs.org.uk)

### Programming Multicore Systems

14 April  
Bristol  
[www.tandvsolns.co.uk/](http://www.tandvsolns.co.uk/)

### Smarter Networks

Dinner 23 June  
& Networking Seminar 24 June  
Beachcroft LLP, Bristol  
[www.siliconsouthwest.co.uk](http://www.siliconsouthwest.co.uk)

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