

# young company finance

news, comment and analysis on the young company market

invention . . . proof of technology . . . proof of market . . . breakeven . . . exploitation

## Deals

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## Factonomy prepares for expansion

**Software company Factonomy has completed a £350k funding package and appointed a new chief executive, setting the basis for rapid development of the business with particular emphasis on increasing marketing and sales activity.**

The company has been working closely with SE's High Growth Start-up Unit to develop its investment proposition since May 2005, and is thought to be the last company to secure funding from the Business Growth Fund. The dispersal of the BGF team pending the possible disposal of the portfolio (see YCF 89) delayed the finalisation of the funding, which was eventually completed towards the end of last month, with investment from new chief executive Geoff Kell and the Bank of Scotland Emerging Business Unit as well as the BGF.

The Factonomy Titanium™ software provides read/write access to existing business data in a real time

web interface. This means that it can be used for example to integrate separate legacy systems, automate business processes, or give remote access to data for home workers or a sales force; at its simplest it gives a flexible and reliable framework for developing a website and for content management on the site.

The software means online portals such as company intranets and databases can be built in as little as eight to twelve weeks as opposed to six months to a year for some applications, giving customers a much quicker return on their investment.

New chief executive Geoff Kell says: "Some IT applications take so long to develop that by the time they are completed they no longer fit with the company's requirements or they become too complex for staff to work with. Sometimes they can go so far over budget that they're never even completed. This is a serious waste of resources. Factonomy Titanium™ can deliver short term projects at a reduced build cost so that the company can

## Sales: the top line

### YCF annual conference - Stirling - 21<sup>st</sup> September

For full details and for online registration go to [www.rjevents.co.uk/ycf](http://www.rjevents.co.uk/ycf)  
Almost all of the 25 free delegate places offered to young companies have been claimed, ensuring that this year's conference will have a healthy balance of views from all sides of the young company sector. Places at the conference are limited, so do book now before it is too late; YCF subscribers have the benefit of a discounted rate.

This year's conference sponsor is **Escape Recruitment Services.**

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experience the results of the new application in as little as two or three months."

The company is concentrating on three market sectors to enable it to build the business rapidly. These are contact centres, media businesses (over the spectrum from graphic designers to web developers), and professional firms such as architects, solicitors, and surveyors. Since beginning sales in 2004, the company has already delivered pilot projects using the Factonomy Titanium™ framework in organisations such as Oxfam, BP, and British American Tobacco, and production systems used by clients such as the Edinburgh Centre for Carbon Management, MM Teleperformance, and We-entrepreneurs.

Kell brings to Factonomy more than 25 years' experience and a successful track record in sales, marketing and operations in international environments including Europe, Asia Pacific and North America. In

particular, during his ten years with Psion during its period of explosive growth he managed all aspects of the \$250 million company's Asia Pacific Business, restructuring regional operations in more than 15 countries and streamlining the organisation to reduce the company's operating costs by half.

Prior to this position, Kell was director of business development for Psion in London, where he established a new division focusing on opportunities in digital media and successfully launched the first affordable receiver for digital radio, doubling receiver numbers in the UK within just eight weeks.

Kell takes over from founder Graeme Bryce, who developed the concept for the Factonomy Titanium™ framework after managing a £5 million CRM strategy and the development and sale of the Everyform.net business to Reed Elsevier. Bryce will now concentrate on the development of the company's product offering as chief

technical officer.

Kell adds: "I was looking to take a share in a technology business which had an existing product and required my commercial input to help grow the company both domestically and internationally. Graeme has developed an outstanding framework which uniquely addresses most of the business problems that I recognised from experience, a good technical team, great references and an excellent working environment.

"The support the team has received from the High Growth unit at Scottish Enterprise has been invaluable in getting the company to the stage it is at now and I am looking forward to building on this position and become a major player in the international technology community."

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## Cascade Technologies completes £2.5 million funding round

**C**ascade Technologies announced on 12 July the completion of a £2.5 million funding round to develop further market opportunities.

Braveheart Ventures led the round with an investment of £1 million with co-investment by the SCF. Bank of Scotland Corporate's Growth Equity team and Partnerships UK both invested £750k, with accountants Ernst and Young acting as advisers in the deal. The deal completes a round of which the first stage was listed in YCF's Deals Monitor in March with a value of £1.4 million.

Cascade Technologies has developed and patented what is claimed to be the world's first real-time technology for the detection of gases, emissions and explosives using quantum cascade lasers (QCLs). This technology offers previously unprecedented levels of sensitivity and the ability to analyse complex gases quickly, and the additional benefit that the resulting gas sensing products are

portable and robust.

The company already has commercial agreements in place with a number of organisations around the globe to detect marine and power station emissions. Sensors to detect explosives, drugs, chemical weapons, and toxic chemicals are being developed for the homeland security and defence sectors.

The company recently moved from Strathclyde University where its technology was originally developed as part of a research project in 2002 to a new office and development facility in Stirling University Innovation Park.

John Fuller, chief executive of Cascade Technologies, said "A number of commercial agreements have already been secured, proving that the commercially focussed management team we have in place is able to deliver. This additional funding will allow Cascade Technologies to capitalise on the numerous market opportunities afforded to us by our revolutionary applications of QCL technology."

New investor Partnerships UK ([www.partnershipsuk.org.uk](http://www.partnershipsuk.org.uk)) was formed in 2000 out of HM Treasury as a joint venture to bridge the gap between the public and private sectors, with a majority stake held by the private sector. Its objective is "to support and accelerate the delivery of infrastructure renewal, high quality public services, and the efficient use of public assets through better and stronger partnerships between the public and private sectors". Partnerships UK invests in high-growth opportunities which have originated from the public sector, or have received significant UK public sector financing. The organisation has a £25 million fund to invest in early stage technology companies, mature public sector assets, or in funds which focus on such areas.

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## Pentland Systems funds new order book

**Pentland Systems, which designs, manufactures, and markets high performance signal acquisition and reconstruction subsystems for the military and aerospace markets, has completed an investment round totalling £370k.**

The deal was led by the Sigma Technology Venture Fund (STVF), a fund managed by Sigma Technology Management Ltd. STVF invested £150k alongside the Scottish Co-investment Fund (£160k), West Lothian Ventures (£10k) and two of the directors who invested £50k in total.

This investment follows a previous

round led by Sigma in May 2004 and takes the total funding arranged by Sigma to £1,195,000.

Pentland's product range of receiver and transmitter electronics is split into two almost equal segments: software defined radio (SDR), and radar. The company proclaims itself to be "world leaders in the acquisition and synthesis of analog signals", and a key competitive advantage is its ability to 'ruggedise' its products for the very harsh environments encountered in battle conditions (temperature, vibration, etc).

The company's model for product development involves significant levels of customisation for each client. While the R&D to support this model is costly

(but the client often pays towards these costs), it does mean that the company establishes close working relationships with potential customers. John Walker, the company's technical director, observes that the 'pipeline and funnel' of sales prospects has increased significantly this year, with several orders for customisation which are expected to convert to major orders for full production. This will require a substantial increase in the number of engineers and technicians employed in the business, and the Sigma investment will support this growth.

**Contact: Steve Dunn  
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## New investment fund backs Proven Energy's wind turbines

**Proven Energy is a manufacturer of high performance, small-scale wind turbines based in Ayrshire. The Low Carbon Initiative is to make a £5 million investment in the company.**

Proven Energy has developed a range of small scale wind turbines, from the heavy duty 600W version through to its newest model available in early 2007, the Proven 15 kW. The company has installed over 700 wind turbines world wide, and counts amongst its customers Shell, BP, B&Q, BT, Sainsburys, T-Mobile, and Orange.

The Low Carbon Initiative (LCI) is the manager of a new investment fund, the Low Carbon Accelerator (LCA), due to be floated on AIM in September. LCA, domiciled in Guernsey, is to be a closed-end investment company, and hopes to raise £80 million from its IPO. The fund has already invested £1.5 million in five businesses in the 'low carbon' sector, covering such applications as solar heat and power, wind turbines, biodigesters, LPG conversion and provision, and electricity grid management. It has a pipeline of a further eleven investments totalling £15.6 million to be completed after the IPO.

The LCA's independent board is chaired by Richard Wyatt, the executive chairman of Panmure Gordon. The CEO of the management company LCI is Mark Shorrocks, former CEO and founder of Wind Energy which develops wind farms in Scotland. The joint CIO is Dr Stephen Mahon, former CEO and founder of the Centre for Sustainable Engineering in Peterborough.

LCI has already invested £500k in Proven Energy, and will invest a further £4.5 million after the IPO.

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## Biopta funds new product range

**Glasgow-based Biopta is about to launch its new instrument for isolated tissue bioassays at the European Microcirculation Conference in Amsterdam this month.**

In June, the company secured £317k further investment from the Braveheart syndicate, LINC, and SCF, which will support manufacturing of the instrument.

Biopta specialises in measuring the effect of drug candidates on living

tissue samples. Its automated in vitro pharmacology instruments, incorporating Perf-Exion® optical technology, are based on a method that provides real-time analysis of a range of tissues critical for FDA approval, assessment of systemic

effects, transfection studies, and clinical pharmacology screening. The technology, originally conceived at Glasgow Caledonian University, was developed with the help of various grants and awards including an SE Proof of Concept project, a regional John Logie Baird Award, and SMART/SPUR awards.

Braveheart first invested in Biopta at the end of 2004 (see YCF 72) in a round totalling £1 million. Since then, the business has been earning revenue from its contract research service, using its expertise in handling very small human tissue samples and

measuring drug/tissue interactions.

Biopta claims to be unique in carrying out its human tissue research services to the OECD's GLP (good laboratory practice) standards. Early testing of drug candidates in ethically obtained human tissue gives the closest model to human function, and provides invaluable data to identify compounds with the greatest likelihood of clinical success. As fewer drugs are proceeding from Phase I trials to the marketplace, pharmaceutical companies are looking for new ways of streamlining preclinical development, and Biopta's CRO service aims to

minimise the risks of clinical trial failure.

The CRO side of Biopta's business has developed well, and the company is now preparing to build up the instrumentation side. The company has a three person sales team in place to follow up the launch of the Perf-Exion range, selling direct to the customer base of pharmaceutical companies and research organisations.

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## Noble Fund Managers join Archangels in Lab901 investment

**In July, Lab901 secured an investment of £1.5 million from existing investors Archangel Informal Investment and SE's Scottish Co-investment Fund, and new investor Noble Fund Managers on behalf of Noble VCT.**

Since its formation in 2001, Lab901 has raised £2.6m of funding over three rounds from Archangels and the SCF. John Waddell, chief executive of Archangel, introduced the latest deal to Charlie McMicking, head of private equity at NFM. The Noble investment team saw many parallels in terms of

technological progress and commercial development between Lab901 and DRI (DNA Research Innovations), in which Noble had invested before its sale to Invitrogen in 2005 which secured a 4x cash return. In particular, Simon Douglas, the former CEO of DRI, will represent Noble VCT's interests on the board of Lab901.

Lab901 designs and manufactures consumables and instruments for the gel electrophoresis market in the pharmaceutical and biotech industries, to study the quantity and quality of DNA, RNA and protein samples. The ScreenTape® System consists of a

laser printer sized instrument that analyses a pre-filled gel consumable plastic strip, the size of a credit card. This strip is inserted in the instrument and then robotically loaded with fluid samples which are then separated and imaged.

This funding round will enable the business to accelerate product development and take the company to commercial success within the next 12 months.

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## B1 Medical secures £1.3 million finance

**B1 Medical is a collaboration between NHS Grampian/Scottish Health Innovations Ltd (SHIL), the University of Aberdeen, and the Robert Gordon University, focused on the commercialisation of intellectual property in the field of orthopaedics.**

In July the company announced the completion of a £1.3 million investment by the Sigma Technology Venture Fund (£800k) and the SE's Scottish Co-Investment Fund (£500k).

B1 Medical has exclusive licences

over an initial set of eight patent families, covering products ranging from joint replacement devices to systems to speed up operations and promote faster recovery. Prior to the transaction these projects were in development at the three institutions, with several of them being joint projects.

As part of the deal B1 Medical has also obtained an exclusive ten-year first option over all future medical devices in the field of orthopaedics developed by the three institutions. In addition, the company has access to a pool of first class scientists and clinicians in the

three institutions who will both generate new intellectual property and assist with research and development of the existing projects.

Each of the product ranges could have been progressed separately but all parties recognised the greater value of developing the products jointly in a single corporate vehicle, as they are said to have an excellent 'fit', and to share common features such as routes to market, distribution outlets, and licensee targets.

Scottish Enterprise Grampian was instrumental in bringing the three founding institutions together, and the

Sigma team was heavily involved in the transformation of the project from first concept to commercial venture. As well as leading the investment transaction, Sigma was integral to the process of arranging and negotiating the various licences and option agreements that lie at the heart of B1.

The initial funding round will be used to begin commercialisation of the current portfolio of projects. B1 Medical anticipates an Initial Public

Offering on the Alternative Investment Market in 2007; its chairman, John Pool, successfully floated IDMoS plc on the AIM market last year.

On completion of the investment Peter Seddon was appointed CEO. Seddon previously set up a medical devices distribution business, Summit Medical, which was sold to Graphite Capital for £15.5 million, and Quadrant Medical which achieved international sales of a patented vacuum mixing

device for bone cement. Seddon brings to B1 Medical his experience in negotiating licence agreements and distribution agreements, regulatory filing, and project management. Neil Crabb, joint managing director of Sigma, also joined the board as a non-executive director.

**Contact: John Pool  
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## Design LED is first investee of Alpha EIS Fund

**I**n July, Design LED Products became the first investee of Braveheart's Alpha EIS Fund with a funding package of £250k.

Founded in 2004 and based in the Hillington Park Innovation Centre, Design LED develops display product technology for use in a range of applications including consumer electronics, industrial, automotive and point-of-sale display products. It has refined a manufacturing process, based on an established printing process and using standard electronic components, to embed LEDs with printable light guides to create display products which are thin (typically 1mm), flexible, and can even include colour animation effects. Customers can quickly move from prototype into volume production with a cost structure that is suitable for high volume consumer products. The technology can be used in a variety of ways, from backlighting individual

keypad buttons and icons, to simple animation effects on customers' brand logos.

Braveheart first invested in Design LED Products via its SMART Equity Fund in March 2005, and co-ordinated the recent funding, stated to be £250k (the Companies House record shows over £257k new equity). Investors included Fund participants NESTA (£30k, see YCF 91), Uberior (Bank of Scotland, £20k), and SE's Scottish Co-investment Fund (£112k), as well as Braveheart's own clients.

The £2.5 million Alpha EIS Fund was set up in December 2005 as a tax efficient vehicle to invest in early-stage and university spin out companies, rich in intellectual property, with potential for significant growth through the commercialisation of their IP. The Fund will deliver a minimum of ten EIS qualifying investments, sourced through its framework of formal relationships with Scottish universities

and business parks.

Geoffrey Thomson, chief executive of Braveheart commented: "Design LED is at a crucial stage in its development, where it has proved its technology and the commercial viability of it, however it needs backing of investors such as ourselves, both in financial and managerial terms, to facilitate this transition."

Initially concentrated on point of sale applications, Design LED is now expanding into high volume consumer markets including electronic products, white goods, automotive and other markets. The company has had support and encouragement from Scottish Enterprise's National High Growth Unit and the Hillington Innovation Centre.

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## Wellcome Trust backs CardioDigital

**C**ardioDigital, which specialises in medical signal analysis solutions for medical devices, has announced the award of a £500k convertible loan by the Wellcome Trust to help develop an electronic tool that will aid cardiologists' decision making processes when selecting the correct therapy for patients.

This funding follows a previous investment in 2003 by the Wellcome Trust. The investment at that time of £582k, supplemented by a SPURplus award of £350k, enabled CardioDigital to focus on its near-to-market opportunities in two key device sectors: defibrillators for cardiac arrest victims and pulse oximeters, which are devices for measuring oxygen in the blood.

According to Professor Paul Addison, the company's co-founder and

chief executive officer, these products have made good progress, with the defibrillators in large scale trials, and both product lines attracting interest from potential clients.

CardioDigital's next product will address the problems faced by cardiologists in tackling atrial fibrillation (AF). This is a heart condition, highly prevalent in the elderly population, in which the upper chambers of the heart

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## Financing deals – last 3 months

dealdate	YCF	company	location	sector/activity	TOTAL £k
May-06	91	<b>Conjunct</b>	Livingston	optoelectronics	£30
May-06	92	<b>Lab901</b>	Loanhead	bioinformatics	£1,500
May-06	89	<b>Intrallect</b>	Linlithgow	software	£450
May-06		<b>Murray Allan Cashmere</b>	Innerleithen	textiles	£125
May-06	90	<b>WeeWorld</b>	Glasgow	digital entertainment	US\$15.5 million
May-06	91	<b>Pufferfish</b>	Edinburgh	digital display systems	£120
May-06		<b>Outerlight</b>	Dalkeith	digital games	£70
May-06		<b>DPM Water Technologies</b>	Falkirk	environmental	£54
May-06	91	<b>Gas Sensing Solutions</b>	Cumbernauld	electronics	£625
Jun-06	92	<b>Biopta</b>	Glasgow	life sciences	£317
Jun-06		<b>Psymetrix</b>	Edinburgh	software	£75
Jun-06		<b>Bloxx</b>	Livingston	internet security	£519
Jun-06	91	<b>Trig Avionics</b>	Currie	instrumentation	£300
Jun-06	91	<b>Invisible Heating Systems</b>	Ullapool	energy	£125
Jun-06	92	<b>Scalar Technologies</b>	Livingston	instrumentation	£250
Jun-06	92	<b>Legal Data Solutions</b>	Livingston	software	£96
Jun-06		<b>Mixipix</b>	Hillington	mobile entertainment	£313
Jul-06	92	<b>Proven Energy</b>	Stewarton	energy	£500
Jul-06	92	<b>Cascade Technologies</b>	Glasgow	instrumentation	£2,500
Jul-06	92	<b>B1 Medical</b>	Aberdeen	life sciences	£1,300
Jul-06	92	<b>Factonomy</b>	Edinburgh	software	£350
Jul-06	92	<b>Pentland Systems</b>	Livingston	electronics	£370
Jul-06		<b>Adventi Group</b>	Edinburgh	IT support	£140
Jul-06	92	<b>Texol Technical Solutions</b>	Dundee	engineering & mfg services	£150
Jul-06	92	<b>Volo Holdings</b>	Edinburgh	digital entertainment	£200
Aug-06	92	<b>CardioDigital</b>	Elvingston	medical devices	£500

## Dates for your diary

### 5th October 2006 – ScotSoft 2006 – Edinburgh International Conference Centre

Booking is now open for the ScotSoft2006 Global Forum and Gala Dinner. World class experts will address the Global Forum at the EICC, with “Ask the expert” and “Question time” sessions delivering top tips and expert advice in response to delegates’ questions. The Gala Dinner, at the Royal Museum of Scotland, promises an unrivalled evening of networking, entertainment, and awards.

For more information: [www.scotlandis.com/scotsoft2006](http://www.scotlandis.com/scotsoft2006) 01506 472200 [karen.meechan@scotlandis.com](mailto:karen.meechan@scotlandis.com)

### 8th & 9th November 2006 – Connect Investment Conference – Sheraton Hotel, Edinburgh

In celebration of its tenth anniversary, this year’s Connect Investment Conference will blend old favourites with new elements. The Conference will have much more of a European focus, with not only Scotland’s ambitious technology companies pitching for growth funding but also their peers from the wider Connect Europe network.

For more information: [www.investmentconference.co.uk](http://www.investmentconference.co.uk) 0131 226 0390

## CORRECTION

In last month’s issue, we stated that **Gary McEwan**, the first entrant in the PSYBT’s Hall of Fame, had been an adviser to Scottish Enterprise National’s High Growth Team since 2002. We have been asked to point out that Gary McEwan has never been an adviser to the High Growth Start Up Unit, and we apologise for the mistake.

## Technology investments - 1<sup>st</sup> half 2006

**S**tuart McKnight of Ascendant, the technology focused corporate finance and M&A advisers, has provided a breakdown of technology investments in the UK and Ireland for the first half of 2006. The figures are summarised in the two charts below.

Ascendant's figures do not include investments below £0.5 million, and focus solely on the IT/ICT sectors, but they give an excellent picture of overall trends in this space, and some interesting inter-regional comparisons.

The uplift in activity which Ascendant reported in Q1 was sustained in Q2, and the first half of this year shows a considerable increase in activity over the same period last year.

Ascendant's analysis of the figures includes the following observations:

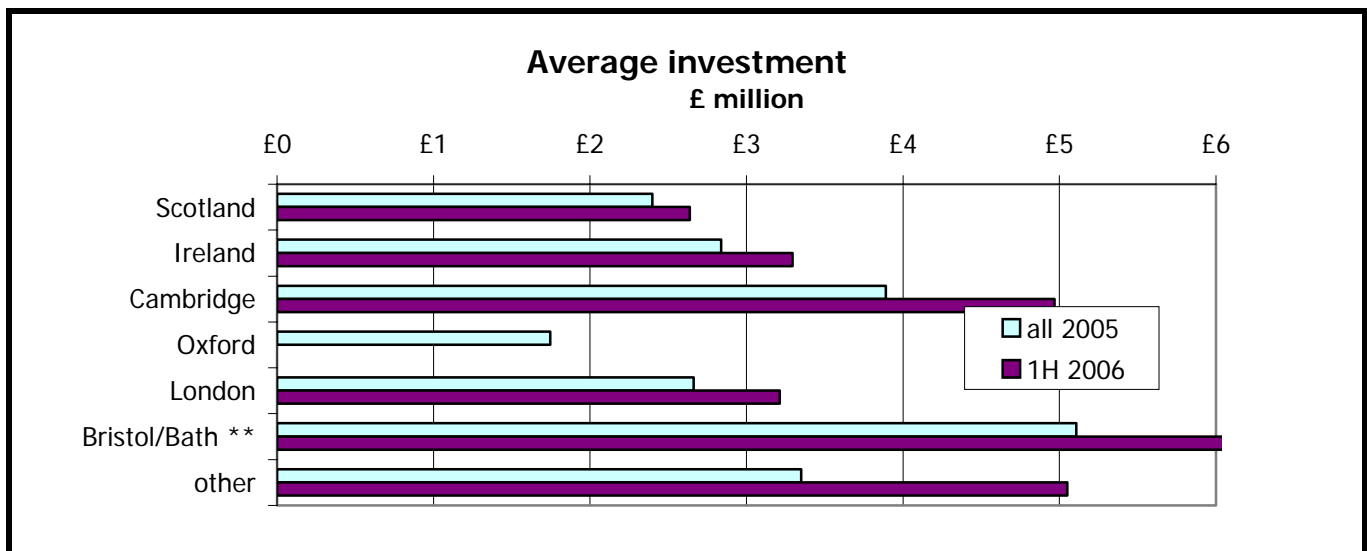
- ❖ VCs continue to deploy larger sums into their chosen investments – average deal size was £4.1 million vs £3.5 million in the first half of 2005, but these figures are affected by a couple of exceptionally large deals in the Bristol/Bath area;
- ❖ The aggregate value of the top ten investments totalled c£142 million, over 40% of all deals;
- ❖ The three biggest deals were Pipex Wireless (£25m), Icera (£23m), and Apertio (£17m);
- ❖ One of the hottest areas was wireless/mobile infrastructure solutions, with four businesses in this subsector sharing over £50 million;
- ❖ London based companies took 27% of money invested, more than double their share in 1H 2005

- ❖ Against the trend of an increasing investment reported by all regions in the UK, Ireland suffered a 33% drop in capital invested in the sector.

Ascendant points out that the huge increases in investment in internet based business and in renewable energy technologies are the two big stories of the last twelve months. In particular the increase in internet service businesses has been highlighted for a number of quarters, and the funding of two eBay PowerSellers in 1H 2006 is taken as evidence that "Web 2.0 is definitely here".

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	1st half 2005			2nd half 2005			1st half 2006		
	deals	amount	share	deals	amount	share	deals	amount	share
Scotland	8	£19.6	7%	14	£33.2	15%	14	£36.9	10%
Ireland	19	£69.7	26%	17	£32.5	15%	14	£46.1	13%
Cambridge	10	£38.9	14%	10	£38.9	18%	9	£44.7	12%
Oxford			0%	2	£3.5	2%	1		0%
London	10	£33.4	12%	15	£33.1	15%	30	£96.4	27%
Bristol/Bath	6	£28.3	10%	1	£7.5	3%	3	£51.3	14%
other	25	£80.2	30%	20	£70.5	32%	17	£85.9	24%
<b>TOTALS</b>	<b>78</b>	<b>£270.1</b>	<b>100%</b>	<b>79</b>	<b>£219.1</b>	<b>100%</b>	<b>88</b>	<b>£361.3</b>	<b>100%</b>



\*\* - average deal size in Bristol/Bath in the first half of 2006 was £17.1 million

*continued from page 5*

quiver rather than pump normally, resulting in an irregular heartbeat, causing fatigue, breathlessness, and an increased risk of stroke.

One treatment for AF is DC cardioversion; the patient is given a shock under general anaesthetic in an attempt to reset the heart to a normal (sinus) rhythm. Although patients are rigorously screened in advance, it still remains very difficult to determine whether they will benefit from this treatment, and a large number soon revert back to AF. There is therefore a clear clinical need for a quantitative

tool which can predict the likely efficacy of the cardioversion procedure, and aid the clinician to decide the most appropriate course of therapy for an individual patient.

The results of the predictive scores obtained from this device could be used to exclude up to 50% of an estimated 250,000 patients worldwide who are currently selected for cardioversion treatment, and for whom there is no quality of life benefit from therapy. These patients would be selected for a more appropriate therapy.

The investment will allow CardioDigital to conduct large scale

clinical trials with the AF instrument.

Professor Addison stated: "The funds will allow us to target a true unmet clinical need by allowing the clinician to provide significantly enhanced patient-tailored therapy. This will offer benefits both to the patient, in identifying the optimum therapy for the individual, so avoiding procedures unlikely to improve patient outcome, and the healthcare provider, in terms of significantly reduced costs."

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**www.cardiodigital.com**

## Rowett launches Antoxis with investment from Genomia Seed Fund

**Antoxis, the Rowett Research Institute's fourth spin-out company in five years, was set up in March this year to develop compounds called therapeutic antioxidants for the treatment of conditions such as stroke and Alzheimer's disease.**

The Genomia Seed Fund's first award in March last year was a £56k convertible loan to Rowett Research Services (RRS) to support the research on which Antoxis is founded. Just over a year later the Fund made a £168k equity investment in the new company this year, its largest investment to date and its first into a spin-out company.

The Genomia Fund was established with funding of £1.5 million from the Office of Science and Technology (OST) and is dedicated to supporting early stage commercial development of life science research from institutes.

Antoxis is the end result of a development which saw a project under the working title OxyProTec win Proof of Concept funding from Scottish Enterprise, followed by an RSE Enterprise Fellowship for principal researcher Donald McPhail, now chief scientific officer in the new company.

The research has focused on the use of natural plant compounds to produce molecules which can protect cell membranes against damage by free radicals. Free radicals are formed as a by-product of the oxygen we breathe, but our body is protected by a complex defence system involving antioxidants such as Vitamins E and C, which are normally present in our diet.

In some clinical conditions, such as acute stroke and Alzheimer's disease, there is evidence that abnormally high levels of free radical production occur that can overwhelm the natural defence systems and contribute to the progression of the disease. In these

cases natural dietary antioxidants are limited in their effect.

The molecules being developed by Antoxis are high-potency therapeutic compounds, targeted to the sites of free radical production and attack. They are intended for medical use, and Antoxis's prospective customers for licence agreements are the major pharmaceutical companies.

Antoxis has an exclusive licence from RRS for the first generation of compounds. These compounds, which are subject to worldwide patent applications, are aimed at the treatment of stroke. Further compounds are already in development.

Scott Johnstone, previously co-founder of YabA, has been appointed chief executive in Antoxis, and John Pool has been appointed non-executive chairman.

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## Deals in brief

**Volo Holdings**, the Edinburgh-based developer of the world's first interactive entertainment system for train passengers, has signed a memorandum of understanding with First Great Western to fit its seat-back,

touch screen units in 26 carriages.

Managing director Paul Soor says the two companies are in the final stages of drawing up the main contract and project plan, which will be linked to the train operator's massive

programme of refurbishing rolling stock. Volo is also in the process of raising a further £1 million to finance the fitting programme.

First Great Western has just completed a nine-month project,

piloting the innovative Volo system in just one carriage. Feedback from passengers has been "outstanding" according to Soor. The resulting contract will involve more than 80 units being fitted in each of the 26 carriages, giving passengers a huge choice of entertainment, from films to episodes of their favourite TV dramas to children's programmes plus news and sport. They will also be able to play games and use a specially designed intranet to find journey details and travel destination information.

Soor also revealed that Volo is now in discussions with Scotrail with a view to bringing the system north of the border.

The £200k for the First Great Western pilot programme was provided by a SPUR award, plus £23,400 from the Scottish Co-investment Fund, and equity funding from the company's main backers, the Salvesen and Morrison families and Ashleybank Investments. It was the same group of investors who raised £1.5 million for Volo's last round in December 2004.

**Contact: Paul Soor**  
**0203 0087894 www.volo.tv**

Dundee-based **Texol Technical Solutions** received £150k from business angels Barwell plc matched by SE's Scottish Co-investment Fund. According to company chairman Ken Ingram, the cash will be used to grow

its own product range.

The company was formed in 1998 by a group of 84 former employees of NCR in Dundee and its core business is still in subcontracting its technical and manufacturing skills to NCR and several other major players. Ingram says that side of the company has had a good year, but most recent growth has come from the sale of its own nitrogen gas generators, mainly to the food industry, and the *Midgeater*, which traps and kills that scourge of the Scottish countryside during the summer months.

Ingram says Texol has already sold five or six thousand units of the *Midgeater*, with perhaps 1,000 "tweaked" versions going to the Middle and Far East where, with slightly different chemical bait, it is proving just as successful against the larger mosquito.

The company now employs 190 staff, 155 of them permanent, of which 120 are shareholders.

**Contact: Ken Ingram**  
**01382 618400 www.texol.co.uk**

**Legal Data Solutions** of Livingston has just completed a funding round worth a little under £100k, from Archangels Informal Investment and a number of the company's founders, and matching funding from the SCF.

Roy Flett, the Orkney-born lawyer who is a director and chief executive officer, says the money will be used for

further development and expansion of the business, particularly the formation of new partnerships with larger legal organisations to reach wider markets.

The company was founded in 2002 to launch its online legal database, Orkell, which was claimed to be the first authoritative, comprehensible and accessible online source of Scots law for the layman. Content is provided and updated by some of Scotland's leading legal firms.

Flett says: "The first 18 months was spent on the development of our core system, Orkell, as an online content delivery system. More recently we have been working with some bigger organisations to develop it as a delivery system for their own bespoke information and training and that is now at a very exciting stage."

Among recent major customers are the Law Society of Scotland, for whom Legal Data Services manages and delivers online training. The company is also involved in "a substantial project" with the NHS Central Legal Department. Both contracts have, according to Flett, generated interest from other large organisations both north and south of the border, looking for a cost effective way of delivering online training.

**Contact: Roy Flett**  
**0870 708 0001 www.orkell.co.uk**

- Colin Adams

## Gates Foundation funds application of Xeroshield technology

**The Global Health Programme of the Bill and Melinda Gates Foundation has made a grant award of £360k to develop technology originated by Xeroshield**

The award was made in April to the University of Leeds (the Foundation does not make awards to commercial organisations), which brings its expertise in textiles to the project.

Xeroshield, based in the Roslin BioCentre, was founded in 2005 by Dr Bruce Alexander, who is currently a Research Associate at the Liverpool School of Tropical Medicine. The technology he is developing in Xeroshield is a new chemical-free

insecticidal textile, which works by disrupting the protective layer covering an insect's endoskeleton, causing water loss and death by dehydration or fungal/bacterial infection.

As Dr Alexander was not an expert in textile technology, he approached Dr Stephen Russell of the Non-wovens Research Group at the University of Leeds to make a joint proposal to the Gates Foundation. Dr Russell said: "For years, we've only seen small improvements in the design of mosquito nets and this research provides us a great opportunity to develop new insecticidal materials in a fundamentally different way."

"We are taking an unconventional approach to the design and

construction of the nets whilst maintaining their inherent breathability, strength and durability."

Dr Alexander said: "Not only is this potentially a safer and cheaper method of protecting people, it will also avoid the problem of chemical resistance."

Xeroshield will be able to develop the new textile commercially, in a range of applications which include outdoor clothing and camping gear, netting to protect fruit and vegetable crops, and filters and barrier screens in grain stores & flour mills.

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**www.xeroshield.co.uk**

## The future of R&D: market foresighting is key

**W**ith reports from the DTI that the UK is lagging behind the world in terms of research and development (R&D) investment, it is vital that UK companies realise the importance of R&D and how to make the most of their investments.

R&D plays an important role in the innovation process which is increasingly vital to the global survival of UK companies. It is R&D activity which develops the technology that brings new products and services to market. It also brings quality jobs, builds successful businesses and develops more efficient processes.

But simply throwing money at R&D projects is not the key to success. An R&D programme needs to be targeted and well planned, with a clear strategy and a focus on developing market-driven results.

Last year, consulting firm Booz Allen Hamilton released a global research report that dispelled the popular belief amongst the business community that higher R&D spend translates into competitive advantage. The report entitled "Global Innovation 1000—Money Isn't Everything" analysed the world's top 1,000 corporate research and development spenders.

According to this study, money doesn't necessarily buy results. There is no discernable statistical relationship between large R&D spend and measures of business success, including sales growth, gross profit, operating profit, enterprise profit, market capitalisation, or total shareholder return.

A key example was made of Apple, which invested a fraction of the money that other technology companies invest in R&D, preferring to focus on key projects with the greatest potential –

resulting in the highly successful iMac, iBook, iPod, and iTunes.

This being so, it is vital to figure out which of your R&D projects are most promising and allocate budgets accordingly.

A smart way to identify new market opportunities and determine those with the greatest potential is through market foresighting – the process of in-depth research and investigation of markets and their related technology opportunities.

ITI Techmedia is one organisation which has refined the market foresighting process and believes this very specific form of research is key to identifying new opportunities where it can initiate R&D programmes. One of three Scottish ITIs (Intermediary Technology Institutes) that make up ITI Scotland Ltd, ITI Techmedia has an economic development remit to identify, develop and support the commercialisation of new technologies via the creation of new intellectual property (IP) that will meet global market needs in the next three to ten years.

In-depth research and investigation of a specific market area typically takes three to four months. The process involves primary research, such as focus groups with industry experts, which is combined with secondary research that references some of the critical sources of data in each area. Carefully investigated primary and secondary research helps to form a picture of the entire market and the opportunities for technology development within that market. The result is a comprehensive report of the market including its characteristics, dynamics, the competitive landscape and the opportunities for research and development activity that could be funded by the ITI.

This research enables ITI Techmedia to identify a range of

technologies for further exploration. With further diligence, they are able to draw up a shortlist of the most promising technologies.

The next step in the market foresighting process is to map the best route forward for each technology in terms of commercial and technical viability. R&D programmes are selected following an assessment of potential programmes against a range of criteria including business potential, technical feasibility, IP status and the level of investment required.

Of course, given the fast moving pace of the economy, many companies just don't have the time, money or appropriate skills to invest in thorough market foresighting. However, ITI Members have the opportunity to take advantage of the ITI's work. ITI Techmedia supplies its Members with access to all of its market foresighting reports, including valuable market data, market and technological intelligence and competitive analysis.

Member companies also join the growing ITI network and benefit from the opportunity to be involved in R&D programmes funded by the ITI, with a view to commercialising the resultant IP. As a result of market-driven R&D, the ITIs are developing a portfolio of intellectual property to be exploited for the benefit of the Scottish economy.

Market foresighting allows companies to assess the scale and credibility of opportunities and determine the scope to be innovative BEFORE embarking on a full R&D programme with a large financial investment. By devoting time up front companies can greatly improve their opportunities for success and save money and time

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**LINC** Scotland®  
Local Investment Networking Company

## New syndicates join LINC

**A further three business angel syndicates have recently joined the LINC network.**

We give details of two of these below, and plan to report on the third, **Premium International**, in next month's issue of YCF.

As the longer established syndicates look towards some larger deals, and in particular need to spend resources of time and money in supporting existing portfolio companies, the arrival of new angel syndicates is very welcome. The number of transactions in this sector is likely to be influenced more by an increase in the number of suppliers than by an increase in the total amount of cash available for investment; however, it good to have both, and the business angel community in Scotland looks to be in good health.

### Highland Venture Capital Ltd

The inspiration for this Inverness-based syndicate came from Iain Scott, until eighteen months ago a business executive, who subsequently made a couple of investments with the Archangel group. Seeing that the Highlands &

Islands region has its own unique issues, Scott gathered a group of seven people including a lawyer, a couple of accountants (including himself in that category), and insurance broker, and a couple of business people to form the new investment vehicle.

The syndicate has looked a 14 business plans, and has followed up three or four of these. It is currently finalising its first investment, working with TRI Cap as part of a deliberate policy to "learn the ropes" by co-investing in its first few deals. This approach also has the advantage of sharing the costs of due diligence.

The syndicate will look at deals from anywhere in Scotland, but hopes to find investable companies based in the Highlands & Islands which have markets beyond the region. The minimum investment which Highland VC will consider is £75k.

**Contact: Iain Scott**  
**01463 712588**  
[iain@highvc.co.uk](mailto:iain@highvc.co.uk)

### Discovery Investment Fund Ltd

We reported the formation of this syndicate in May (YCF 89). According to business development manager

Susie Fisher the group now consists of ten investors; although she is currently speaking to new potential members, it is intended to keep the venture relatively small, with no more than 15 investors in total.

Approaches for funding are screened by Fisher and Ken Ingram, the syndicate's chairman, with only the most likely candidates being presented to syndicate members. All sorts of businesses will be considered, until a 'feel' is developed for what areas appeal to the membership.

The Fund is now concluding its first investment, and has a second in negotiation. Barwell plc is investing with Discovery in the first deal, but joined the transaction in its own name after Discovery selected the opportunity for investment. Unlike Highland VC, which plans to follow another syndicate in its first few deals, Discovery is prepared to invest either alone or together with other investors.

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## LINC news

- ❖ The (calendar) year's second quarter has been one of the busiest ever for LINC's members with nineteen deals concluded, comprising over £2.5 million of direct business angel investment, plus £1.6 million of other private funding and £1.3 million levered from the public sector. Seven of these deals were for first time investments, twelve being follow-on rounds in existing companies.
- ❖ LINC's Investment Facilitation Grant scheme also experienced strong demand following uncertainty about public sector budgets, suggesting that the early stage deal pipeline remains active.
- ❖ The Network's membership was also boosted – another seven individual investors subscribed and no fewer than five new investment syndicates are in development in locations including Glasgow, Edinburgh, Dundee, Fife and Lothian.
- ❖ Overseas interest in the 'Scottish Model' remains strong and LINC has received visiting groups from Australia, New Zealand, Syria, France and Estonia. In addition, keynote speakers have been provided for events in Holland, Czech Republic and Chile.

For details of future LINC events contact: **Allison Owens 0141 221 3321 [allison\\_owens@lincscot.co.uk](mailto:allison_owens@lincscot.co.uk)**

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## Summary of main deals in this issue:

company	deal date	TOTAL £k	sector/activity	investors	advisers: company
location				lenders, grants	advisers: others
<b>Antoxis</b> Aberdeen	31-Mar-06	£168	life sciences	Genomia Seed Fund	
<b>B1 Medical</b> Aberdeen	17-Jul-06	£1,300	life sciences	Sigma Technology Venture Fund/SCF	
<b>Biopta</b> Glasgow	1-Jun-06	£317	life sciences	Braveheart/SCF, management	Biggart Baillie
<b>CardioDigital</b> Elvingston	1-Aug-06	£500	medical devices	Wellcome Trust	
<b>Cascade Technologies</b> Stirling	12-Jul-06	£2,500	instrumentation	Braveheart/SCF, Bank of Scotland, Partnerships UK	Ernst & Young, Maclay Murray & Spens Semple Fraser
<b>Design Led Products</b> Hillington	27-Apr-06	£258	display technology	Braveheart, Uberior, NESTA, SCF	Macdonald Henderson
<b>Factonomy</b> Edinburgh	27-Jul-06	£350	software	BGF, BofS, director SFLGS (BofS)	Lindsays
<b>Lab901</b> Loanhead	1-May-06	£1,500	bioinformatics	Archangels/SCF, Noble VCT	MBM Commercial, Johnston Carmichael McLure Naismith, BDO Stoy Hayward
<b>Legal Data Solutions</b> Livingston	29-Jun-06	£96	software	Archangels, Ashleybank, SCF	Hill & Lows
<b>Pentland Systems</b> Livingston	27-Jul-06	£370	electronics	Sigma Technology Venture Fund/SCF, WL Ventures, directors	
<b>Proven Energy</b> Stewarton	10-Jul-06	£500	energy	Low Carbon Accelerator	
<b>Scalar Technologies</b> Livingston	28-Jun-06	£250	instrumentation	Archangels, WLV, SCF	MBM Commercial
<b>Texol Technical Solutions</b> Dundee	31-Jul-06	£150	engineering & mfg services	Barwell/SCF	
<b>Volo Holdings</b> Edinburgh	31-Jul-06	£200	digital entertainment	Ashleybank/SCF, Salvesen & Morrison families SPUR	

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