Utilising proprietary technology, NuCana is developing new medicines, ProTides, designed to overcome key cancer resistance mechanisms and generate much higher concentrations of anti-cancer metabolites in cancer cells.

The ProTide technology was invented at Cardiff University by Professor Chris McGuigan. NuCana has exclusive worldwide rights to the ProTide technology in cancer. ProTides are modifications of nucleoside analogues (artificial copies of naturally occurring compounds), which have long been used in anti-viral and anti-cancer treatments, where they act to prevent replication of a virus or cancer cell.

However, nucleoside analogues face a number of cell based resistance mechanisms which inhibit their efficacy and can cause toxicity. Firstly, the drugs need ‘transporters’ to cross the cell membrane before they can become active. Once in the cell, they are susceptible to break-down by enzymes which not only reduce their effectiveness but also produce toxic metabolites (the source of many adverse side effects of cancer chemotherapy). In addition, if the right enzymes (kinases) are not present in the cell, or of insufficient quantity, the chain process of phosphorylation which activates the drug is either inhibited or entirely blocked.

ProTides are in effect a ‘pre-activated’ form of drug, which are enabled to cross the cell membrane by masking the negative charge of the drug on which they are modelled, prevent breakdown by enzymes, and, by being partly phosphorylated, ‘kick-start’ the process by which the active part of the drug is released into the cell. The technology was originally applied to anti-viral drugs for the treatment of HIV and hepatitis, and several major pharmaceutical companies commissioned ProTide versions of their drugs from Cardiff which have become very successful.

NuCana’s most advanced ProTide candidates, Acelarin® and NUC-3373, are derived from the nucleoside analogues gemcitabine and 5-fluorouracil respectively, two widely used chemotherapy agents. Acelarin is currently being evaluated in four clinical studies across several solid tumour indications, including ovarian cancer, biliary cancer and pancreatic cancer. NUC-3373 is currently in a Phase 1 study for the potential treatment of a wide range of advanced solid tumour cancers. NuCana Biomed was founded by Chris Wood and High Griffith following the sale of their previous business, Bioenvision. This company, which developed a drug for the treatment of acute leukaemia, started in Edinburgh in 2000 and was sold to Genzyme in 2007 for $345 million.

While focusing on the rapid growth of Bioenvision, the directors of the firm passed on a number of other promising technologies and products, including ProTides. As Hugh Griffith told YCF at the time, “When Chris and I were released we were able to set up a new company, NuCana, go back to the inventors and say ‘Look guys, we have been successful with Bioenvision; we’ve still very much got the bug and a real desire to bring on new drugs to meet really significant unmet medical needs’. They have sub-licensed the technology to us and we have been able to bring it in very quickly.”

Early stage funding for NuCana was provided by Alida Capital International, a business angel syndicate set up by Wood and Griffith which with Scottish Enterprise co-investment provided £3 million of capital from 2008 to 2010. At the end of 2011 the company completed a £6.74 million series A round led by Paris
Exscientia, a spinout from the University of Dundee, is developing Artificial Intelligence (AI)-driven drug discovery and design.

Novel compounds prioritised for synthesis by Exscientia’s AI systems simultaneously balance potency, selectivity and pharmacokinetic criteria in order to deliver successful experimental outcomes.

Using a rapid design-make-test cycle, the Exscientia AI system learns from the preceding experimental results and rapidly evolves compounds towards the desired candidate criteria. Exscientia systems learn from both existing data resources and experimental data from each design cycle. The principle is similar to how a human would learn, but the AI process is far more effective at identifying and assimilating multiple subtle and complex trends to balance potency, selectivity and pharmacokinetic criteria.

The company has secured an investment of €15 million from Frankfurt-listed Evotec AG, which with more than 1,800 scientists has one of the largest drug discovery platforms in the industry. Exscientia and Evotec have cooperated since early 2016 to advance small molecules, and bispecific small molecules in immuno-oncology. The ongoing success of this partnership was the basis of this expanded and deepened corporate relationship. This investment will enable Exscientia to drive higher value partner programmes and expand discovery on its automated design platform.

Dr Werner Lanthaler, Chief Executive Officer of Evotec, said “Our investment in Exscientia represents Evotec’s single biggest equity placement to date and in, what we feel, is the world’s leading AI technology company. Working with Exscientia on a joint immuno-oncology project over the past year, we have experienced first-hand how its AI approaches, along with our medicinal chemistry platform, can positively and radically impact drug discovery. We are very excited about the joint potential to leverage AI in chemistry. This investment is also the first time that we can efficiently use our recently awarded €75 million loan facility from the European Investment Bank to bring down cost of capital for such an investment.”

Dr Andrew Hopkins, Chief Executive Officer of Exscientia, added “Exscientia and Evotec have built a close relationship over the past year sharing mutual interest in agile innovation. We are delighted that Evotec has made this investment for a minority equity stake, allowing Exscientia to deliver more drug discovery projects in a rapid and capital efficient manner. I’m also delighted that Dr Mario Polywka, Chief Operating Officer of Evotec, will join Exscientia’s board of directors, allowing us to benefit from his strong operational expertise in growing successful biotech companies.”

Exscientia is collaborating with several leading pharmaceutical companies. In addition to Evotec, partners include Sanofi (metabolic disease), Sumitomo Dainippon Pharma and Sunovion Pharmaceuticals (CNS), and GSK.

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introduce artificial intelligence technology and grow its international profile.

A long time user of Instagram, Sarah thought of her business idea in 2015 while trying to source an image in her former role at an advertising agency. Since the business inception she has supplied a number of clients including a major high street bank and international advertising firm. Pixey.io was also a finalist in Deloitte’s Disrupt the Enterprise 2017 awards.

Sarah said “The business has been growing steadily but this funding is huge for us and will move us on far more quickly than we could have otherwise. We can now bring in AI technology to effectively source images as well as boosting our profile in the US and Europe.

“We want to create a community with our photographers and provide a mixture of lifestyle and business content. Moving away from traditional staged stock photography, we supply real photos that are creative and more interesting visually.” Before launching Pixey.io, Sarah worked with clients including Skyscanner, Skills Development Scotland, Scottish Government, and Vets Now.

The CALCIVIS imaging system utilises a proprietary bioluminescence approach combined with a specialised imaging device which allows visualisation of active, ongoing demineralisation. The system will, for the first time, allow the real-time visualisation of calcium ions released from demineralising tooth surfaces, in routine dental practice. The resulting images provide a focus for discussion with patients and enable the development of a preventive treatment plan in line with dental best practice. The CALCIVIS imaging system has gained a CE Mark in Europe and will be launched in the UK later this year.

CALCIVIS has secured new equity funding from existing investors Archangel Investors and the Scottish Investment Bank, together with Julz Co, a US-based healthcare fund. CALCIVIS began operations in 2012 and has raised equity and grant funding totalling over £9 million since its inception, including funding from the European Union’s Horizon 2020 Research and Innovation programme, and Innovate UK’s Biomedical Catalyst.

Julz Co (www.julzco.com) is a venture capital firm focused on investments in the health care industry with an emphasis on therapeutics, medical devices, digital healthcare, and services. Julz invests globally in companies that have novel and proprietary technology addressing a vital market need and are driven by experienced management teams. The company has offices in North Carolina, USA and Suzhou, China.

The latest investment will support the next key commercialisation steps for the business:

- UK launch of the CALCIVIS imaging system to dental practices, the product’s first commercial launch.
- Pre-Market Authorisation (PMA) filing with the FDA before the end of 2017 in anticipation of an early 2019 launch in the US.
- CALCIVIS will host an event at the British Dental Industry Association ‘Showcase’ in Birmingham later this month. The CALCIVIS imaging system will be presented at the exhibition and through a series of short lectures, one on each day of the event.

Dr Zishan Haroon, chairman and General Partner of Julz, said “The new and distinct method used by CALCIVIS of envisioning free calcium allows early detection of demineralisation. This ability dramatically changes care planning and appropriate intervention for patients leading to preservation of their original teeth and better oral hygiene. We are delighted to participate in the growth and scaling of such an innovative company providing real solutions to the dental field.”
Co-Innovate programme
The five year Co-Innovate programme was set up to encourage cross-border research and innovation by SMEs in areas of western Scotland and Northern Ireland.

The £14.6 million programme is supported by the European Union’s INTERREG VA programme and managed by the Special EU Programmes Body.

In Scotland it will encourage and support innovation in SMEs in Argyll and Bute, Lochaber, Skye, the Outer Hebrides, Ayrshire and Dumfries and Galloway. It also covers Northern Ireland and the border counties of Ireland.

The initiative brings together key development agencies to deliver the programme, which is aligned with each government’s strategic priorities, led by cross-border body InterTradeIreland in partnership with Scottish Enterprise, Highlands and Islands Enterprise (HIE), Enterprise Northern Ireland, East Border Region, and Local Enterprise Offices in the border region of Ireland.

As part of the Co-Innovate programme locally based expertise from innovation practitioners will work with business networks, HIE and SE offices and local authority Business Gateway staff. There will also be mentoring and consultancy, grants for research and innovation with support from academic institutions, and for SMEs to engage an intern for cross border collaborative projects.

Match-funding for Co-Innovate has been provided by the Department of Business, Enterprise and Innovation in Ireland, the Department for the Economy in Northern Ireland, and with contributions from Highlands and Islands Enterprise and Scottish Enterprise this will enable £4 million of innovation support to businesses within the eligible regions in Scotland.

Innovate UK is holding a series of events around the UK to introduce a new pilot programme for innovation loans.

Innovation loans will offer affordable, patient, flexible funding for later-stage research & development projects with a clear route to commercial success. Loans will be offered, through future competitions to be announced, to growth-oriented SMEs that are able to demonstrate that they have a high quality innovation project, that they will be able to afford the interest payments and subsequent repayments associated with a loan, and that they need public sector support as they are unable to access finance for their project on standard commercial terms.

The objective of the workshops will be:
- to set out the rationale for introducing innovation loans
- to explain where innovation loans fit in relation to grant funding, equity investment and commercial debt

ESM Investments VCT Fund
ESM Investments is to launch a specialist £25 million Venture Capital Trust (VCT) fund in 2018 to invest in Scots based technology, and aims to attract high net worth individuals throughout the UK to the fund.

Since its formation in 2011 ESM has invested £8 million in technology start-ups across a number of sectors including energy, finance, media and the arts. Through the VCT it is now seeking to grow its investor base from 80 to 200 individuals.

Steven Morris, founder and CEO of ESM Investments, said “We have tremendous confidence in the Scots based technology, and aims to attract high net worth individuals throughout the UK to the fund.

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The fundraising and new advisory board will help the syndicate attract new angel investment for future cleantech successes, such as leading UK developer of home energy storage systems Powervault and London-based developer of hybrid and electric drivetrains for buses Vantage Power.

The developments come at a busy time for Green Angel Syndicate, following the appointment of Simon Acland to the Board, and the relocation to new London Bridge offices. Green Angel Syndicate founder Nick Lyth said “In an unusual departure for Green Angel Syndicate, a funding round has attracted thirteen of its most enthusiastic members investing in equity in the syndicate itself. This will extend the range and depth of the syndicate’s capacity for analysing, understanding and predicting the potential of its investee companies, effectively de-risking the investments with specialist knowledge to a much greater extent than would otherwise be possible.”

Recently appointed Green Angel Syndicate director Simon Acland added “Rather than bootstrapping the whole venture we wanted to raise funds to invest in and grow the syndicate so that we can ensure more deals for future cleantech success stories.

“Among the members of the new advisory board we have a healthy mix of entrepreneurs, people who have successfully exited and sold their businesses, as well as business leaders across the clean and green economy. We’re excited to be able to draw on the expertise of them all to ensure we create more opportunities for exciting companies.”

The syndicate is planning its third pitch event on November 30; new members are welcome to get in contact if they wish to join. www.greenangelsyndicate.com

ACTIPH Water prepares launch

This month ACTIPH will launch the first alkaline ionised water in the UK

The product was created as the result of a surprising discovery.

In 2014, ACTIPH’s founder Jamie Douglas-Hamilton and his crew set two Guinness World records rowing 5,000 miles from Australia to Africa across the Indian Ocean to support Save the Elephants. Physical demands were so extreme that the rowers were burning between 8-10,000 calories a day and drinking 9-13 litres of water. One day a member of the team mixed his freshwater with seawater; the effect was so profound the crew started to mix every second bottle of drinking water with one third sea water, replacing essential minerals. This had a dramatic effect, rebalancing the body, increasing power, reducing hallucinations, and giving the crew the energy to continue.

This experience led to a search for a ‘functional water’ recipe which could replicate the energising effects of mixing sea water with fresh water. Most currently available colas, sports drinks and energy drinks have a relatively low reading on the pH scale, meaning they are very acidic; ACTIPH’s objective was to produce a bottled water with a high pH to help restore the body’s natural pH balance.

Focusing on ‘balance’ and ‘hydration’, ACTIPH undertakes a tailored three stage process of purifying spring water, adding electrolytes and supercharging the water by ionisation. With an alkalinity of pH9.5+ ACTIPH is the most alkaline available on the market.

With bottled water sales overtaking sales of colas for the first time ever in the UK this year, water is the fastest growing beverage category and the fastest sub-segment of water is functional water.

‘Functional water’ is defined as a water containing additives that provide extra nutritional value; they can be designed to exhibit specific functions. There are many activation methods such as electrolysis, treatment with a magnetic field, light irradiation, ultrasonication, bubbling with gases, strong water flow and collision, and treatment with some types of minerals or rocks. There is a considerable scientific literature examining the effectiveness of such treatments, especially in Japan where alkaline ionised water is known as ‘waterfall water’, and considered to be unrivalled in the hydration and health benefits it offers.

Jamie explained “ACTIPH Water is unlike any other water, it’s not just a water and not just a sports or energy drink, it is the birth of a whole new category and that is exciting.”

“We set out to create a water that not only enhances hydration but makes people feel better so they have the energy to say yes to life that sets them up to make the most of every day”.

The brand is being fully supported at launch by a marketing campaign to raise visibility and drive consumer demand through PR, influencer, social media campaign, and an experiential sampling programme.

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<td>Website: <a href="http://www.actiphwater.com">www.actiphwater.com</a></td>
<td>Advisers: Morisons</td>
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</table>

www.actiphwater.com
## Deals Monitor—last 2 months

<table>
<thead>
<tr>
<th>YCF issue deal date</th>
<th>company</th>
<th>location</th>
<th>sector/activity</th>
<th>TOTAL £'000</th>
<th>investors, lenders, advisers</th>
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<tr>
<td>Aug-17</td>
<td>Miigen</td>
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<td>online social platform engineering</td>
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<td>fintech</td>
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<td>Mediqventures, SIB</td>
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<td>Dundee</td>
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<td>£110</td>
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</table>

www.ycfscotland.co.uk
In 2017 Converge Challenge received 212 applicants from 17 of Scotland’s universities and research institutes.

Applicants were then shortlisted and invited to take part in a 2-3 day intensive residential training programme at the Royal Bank of Scotland, Gogarburn, in May. With support from the CC team and partners they then developed their final business plans that were submitted in August. The top six Converge Challenge finalists delivered their investor presentations to a judging panel on 28 September, and the winning entries were presented with their awards at a celebratory dinner that evening.

To date Converge Challenge has trained 180 company founders and 120 early stage and social enterprise founders, who between them have created 78 companies - a 43% incorporation rate. 77% of those companies have received follow-on funding totalling £60 million and have a 78% survival rate after three years.

**Converge Challenge**

All main Converge Challenge category winners also gain automatic entry to the semi-final of Scottish EDGE.

**Winner of Converge Challenge 2017**

£50k cash and £28k business support  
Dave Hughes, University of the West of Scotland  
**novosound**

This company is developing technology that will allow expectant parents to see their unborn child with the image quality of MRI. The revolutionary sensors, systems and software allow for low cost, high resolution imaging and will disrupt the medical, dental, industrial and veterinary markets. The first place prize also includes automatic entry to pitch on-stage at EIE18 and an opportunity to match a Scottish Enterprise SMART Feasibility Award.

**Converge Challenge second place**

£25k cash and £17k business support  
Dr Holly Butler of University of Strathclyde  
**ClinSpec Dx**

A simple blood test that can detect brain tumours allowing rapid diagnosis. Brain tumours result in the early death of more patients than any other cancer. Currently, brain tumours are identified using expensive brain scans and can only be truly diagnosed following high risk brain surgery and further testing.

**Converge Challenge Design and Creativity**

The prize champions ideas in digital media, textiles, architecture and design.

£15k cash and £16.5k business support  
Corien Staels, University of Glasgow  
**Staels Design**

Staels Design is a company that aims to respond to the unmet needs in rehabilitation product design. Its first product, WheelAir, is a battery powered airflow back-rest cushion which fits all active lightweight wheelchairs, and is designed to be more supportive, increasing comfort while keeping users cool.

**Converge Challenge Kickstart**

The KickStart Award category recognises promising early stage projects that are still in their infancy

**KickStart Award (£6k)**  
Juan Pablo Echenique, University of Edinburgh  
**Power Enable Solutions**

An algorithm that enables the maximisation of end to end performance for wind turbines and has the potential to be a disruptive technology in the energy sector.

**KickStart runner up (£4k)**  
Liam McMorrow, University of Aberdeen  
**Adelie Health**

Aims to make life easier for people self-managing chronic diseases - in particular for those with diabetes.

**KickStart Digital Entrepreneur Award**

recognises internet entrepreneurialism and online marketing skills. The winner was chosen in an online vote that was open to the public in the weeks leading up to the awards.

**Fiona Denison, University of Edinburgh**  
**Birth Mirror**

A mirror that is easily adjustable, submersible and illuminated to assist midwives and all new mums to view the birthing process.

**Converge Challenge Social Enterprise Award**

This award category, staged in collaboration with Firstport, focuses on ideas that will have a positive impact on social and environmental issues.

**Social Enterprise Award first place**  
£5k and business support from Spreng Thomson and Morton Ward  
Lorna Paul, Glasgow Caledonian University  
**Web-Based Physiotherapy**

An online platform for the remote delivery and monitoring of personalised physiotherapy exercise programmes.

**Social Enterprise Award runner up (£3.5k)**

Callum MacKinnon, Glasgow Caledonian University  
**Forth Valley Rebound Therapy Service CIC**

A project that delivers physical therapy sessions for children and young people with additional support needs.

- continued overleaf
Entrepreneurial Spirit Award
Sponsored by Entrepreneurial Scotland, recognises the participant that has demonstrated entrepreneurial drive, focus and determination.
£1k and membership of Entrepreneurial Scotland
Garry Boyle, Heriot-Watt University
HeadSpace Design
A project that plans to make life better for adults with dementia who are living in residential care, through the provision of unique sensory gardens. The project is underpinned by research into the psychology of dementia and has a distinctive approach to garden design which will promote wellbeing amongst patients.
A full list of all the winners can be found on the Converge Challenge website: www.convergechallenge.com

Work in Progress

Holoxica
Looking for a bold investor with an eye on hardware
Last featured in YCF in February 2016 when it secured €1.3 million from the European Commission’s Horizon 2020 SME Instrument, Edinburgh based Holoxica is a deep tech company doing things differently. Now based in Edinburgh’s CodeBase, the startup builds holographic 3D video displays for teaching, training, surgical planning and diagnostic applications in the medical sector.

“You would have thought that winning such a prestigious grant, against competition from countries across the EU and beyond, would attract investors,” Dr Javid Khan, the company’s director and founder, noted. Despite support from the Scottish and UK governments, as well as from the European Union, investors have been less forthcoming. To its cost, Holoxica found that the UK market is shy about investing in hardware companies, favouring the quick returns of software startups. “That was a painful lesson to learn,” the former Heriot-Watt academic said.

Holoxica’s technology is undoubtedly innovative, creating images in mid-air, images that can move and are reminiscent of the tech seen in sci-fi films. But it is this boundary pushing technology that is giving potential partners cold feet. “Our technology involves nanotechnology, photonics and quantum technology. Each one of these seems to give UK investors a heart attack.” But it is only by working on the cutting edge, the team at Holoxica believes, that they can make truly disruptive tech.

Natural 3D visualisation is a difficult problem to crack with only a handful of companies working on glass-free holographic technology. Most of these companies tend to be US based and are working on military projects.
And the developments in this technology are not going unnoticed beyond the UK and Europe. Holoxica has had two separate deals with investors fall through in the last year: the first with a consortium of Chinese companies and angel investors, and a second, an offer of acquisition from within the US sector, which was ultimately turned down. Despite these setbacks more offers are coming in, from companies in Japan, Germany and China.

This ongoing interest supports Khan’s belief that UK and European investors will once again become interested in hard-technology companies. Investor trends on this side of the Atlantic tend to lag two years behind the US market, Khan suggested, arguing that self-driving cars, drones and robotics are the new wave in the Bay Area, while UK investors are still focusing on fintech, the Cloud and apps.

“If anybody is out there and can step up to invest in truly disruptive future technology then contact us – hardware is where all the money is being made, certainly in Silicon Valley.” www.holoxica.com

Clinnovate Health
Glasgow based laboratory expanding its research

Next this month we look at another of this year’s SMART award winners. Having received £93k to support a feasibility study, Singapore and Scotland based Clinnovate Health is expanding its laboratory work into new fields of medical research.

Clinnovate Health is a fee-for-service medtech firm that specialises in fibrosis, the formation of excess connective tissue in organs or tissues, similar to the scarring that can form around injuries. Combining software with a laser-based multiphoton imaging hardware solution, the company conducts pre-clinical laboratory testing and analysis of various organs including the liver, kidney, heart and lungs.

“When looking at fibrosis this stain-free imaging procedure has been proven to provide higher sensitivity, better objectivity and allow quantification and characterisation of the collagen presented in fibrosis, as compared to existing techniques”, Serene Lek, CEO of Clinnovate Health, explained to YCF.

With this ability, Clinnovate Health provides solutions for pharmaceutical companies developing anti-fibrotic drugs, and fibrosis research undertaken by universities and hospitals. This forms the basis of the company’s revenue stream. The company also focuses on offering services for clinical research groups and pharmaceutical companies in the area of non-alcoholic steatohepatitis (NASH).

But with the support of the SMART feasibility award, Clinnovate Health is aiming to move into the field of kidney transplants for the clinical market. Essentially, the company’s imaging can be used to examine organs from marginal donors, providing objective and quantitative information for surgical teams during the decision-making process. “Sometimes it’s hard to determine the quality of tissue just from the clinical presentation of the patient. A kidney from an older donor may not be inferior to that of a younger donor histologically. You can think of our solution as an objective and automated tool that helps characterise and determine donor quality prior to transplant,” Lek said.

www.ycfscotland.co.uk
The team of four UK-based staff is in the midst of ongoing fee-for-service projects with academic institutions and hospitals around the country. While much of this work focuses on fibrosis it also includes projects in various cancer types, including investigating the stroma surrounding tumours of prostate and breast cancer.

Challenges for the company include the adoption of a new technology by users. “Because it is a novel technology that we utilise, it takes much effort to convince potential users to recognise the relevance and utility. We need to constantly provide data and show that when validated against gold standards, our solution is comparable or provides even more enabling information that helps them in their clinical research and workflow.”

clinnovatehealth.com

Bright Red Publishing

Bringing new computing technology to Scotland’s schools

Another beneficiary of the SMART award scheme, Bright Red is a traditional publisher transitioning into a tech publishing company, with the development of its pioneering education-focused Digital Zone. Specialising in creating educational books for teachers and students to use alongside Scotland’s official curriculum, the ten-year-old company has teamed up with Edinburgh Napier University to develop something new.

“We’ve got one foot firmly in the traditional world of publishing and one foot tentatively stepping over into tech,” John MacPherson, Bright Red’s director, told YCF. The company aims to be established in its new role within five years. Central to this repositioning is a project that was developed with Professor Bill Buchanan OBE of Napier’s Centre for Distributed Computing and Security. At present the Digital Zone, accessible through Bright Red’s website, contains tests, videos, calculators and translators that can be used by students in addition to the publisher’s books. With 70,000 registered users it is already proving popular but the company hopes to do much more when it releases a new prototype next year.

“It’s technology that looks at student performance in relation to very specific elements of the course work and exam questions and looks for correlations between them.” The belief is that by using machine learning Bright Red’s program could assess potential areas of academic strength or weakness in a student based on inputs they have made. These areas can then be flagged up for additional study and revision.

As data begins to build up this model could work beyond a single educational field, identifying correlations between wider subjects with overlapping skill sets. “We’ve tried to get starting signatures, to tag exactly where elements of maths relate to other elements of maths, or where the subject might relate to elements of chemistry or physics.”

The small company, with a team of six based in Edinburgh and Fife, has spent much of the last six months focused on the development of this project. While the back-end is being developed by the Napier team, the front-end is being handled by Edinburgh based software developers, Escrivo. Bright Red’s concentration over the next three months will be on marrying the two halves of their project together in time for a launch and the exam season next May. Trials of the new program will be carried out in schools in the months beforehand.

www.brightredpublishing.co.uk

- Robert Swift

Genesis Ventures brings Chilean scale-up model to Scotland

The VC firm has based a partner in Edinburgh, looking to help investees from Chile scale up internationally, whilst encouraging investors to benefit from the favourable co-investment incentives in Chile to secure funds for local and international companies.

The VC industry in Chile is well established, currently comprising 16 VC firms with around 400 investee companies. As in many other regions of the world, including Scotland, Chile has found that demand for pre-seed investment is well covered by angel networks and accelerators, and there are some funds focusing on early stage investments, but leaving unmet the demand from companies seeking to raise between US$1 million and US$3 million, to go beyond the seed and early stages, into growth and consolidation.

The VCs in Chile set up a new association earlier this year – ACVC (acvc.cl) - which aims to extend VC activity in the country. One way of doing this is the creation of funds which can tap into the generous matching investment terms from the public sector agency CORFO (www.corfo.cl).

Genesis Ventures (www.genesisventures.co.uk), a member of ACVC, is promoting such a fund, in which overseas organisations that invest equity in the fund will see their investees secure debt finance up to three times the value of the equity investment at a low interest rate (LIBOR + 2% annual). Distributions from the fund (whether dividends or capital gains) are subject to only 10% withholding tax, and CORFO has no claim beyond the repayment of its capital and interest.

Genesis is scouting for target companies worldwide, and has posted partners in a number of key locations: in Europe -
Genesis Ventures has a focus on fast growing industries such as media-tech, retail-tech, fin-tech, health-tech, ed-tech, and agro-tech. It aims to invest in teams that are capable of creating businesses with strong growth prospects in Latin America and worldwide. The firm presently has two funds on the standard ten year model with assets under management of US$130 million, and is close to completing a third fund of US$32 million.

One of Genesis Ventures’ investee companies is InstaGIS, which will be setting up an office in Edinburgh within the next two to three months. InstaGIS has developed Civic Brain (civicbrain.io), a software solution designed to humanise the relationship between private/public institutions and their communities.

Changes in ownership

Ice Factor Group raises £523k from HSBC to help fund MBO

Ice Factor Group, which includes Snow Factor Braehead and award-winning adventure tourism facility Ice Factor Kinlochleven, confirmed in April 2017 it had been successful in its bid to operate a new £30 million snow-dome planned as part of a regeneration project in Middlesbrough. The Group has now completed an MBO.

Jamie Smith, owner of Ice Factor Group, commented “I passionately believe in the potential for future growth of Ice Factor Group and I’m delighted to have re-acquired 100% of the shares of Ice Factor Group. This will allow my team and me to continue to serve our customers with the best snow and ice experiences in the world.

“The business has delivered consistent growth and profitability, and allied with a stable and high performing management team, I am confident the buy-out represents the best approach to continue the successful growth of the Group.”

The first Group company, then named Ice Factory, was founded in December 2001.

Highland Venture Capital, a business angel syndicate based in Inverness, made its first investment in Ice Factor, with co-investment from the Scottish Investment Bank, in May 2010. A further funding round by these investors was completed in December 2011 to enable the acquisition of Snozone Braehead.

Highland Venture Capital gatekeeper Iain Scott said “HVC were delighted to complete a deal to sell their shareholding in Ice Factor International to the Ice Factor Group, returning substantial funds to its members. The amount of the deal is subject to confidentiality and therefore can’t be disclosed.”

www.ice-factor.co.uk

STAR-Dundee becomes employee owned

STAR-Dundee is an aerospace engineering company which designs electronic components and test equipment for spacecraft. A spinout from the University of Dundee in 2002, STAR-Dundee provides the international space agencies and space industry with important equipment. The ‘SpaceWire’ network technology interconnects sensors and electronic equipment onboard a spacecraft, providing an efficient and versatile means of integrating the equipment together. The technology is now being used across the world on more than one hundred spacecraft which are monitoring the earth, exploring nearby planets and asteroids, mapping our galaxy and sensing the further flung parts of our solar system.

STAR-Dundee has grown from an academic and a few enthusiastic research students, who initially worked in their spare time to design and develop the first products. The company now employs 25 people and has offices in both Dundee and Barcelona. After celebrating its fifteenth year in business this year, and to secure the long-term future for the company, STAR-Dundee was transformed from a company run and majority owned by the founding academic, Prof Steve Parkes, to an employee owned company. Facilitated by a succession planning project initiative by Scottish Enterprise, various options were considered for the company and it soon became clear that employee ownership was the way forward.

Prof Steve Parkes said “Having formed STAR-Dundee and forged it over 15 years into a company with a worldwide reputation, I realised that I was not going to be around to see it through the next 15 years. It became clear that the future for the company was about the people in the company that had helped make it a success and the culture that we had developed to support that success. Selling the company to another organisation, which would inevitably change the culture and might even move it from its Dundee base, was not a very attractive idea. Employee ownership retains and strengthens the culture and will ensure that it always has a base in Dundee.”

STAR-Dundee is currently launching a new technology, SpaceFibre, designed for high-performance, high-availability applications. SpaceFibre is designed primarily for spacecraft applications, but is creating interest in the robotics, medical equipment and other industries where performance and availability are critical drivers.

www.star-dundee.com
Young Company Showcase 2017

This month we bring our readers a new feature, highlighting companies which demonstrated their talent and innovation in the Showcase at YCF’s recent annual conference.

Kicking the new series off is BLACKBX's Patrick Clover, a young entrepreneur changing the way businesses provide Wi-Fi.

Who are they?
BLACKBX is a fresh new company that in 18 months has gone from operating out of its founder’s bedroom to employing 12 staff from an office in Leith, Edinburgh. Plans to more than double this team to 29 in the near future seem to suggest that business is going only in one direction. A self-taught man at the age of 25, Patrick got into internet infrastructure management straight out of school and likes to describe his internet business as: “Awesome Wi-Fi. Powerful Insights. Epic Experience.”

What do they do?
Patrick’s team provide Wi-Fi management software to cafes, hotels, restaurants and more. Basically, any businesses that host, or want to host, a Wi-Fi connection for their customers could make use of BLACKBX’s software. It creates a branded login page and allows a business to collect valuable data on its customers’ real-time behaviours.

“A café that just has a password on a blackboard, they are giving out Wi-Fi but they are not getting anything in return,” Patrick explained. “It is not increasing their number of reviews on TripAdvisor, or allowing them to understand who is coming into the venue or how much time they are spending there.” BLACKBX takes that data and turns it into analytical graphs that help a business better understand its guests, essentially adding a layer of return value to a service it was already providing. The software meshes with other platforms used by the hospitality sector, such as OpenTable, ensuring smoother integration.

“We are adding a layer of value on to that connection to the internet”

What about security and privacy?
Not everybody likes handing out their email address in order to get online due to privacy fears. But Patrick said that if first time users are shy about doing so, on their second interaction they’re much less concerned, with 80% providing a legitimate email address. “It goes back to this user experience. If you know that you are going to get something of value in return then you’ll be more likely to put in a valid address.” Security too can be improved with BLACKBX. Through the login, the service provides greater accountability than a traditional, and anonymous, hot-spot. Threats from malicious users attempting to set up spoof Wi-Fis are also mitigated with software that can quarantine suspect activity.

Why should we care?
Because chances are you are going to be seeing a lot more of BLACKBX. The start-up is fitting its solution into 60 new businesses each month. Most of these are in the UK but around 100 businesses overseas have also taken it up, in Europe, the Americas and Asia. Patrick’s vision is that within five years BLACKBX will reach ubiquity, so that wherever you are you will have one consistent experience accessing Wi-Fi.

Ok, so what’s next?
For the time being BLACKBX is focused on the UK market. Although it is expanding in the Asia-Pacific area due to a deal with a large manufacturer based there, there is ample opportunities closer at hand. “The market opportunity in the UK is so large that we actually need to dominate our home turf before getting led astray.” There are half a million available businesses in the UK, with just 500 onboard there is plenty of room for BLACKBX to grow.

And a little further down the line?
Patrick’s start-up has received £120,000 of equity previously and is currently raising £500,000 more. In the meantime, he has plans to add additional features to the BLACKBX package including a VPN service, an increasingly popular tool used by some internet users to keep their browsing private and secure.

- Robert Swift
YCF Annual Sponsors 2017/18

edenscott
the people business

Scott-Moncrieff
business advisers and accountants