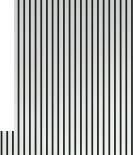
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THEFORGE



It started with Pong Meet leading IT expert and businessman Dean Benson

Mood lightingIt's science meets art

Research partnerships

Put your business at the leading edge

from Professor Jane Turner

I am delighted to welcome you to this edition of *R&B* magazine and to introduce myself as Teesside University's new Pro Vice-Chancellor for Enterprise & Business Engagement. It is with great pleasure that I take up this new position and I am looking forward to working with a university widely recognised and highly valued for its approach to working with the business community.

Teesside has an unparalleled reputation for its innovative approach to enterprise, graduate start-ups and scale-ups and significant standing in its services to businesses across the North East region and beyond.

We will build from this very strong position to ensure that Teesside University is the prominent business engaged university, recognised as the go-to place for businesses from all sectors to partner in research and workforce development. We aim to lead on the development of world-ready graduates and be a key partner and catalyst for business growth and regional prosperity. My role is to ensure the further development of business relationships and partnerships and the integration of student, graduate and academic knowledge and expertise into all elements of the business community.

It is an exciting time for Teesside with the recent launch of The Forge offering a dynamic new identity for the University's award-winning products and services for business. It provides a single point of contact for all customers - whether they are in search of consultancy, training, leadership development, R&D or professional education support. I am thrilled by the opportunity to join the expert and dedicated professionals at The Forge, located just a five minute walk from Darlington train station. Our goal is to further extend our professional development offer and build a name and standing that attracts professionals from the region and beyond.

Teesside is a fantastic institution and the current investment and transformation taking place across the campuses both in Middlesbrough and in Darlington is a testament to the commitment to excellence. The University is at the heart of the world of business and has a vital role to play in attracting investment, planning innovation and offering knowledge, research and expertise in the field.

This edition showcases the opening of Fusion Hive at Northshore in Stockton – a fantastic example of this partnership working. The Northern Powerhouse's James Wharton MP, officially opened the three-storey 36,000 ft² business and innovation centre which provides hightech facilities for new and growing SMEs in the digital and scientific sectors. Fusion Hive was developed in partnership with Stockton Council and the Homes and Communities Agency, supported by the European Regional Development Fund and is managed by The Forge.

Jane Turner

Pro Vice-Chancellor (Enterprise & Business Engagement)



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Opportunities for SMEs to develop leadership skills

By David Roberts

The Forge is behind one of just eight projects chosen from across the country by the UK Commission for Employment and Skills (UKCES) to help boost leadership opportunities for small and medium sized enterprises.

Each of the eight projects, which are part of the UK Futures Programme run by UKCES, will trial innovative ways to improve the productivity of small local businesses by boosting their leadership and entrepreneurship skills. The anchor institutions for each project include chambers of commerce, universities, colleges, councils, enterprise agencies and business schools, in conjunction with local employers.

The Leadership Forge, led by Teesside University, aims to challenge attitudes towards leadership development, which is not widely valued by smaller businesses. The project will show these businesses how they can progress by highlighting the correlation between leadership development and business growth and

workshops, coaching, site visits to large employers, action learning and peer learning sessions to enable SMEs to work on the business, not in the business.

Laura Woods, director of The Forge, Teesside University's front door for business, says, 'Although there are many SMEs in the region, a high proportion of owners and managers don't see leadership development as a valid route to business growth, and so fail to take up leadership and innovation opportunities

'This project will tackle those perceptions by involving local small businesses in shaping an innovative approach to engagement and leadership development, giving them access through their relationship with Teesside University to new solutions and valuable networks.

Julie Kenny CBE DL, commissioner

a leading small business in the security sector, adds, 'Small businesses form the backbone of the UK economy. Yet constraints on their time and resources mean they are the least likely to develop the leadership and management skills that will help them grow.'

'Owner managers and senior leaders of small companies need to spend their time and money wisely, and see clear benefits from the start. The anchor institutions we will be working with have demonstrated a strong understanding of the specific issues that small businesses face in their local community. They have also shown that they have the ability to reach out to businesses who often find themselves excluded from national programmes.'



FUSION HIVE

CREATING A BUZZ

IN WESTMINSTER

A new home for digital and technology businesses in the Tees Valley has attracted praise from the government.

By David Roberts

James Wharton MP, Minister for the Northern Powerhouse, opened Fusion Hive on Stockton's Northshore and praised the high-tech business and innovation centre for its important role in helping new and growing businesses to thrive.

The impressive three-storey, 60,000 ft² building has flexible working spaces for around 60 businesses and already houses 15 companies.

The flexible individual workspaces and collaborative areas help like-minded businesses interact, network and work together. Managed by The Forge, Teesside University's business hub, the facility equips tenants with a modern workspace, along with access to the University's established business networks, expertise and innovation services.

As Northshore is an enterprise zone many of the businesses who choose Fusion Hive as their base will also be able to take advantage of up to £55,000 of business rate discount per year for five years. James Wharton, pictured, who is

also MP for Stockton South, says, 'This will be a driver for growth and shows what can be delivered with collaboration across sectors

'Through the companies involved, Teesside University, development fund backing and the local authority, a lot has gone into getting us to this stage and now Fusion Hive will contribute to our future growth and building the Northern Powerhouse.

'I am delighted it is here in Stockton and confident it has many years of success ahead.'

Professor Paul Croney, Vice-Chancellor of Teesside University, adds, 'Teesside University has a fantastic track record for collaborating with business and Fusion Hive will increase the range of services we can offer to companies in the Tees Valley.

'It is already helping many of the region's most exciting businesses to grow and fulfil their potential.

'We were delighted to welcome the Minister and introduce him to some of the innovative companies that are helping to grow the region's economy.'







FUSION HIVE





SMARTDRIVING HEADS STRAIGHT FOR FUSION HIVE

A leading provider of driving instructor training is moving from the West Midlands to the Tees Valley to take advantage of Fusion Hive.

The company, which has been in business for over 35 years, is relocating its head office from Coventry in a move which will also see jobs created in the area.

SmartDriving provides novel driver instructor training using the latest digital techniques, both online and through mobile devices.

Its technology-based approach, combined with traditional instruction methods, means the company has a 100% success rate in its instructor training programmes.

SmartDriving has revolutionised conventional driving tuition with the launch

of several apps to help people complete their driving tests. This has enabled learners to continue their training at home and on the move and not be restricted by the availability of their instructor.

With new apps including Theory Test, Hazard Perception, Highway Code, Road Signage and – coming soon – a 3D driving app, SmartDriving is leading the way in driver learning technology.

SmartDriving now operates with over 60 driving tutors and an operational and commercial team, which includes three directors.

Adam Bragg, marketing director of SmartDriving, says, 'With any established business you need to innovate to grow and move to the next level.

'That is what we at SmartDriving are doing with our increased innovation and diversification into the digital market. This

has allowed us to not only increase the quality of our service, but also to continue on a very cost-effective basis.

'Fusion Hive will give us the prime opportunity for business growth as this will be an environment that will encourage innovation and will drive potential opportunities for our digital offer, which will only help those learning to drive and the instructors that use our products.'



AWARD-WINNING INTEGRITY SEARCH JOINS FUSION HIVE

Award-winning digital marketing agency Integrity Search is capitalising on an incredibly successful 2015 by moving to Fusion Hive to give the company the best opportunities for further growth and to attract new clients.

Founded in 2010, Integrity Search has seen rapid growth and has also recently set up a London office. The company rebranded in 2015 and has ambitious plans for development and expansion.

Integrity Search helps its clients grow and drive profit through the use of digital marketing techniques. The company works with clients to develop a growth strategy and uses an array of integrated digital marketing services to meet their needs. With expertise in search engine optimisation, paid search, social media and content marketing, Integrity Search has also developed its own responsive e-commerce platform.

The company's work is based on results; it says online businesses grow by an average of 500% in the first six months of working with it.

This year has been a special year for the business, with several new client wins to add to its nationally based client portfolio. The company was also recognised for its work when it took home the Digital and Social Media Award at the 2015 Teesside Business of the Year Awards.

Integrity Search's managing director Kristin Atkinson already has a strong relationship with Teesside University, having worked with the DigitalCity initiative which supported him with recruitment and financial assistance when he needed help to grow the company.

He sees the move to Fusion Hive as a key part of the business's growth strategy.

Kristin says, 'There is a digital revolution going on in the Tees Valley, and the region as a whole, and we want to be at the

forefront, which is why we have decided to join Fusion Hive. I emphasise the word join as this is a collaborative effort.

'The opportunity to work together in a flexible facility, developed for businesses like ours, gives our organisation a real opportunity for growth.

'We have an excellent client portfolio and we want to build on this, so maintaining a high-quality level of service will be paramount. Our operation is based on results, which we deliver, and our quantifiable operation allows us to put integrity into these results.'

Other companies to join Fusion Hive include GPS vehicle tracking specialist GTrak Ltd, award-winning business coaching firm Team Massive Results, digital technology enterprise skignz, recent winner of the Northern Stars award, and catering design specialists Space Design Associates.



















Laura Woods Director of The Forge



Forging business links

The formal opening in October of the Fusion Hive innovation centre on Stockton's Northshore was a big step forward for The Forge, Teesside University's business gateway.

It signalled a major development in university-business working in the Tees Valley. As the operator of Fusion Hive on behalf of Stockton Council, we're taking a highly proactive approach, joining up resources inside the University and well beyond it to build a community of technology-led companies.

This way of working with business, which will see that community grow, is what underpins The Forge and all our work with business. It's founded on four key principles:





Unlocking academic knowledge

Through our team of experienced innovation managers, The Forge gives businesses a direct route into the University, with the certainty that they'll talk to the right people and get the right support, all the way through the process.

2. Growth through innovation

Introducing a new product, process or concept can deliver positive change in a business - more often than not a step change. Ranging from bringing in a new technology to embedding new skills or knowledge in the workplace, it's where The Forge can make a real difference to a business.

3. Developing strong relationships

Good business relationships rely on trust and mutual understanding. It's the reason we put emphasis on building and fostering links with business that are valued, and stand the test of time.

4. Building those all-important

We can make our national and international connections work for business. Building valuable links with other businesses, funders, universities, technology agencies - to name but a few - is key to a successful growth strategy.

Strengthening and diversifying the Tees Valley's economic base has arguably never been more important than now, as our traditional steel industry falls prey to global trends. The Forge at Teesside University is playing a key role in helping to grow new opportunities, new wealth and new jobs.

Contact The Forge to find out more:

01642 384068 theforge@tees.ac.uk

New hub to help develop North East food industry

By David Roberts

A new hub has been set up at Teesside University to support and promote food professionals across the North East.

The North Eastern Hub of the Institute of Food Science and Technology (IFST) will build upon the expertise of academics at Teesside University to foster local networking and engage and support local schools and universities.

IFST is the independent qualifying body for food professionals in Europe. Its membership is drawn from all over the world from backgrounds including industry, universities, government, research and development and food law enforcement.

IFST's activities focus on disseminating knowledge relating to food science and technology and promoting its application. Another important element of its work is to promote and uphold standards amongst food professionals.

The hub will help develop activities across the region, which will include:

- > organising local networking or short technical meetings and briefings
- > providing support for local schools, colleges and universities
- > facilitating technical factory or laboratory visits
- > collaborating with other local food science based organisations.

opportunity to bring together people from across the area.

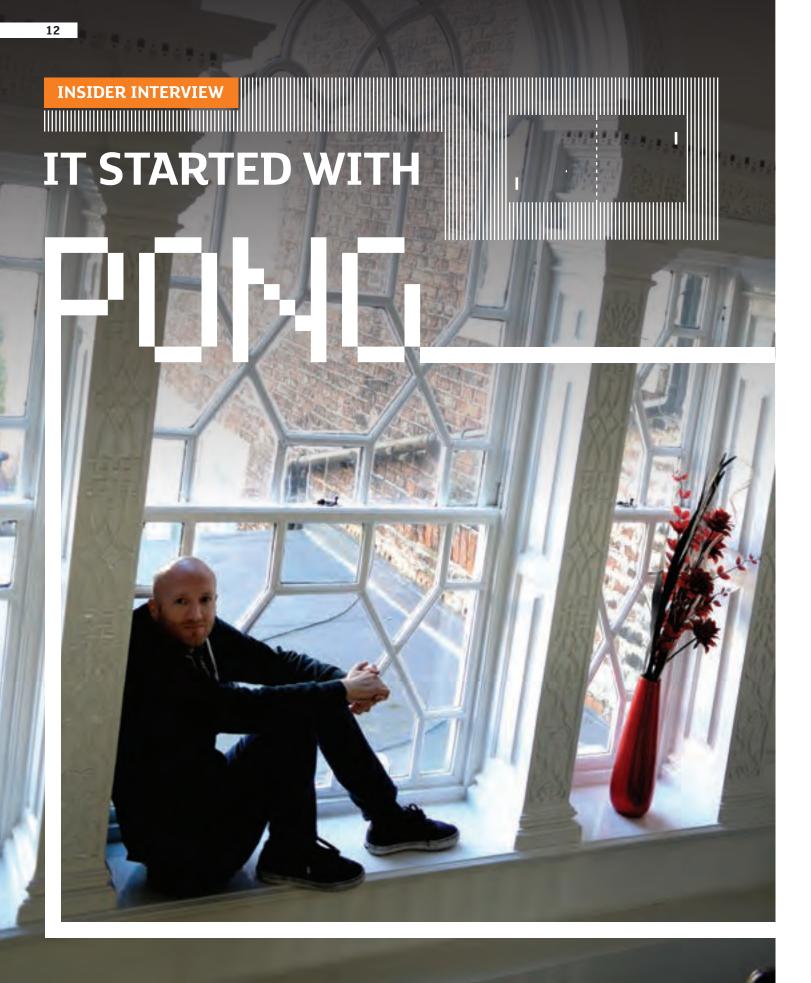
Teesside University has a strong reputation for its range of graduate and postgraduate qualifications in food science and nutrition.

Nigel Atkinson, BSc (Hons) Food and Nutrition, course leader said 'This hub is a recognition of the growth of food courses at Teesside University.

'We have a strong focus on employability at the University and building networks across the region is an important way for students to develop their professional ambitions.

'The hub will not purely be for those involved in the food industry, we'll also





Leading IT expert Dean Benson is not a conventional businessman – he might be described as a typical geek with his track record in obsessing over how all things computerised work. Yet he brings a refreshingly uncommon attitude to running his business Visualsoft with an extremely conventional and professional determination to get the job done. He tells Alison Ferst about the Benson way of business.



It all began when his sisters consistently beat him at the tennis sport game *Pong* – the one with two dimensional graphics and a rectangle masquerading as a tennis bat. Not liking to be beaten, Dean did a little hacking and enlarged his bat while shrinking his opponents' bat.

And so his techie love affair with coding was born. Now 40 and heading up a multi-million pound business, that love affair continues.

E-commerce and technology company Visualsoft is celebrating 17 successful years in business with a move from Church Road to a new Stockton HQ by the riverside – Visualsoft House.

It's a landmark moment since a management buyout of the company in 2014 which saw Dean take on the mantle of CEO and introduce some significant new initiatives,

He's gained quite a few column inches from his approach to working conditions which include unlimited holiday, flexible working, free breakfast for staff, healthy fruit and gym membership. 'Richard Branson announced unlimited holidays for staff a week after we did,' Dean grins.

But isn't he concerned that some staff may take advantage of his generosity? 'Not at all. Everyone is aware of what their job is and what needs to be done. They understand the importance of deadlines and so long as the work is done, I don't care what time people come in and leave. It works for people who have children and need to do the school run, it works for those who want to take an afternoon off and make a long weekend of it. I find people work late, work on a weekend and they are happy to do that in return for the flexibility. It's part of the DNA of the company.'

In fact the social aspect of coming to work is positively encouraged, 'People want to come in to work, their friends are here, they don't want to sit at home watching daytime TV on their own when all their friends are at work.'

To celebrate the launch of flexible learning, Dean demonstrated his own enthusiasm by getting up at 3.00am, driving to the Lake District and climbing Scafell Pike – the highest peak in England – driving back to work and tweeting a picture of him at his desk in the afternoon. I was shattered,' he laughs.

Visualsoft works with many small to medium sized enterprises as well as a lot of brands, such as Gola, Jules B and Kickers, to set up and manage their websites and e-commerce solutions.

Dean now employs a staff of over 200 and has offices London, Newcastle and one due to open in Manchester as well as Stockton HQ.

Dean, a Teesside University graduate himself, set up Visualsoft with two friends he met at University while studying computer science. Although both original founders are no longer with the business, Dean still keeps in contact with his fellow alumni

He is also committed to training and developing the skills base of his staff in new and innovative ways including guest lecturing at the University and working with colleges on trainee placements. And once staff are in place he uses his Hive HR tool to measure their happiness and engagement on a weekly basis with a quick question – no long staff survey forms to fill out. 'It's a micro survey and it is about how people feel right at that moment and it lets me know how engaged people are. I want people to want to work here.

To that end, Dean has also launched Talent Hunter so individuals can refer employees to Visualsoft and if they are successful the referee receives £5,000. 'It means I am not worried about recruiting and retaining the right people,' he smiles.

'That's why Visualsoft is a success – it's all about the people.'



Richard Branson announced unlimited holidays for staff a week after we did. 14 15

THE KNOWLEDGE

Research partnerships to help business succeed

From designing 3D models for hazardous event detection systems to helping an engineering firm become more efficient, David Roberts looks at how an increasing number of Teesside firms are using Knowledge Transfer Partnerships to innovate and grow.

For more than 40 years Knowledge Transfer Partnerships (KTPs) have been helping businesses throughout the UK improve their competitiveness and productivity.

KTPs typically last for two years and are a collaboration between a university and a company. They are part-funded by Innovate UK (formerly the Technology Strategy Board) to help businesses to improve performance through the better use of knowledge, technology and skills. As part of a KTP, a talented graduate is placed within a company

to deliver a specific project, and with access to expertise and facilities at the partner university.

Teesside University has an excellent track record of working with companies on KTPs. In 2013 it was revealed that more than £3m had been put into regional industry profits over the previous five years as a result of KTPs.

In the same year it was announced that 82% of Teesside University's KTPs were judged to be Outstanding or Very Good compared with a national average of 55%.

Most recently, the University received six nominations in the national KTP awards, to be

announced in November, one of only a small number of providers to receive a nomination in each of the three categories.

Laura Woods, director of The Forge, says, 'By utilising the knowledge, skills and research expertise at Teesside University, KTPs can help you take your business forward

'Bringing skilled graduates into a company and supporting them with academic expertise is proven to have a big impact on a company's performance and profitability.'

Research project yielding dynamic results

The University is working with a North East manufacturer to research how advanced computer simulation can be used to optimise its products.

PSI Global is participating in a KTP to investigate how Computational Fluid Dynamics software can be used to model the structure of the multiphase flow (simultaneous flow of materials with different states or phases) within a vacuum pump and the filtration/separation process.

The company, which is based in Bowburn, County Durham, manufactures filters and separators for the compressed air and vacuum industries.

Nausheen Basha, a Teesside University MEng (Hons) Aerospace Engineering graduate, has been placed with the company to investigate ways to use Computer-Aided Design (CAD) and Computational Fluid Dynamics (CFD) to visualise how different types of separators within the pump affect the flow of gases.

The visualisation will ultimately help determine how to get the optimum performance from the separators which are used to filter oil from air.

Nausheen has already constructed a test rig at Teesside University to obtain data about how gases operate within a pump.

She says, 'My degree is in aerospace engineering and that involved a lot of research into air turbulence and I'm applying the same principles to the gas flow in a pump.

'By understanding the flow, we can use that data to make visualisation on the 3D software and then learn how making modifications to the pump and separator can affect its performance.

'Currently, any testing of modifications has to be done experimentally. By using the CFD software, testing that used to take days can be done in a couple of hours.'

Lloyd Cochrane, technical manager at PSI Global, says, 'This is a massively important step in understanding computational flow dynamics.

'It will allow us to understand what is happening inside the pump and why. Once we establish a base model we can then put different scenarios in to the CFD software.

'This project has already had a big impact in terms of the way in which our knowledge base is increasing in relation to the way the pumps work.'

Left to right: Dr Faik Hamad, KTP Associate Nausheen Basha and Lloyd Cochrane, technical manager at PSI Global.

Engineering company helped to make substantial savings

Mech-Tool Engineering Ltd is being helped to save hundreds of thousands of pounds thanks to a KTP with Teesside University.

The Darlington-based company is working with The Forge to investigate ways in which its manufacturing processes can be made more efficient.

Mech-Tool designs and manufactures products that protect people and plants from blast, fire, and heat hazards.

The project has already identified a number of ways in which systems can be made to operate more effectively and is carrying out a review of all the processes throughout the company. The KTP started in August 2013 and KTP associate Barry Moore, a Teesside University BEng (Hons) Mechanical Engineering graduate and PhD student began working at the company.

The impact of the project contributed to Mech-Tool winning the Lombard Award for Best Small to Medium Enterprise at

the Institution of Mechanical Engineers'
Manufacturing Excellence Awards 2014. The
company acknowledged the achievements
of the project and offered a management
position to Barry. Barry has been supervised
by Dr Ruben Pinedo-Cuenca, a project
manager at Teesside Manufacturing Centre in
the School of Science & Engineering.

Barry says, "I've been looking at how we can make various different functions of the business communicate better. Not just in terms of people to people, but also how information flows from start to finish and how we record what we do.

'We've had a few quick wins and, as a result, were able to make some of the larger systems more efficient.

'We're also looking at making considerable time-savings on some of the processes which we are hoping to roll out towards the end of the year. If these are successful they could potentially save up to £200,000 a year.'



STOP PRESS: Barry won a prestigious Business Leader of the Future award – one of only five nationally – at the KTP Awards in November.



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THE KNOWLEDGE



A KTP with Stockton-based Hazard Detection Solutions Ltd (Hazdet) is helping the company significantly reduce the time it takes to assess where to place vital gas and fire detection equipment.

The KTP is expected to bring in substantial profits over the next few years.

Hazdet is working with The Forge to develop 3D modelling software that helps determine where fire and gas detection equipment needs to be situated on complex process sites.

The project has already developed a software model which allows complex and time-consuming calculations to be worked out and visualised within a fraction of a second. Hazdet works with companies in the oil, gas and petrochemical industries and advises them on the best way to deploy gas and fire detectors to provide optimum coverage.

Computer game engineering graduate Cameron Cotterill has been appointed to update Hazdet's existing fire and gas detection software into a high-performance 3D platform for in-house use. The potential for its further development into a standalone commercial product is also being reviewed.

Cameron has already developed a working prototype of the software with a 3D interface, using high performance C++ programming to significantly reduce calculations.

A typical fire detection calculation which once took more than an hour to complete can now be calculated in less than a second. These efficiencies will enable the company to undertake a larger quantity and scale of projects.

Cameron says, 'Because the calculations run significantly faster than the original software it means mapping jobs takes much less time. It also gives us the opportunity to map much larger sites. We can use the software on site with clients, supporting a more consultative process, rather than taking plans away to work on.

'The accuracy has also been increased which gives a result clients are more likely to believe and agree with.'

Simon O'Connor, director of Hazdet, adds, 'Our existing software was becoming increasingly unsatisfactory and Cameron has developed a programme which has helped ensure the long-term viability of the company. 'The project has progressed much faster than expected and as we start to use the software on actual contracts over the next few months we expect to be reaping the benefits very soon.'

The business case associated with this collaboration aims to generate more than £1m additional profits for Hazdet over the next five years.



The accuracy has also been increased which gives a result clients are more likely to believe and agree with.

KTP helps architects attract global clients

A North East firm of architects is attracting international clients thanks to research into cutting-edge Building Information Modelling (BIM) technology.

Ryder Architecture in Newcastle is working with Teesside academics on a KTP to investigate different ways in which BIM can be implemented into facilities management.

This is the third KTP that Ryder has undertaken with the University and the research into BIM has helped position it as a leading practitioner of BIM methodologies and helped attract clients in Australia and the Far East.

BIM is a concept that uses a combination of processes and technologies to develop a digital representation of physical and functional characteristics of a building.

If implemented properly, BIM can improve the predictability and quality of building projects and contribute to saving time and money. The latest KTP is looking at ways of adapting BIM to provide data and information which can be used to manage the building after its construction is completed. It is also investigating how this knowledge can be fed back to architects and engineers so they can design better buildings.

Ryder's previous collaboration with The Forge and Teesside University has already led the company to form a new business, BIM Academy, an R&D, education and consultancy organisation to support other firms which want to implement BIM methodology in their work.

The success of the KTP projects helped Ryder win a prestigious international consultancy on BIM for facility management at the Sydney Opera House following a global tender call.

Ryder is also working on BIM projects at the M+ Museum of Art being constructed in West Kowloon, Hong Kong.

The company has formed a partnership agreement with Ecodomus, a US IT firm which specialises in BIM for facilities management to help push the technology in UK and the Far East.

Peter Barker, director at Ryder
Architecture and managing director of BIM
Academy, says, 'From Ryder's perspective,
the KTP has really helped to broaden our
services, not just in terms of designing
the client's building but also having the
potential to deliver reliable information
about the building for the operational stage.

'It's really helped to increase our awareness of BIM's capabilities and, jointly with BIM Academy, given us the chance to work on some really exciting projects and helped us to talk to some very significant clients.

'At the moment only a small proportion of building projects are using BIM for facilities management, so there is huge scope out there.'



LEADING THE WAY

LIGHTING THE ROUTE to a new cinematic experience

Innovative ambient lighting could be used to immerse an audience more deeply in a cinematic experience, following a research project carried out by Teesside University Professor Paul van Schaik.

Lighting technology company amBX worked with The Forge to research how different ambient colours influence moods and heighten a cinema audience's film experience. In the same way that a soundtrack or cinematic score can heighten tension or help create a particular mood during a film, the project has revealed that specific colours present in a room's ambient lighting can affect how people react to certain scenes.

The project, part-financed by Innovate UK (formerly the Technology Strategy Board), could have a major impact on how future commercial and home cinemas are developed.

It paves the way for films to be distributed with a light track to control the ambient illumination in a room or cinema.

There is also potential for the research to be used in a variety of other applications, such as lighting systems in hospitals, workplaces and schools.

In undertaking the research, Paul van Schaik, professor of psychology in Teesside University's School of Social Sciences, Business & Law, devised a method of measuring people's reactions to different colours.

Volunteers were shown sequences of media clips and excerpts from a film while amBX's unique software created differing colours of ambient lighting in the room.

The volunteers were asked to rate how the colours impacted on their experience of watching the film.

The preliminary research has already shown that yellow light enhances positive effect while negative moods were improved with the addition of a red light.

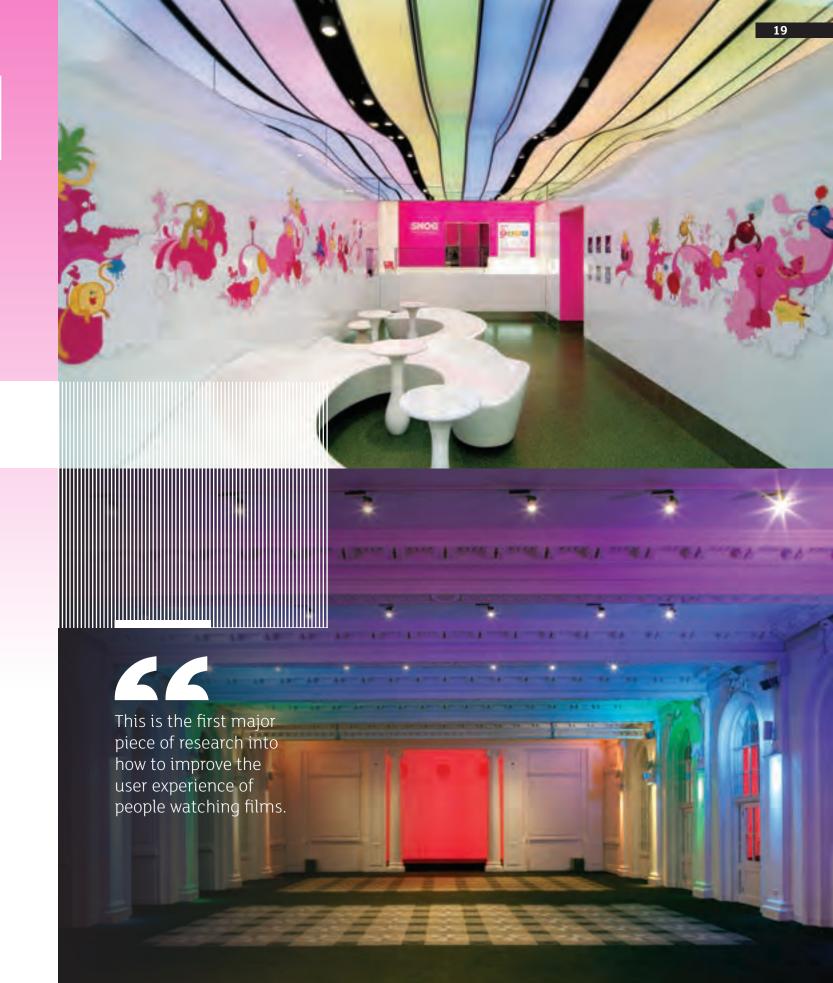
Professor van Schaik explains,
'This is the first major piece of research
into how to improve the user-experience
of people watching films – it's something
that has been typically applied to interactive
computer systems, such as computer
games.

'We now know that lighting can enhance the experience and we have been able to determine this using psychological measures. We can now refine this to investigate the impact of other colours.' amBX UK was formed in 2008 as a spinout from electronics firm Philips. Its technology creates custom, dynamic lighting environments. The company has set up an innovation studio at Teesside University to further develop and demonstrate its cutting-edge technology and interfaces

David Eves, chief technology officer and co-founder of amBX, says, 'This research has shown, for the first time, that coupling different types of light with media enhances the users' experience of video content and there is a strong correlation between our mood and different types of colour lighting.

'Our collaboration with Teesside University has really helped push the boundaries in terms of measuring user experience.

'In future we could see films being distributed with a light track for a cinema's ambient lighting. We could also see this technology being used in lots of different settings such as in a retail environment or in a hospital to improve patient care, where lighting can support a feeling of well-being and accelerate recovery.'





A fledgling software company specialising in retro games is set for its first major release thanks to backing from the Finance for Business North East Angel Fund and advice from law firm, Ward Hadaway.

Robo Pixel Games, based in Middlesbrough, was started by four graduates of Teesside University's computer design, art and programming degrees - Elliott Oldham, Jonathan Clarke, James Batten and Andrew Burnet.

The company specialises in creating retro-style pixel art games and graphics, emulating the games produced by developers such as Nintendo and Sega more than 20 years ago.

With backing from the Finance for Business North East Angel Fund, managed by Rivers Capital, the company is set to launch its first stand-alone game,

Gunnihilation, a 2D retro platform and shooter game, on major PC gaming platforms such as Steam in the first quarter of 2016. Gunnihilation is set for success after winning the UK Game of the Show award at this year's Gamescom in Cologne - a major achievement for the company.

Robo Pixel Games co-founder Elliott Oldham says, 'There is a lot of interest around so-called retro games which combine features of modern games such as customisable skill settings with the look and feel of games which people have grown up with. This is what we have tried to capture with Gunnihilation and we are really excited about the potential of the game as we look to launch it.

'The investment from the Finance for Business North East Angel Fund, together with the support we've received via The Forge's business support programme, has been crucial in getting us to this stage.

Robo Pixel Games is one of a number of start-up and early stage companies being given help and support by The Forge.

Teesside University provides tailored help to start-ups including supported office space in its business incubator, and professional advice and mentoring.

Laura Woods, director of The Forge, Teesside University's business hub, says, 'We're delighted to have provided the platform for the team at Robo Pixel to

As part of the investment process for the Finance for Business North East Angel Fund, computer games expert Tom Didymus has joined Robo Pixel Games as non-executive chairman.

The Finance for Business North East Angel Fund has so far invested £9m into 64 businesses in the North East region.

Visit robopixel.co.uk

Left to right: Jonathan Clarke, Tom Didymus, Andre Burnett, James Batten and Elliott Oldham

Digital magazine launched with support from fellowship scheme



A former journalist has launched a digital magazine to promote the achievements of the region's women, with support from a unique fellowship scheme at Teesside University.

Express North was set up by Lucy Richardson, a former senior reporter at The Northern Echo and Hexham Courant.

The digital magazine offers fresh content five days a week in written and video format and features career profiles, real-life stories and opinion pieces as well as fashion and beauty. Lucy set up her new venture with support from the University's DigitalCity Fellowship scheme. She says, 'I felt that there was a big gap in the market for something new.

'The internet is buzzing with local female Facebook networking groups and the Federation of Small Businesses held its first North East networking lunch for women recently.

would work well as a YouTube video as would a tours of events.

'The working tagline for the Express North website is no beach bodies, no kiss and tells but lots of revealing women,' Lucy explains.

'I'm fed up of standing in line in a supermarket or chemist faced with magazine headlines that shame celebrities if they are not a size zero and praise them for pinging back into a bikini days after having a baby. I want Express North to be the antithesis to those publications.

Revenue will be generated from local advertisers wanting to target the niche market. Lucy received support through the DigitalCity Fellowship scheme in the form of a start-up grant as well as four days of help and advice from industry experts. DigitalCity is part-financed by the European Regional Development Fund.

Lucy had her fully-responsive website Jani, of Laughing Beards, as part of the mentoring programme.

The feedback I've had so far about Express North has been really positive. I'm excited about what it could achieve and want to create my own success story.'

Laura Woods, director of The Forge, Teesside University's front door for business, says, 'It's good to see Express North, led by a female entrepreneur, championing the talent and achievements of the region's women. We're delighted that through DigitalCity we've been able to help launch another great business in the North East.

Express North can be read at expressnorth.co.uk

For more information about how Teesside University can help your business idea become a reality visit tees.ac.uk/theforge.



RESEARCH ROUND-UP

From the use of exergaming to help people with multiple sclerosis, to highlighting hostility against Muslims, research carried out at Teesside University has a real-world impact on health, society, culture and industry. Academics even swapped lecture halls and seminars for the comfort of local pubs earlier this year in a bid to make their work more accessible.

Report into hostility against Muslims makes headlines around the world

A report by Teesside University showed that Muslims in Britain are becoming the target of hate crimes and incidents of retribution for global terror attacks.

Findings from the study by the University's Centre for Fascist, Anti-Fascist and Post-Fascist Studies (CFAPS) were reported by *The Guardian*, *The Independent* and BBC News, as well as media outlets in America, Pakistan and Turkey.

The report, compiled by Professor Matthew Feldman, a professor in Teesside University's School of Arts & Media, and Dr Mark Littler, CFAPS research associate and lecturer in criminology at Hull University, is based on data from the TELL MAMA (Measuring Anti-Muslim Attacks) project set up by Faith Matters.

It found that following atrocities in Sydney, Paris and Copenhagen, there was a noticeable rise in anti-Muslim incidents in Britain in the immediate aftermath, providing evidence that extremists here are reacting to terror attacks taking place in other countries and subjecting British Muslims to retaliatory abuse.

From March 2014 to February 2015 there were 548 anti-Muslim incidents reported to TELL MAMA. This ranged from online

abuse and threats to street assaults and extreme violence. Significantly there were noticeable spikes following high profile terrorist attacks around the world, with the report comparing the number of anti-Muslim incidents in the seven days before and the seven days after each attack. In the seven days prior to the *Charlie Hebdo* massacre in Paris, where 12 people were killed, there were 12 reported incidents to TELL MAMA, but in the seven days following there were 45.

The chair of TELL MAMA, former government minister Shahid Malik, says: 'The media has to work harder to break the link between Muslims and extremism which seems to be the over-riding narrative.

Professor Feldman adds, 'The analysis offers broad support for the theory of cumulative extremism, with the ratcheting up of violent activity between opposing groups, with an act of violence triggering a response that itself sparks further attacks.'

Exergaming improves balance of people with multiple sclerosis

Research at Teesside University has found that exergaming could be used to help people with multiple sclerosis (MS) live happier, more fulfilling lives.

Research at Teesside University has found that exergaming could be used to help people with multiple sclerosis live happier, more fulfilling lives.

A study led by Jonathan Robinson, senior lecturer in research methods, revealed that using the Nintendo Wii Fit game was equal to traditional physiotherapy balance exercises for improving the balance of people with MS. But, significantly, those with MS said they found the Wii Fit more engaging and were more likely to use it regularly, over a prolonged period of time.

A team of researchers from Teesside University's School of Health & Social Care carried out a study with more than 50 people clinically diagnosed with MS to examine the effects of exergaming on their balance. They were split into three groups, with one group receiving balance training

using the Nintendo Wii Fit, the second receiving traditional physiotherapy balance training and the third group receiving no intervention.

Those using the Wii Fit saw an equal improvement in their balance to those using traditional physiotherapy exercise and a significantly greater improvement than those who received no intervention.

Jonathan says, 'People with MS are encouraged to be as active as possible for as long as they can. But one of the biggest problems for physiotherapists in general is getting people to continue with their exercise and, as MS is often self-managed, a lot of people report getting bored and giving up. Our research has found that using the Wii Fit to exercise is as beneficial as traditional methods in terms of improving balance, but users find it a lot more enjoyable and engaging.'



Academics swapped lecture halls and seminars for the comfort of local pubs to make their research more accessible.

Teesside took part in the Pint of Science festival, which saw scientists from 20 different institutions give presentations about their work in pubs across the country. Professor Tim Thompson, from Teesside's School of Science & Engineering, was among the participants. He says, 'As a researcher it is important that our work reaches as many people as possible. Sometimes we can become a little bit entrenched in our own academic worlds and that is why Pint of Science is such a fantastic event which Teesside University was proud to be a part of.'

Football clubs and academics working towards the same goal

The vital role sports science and medicine play in what happens on the football pitch was in the spotlight at an interactive event at Teesside University.

Middlesbrough Football Club (MFC) teamed up with the University to offer a hands-on approach at an event dedicated to ensuring footballers are at their physical peak. Football players, academics, sports scientists and medics all shared their experiences with speakers from MFC, AFC Ajax, Derby County Football Club, The Football Association, Liverpool Football Club, Liverpool John Moores University and Teesside University.

Matt Portas, principal lecturer in sports and exercise at Teesside University, says, 'There are times when something is known to work in practice, but it is difficult to turn into scientific evidence and formally share as good practice. The main aim of this was to make the whole process simpler and more accessible.'



Internship proves to be a game-changer for Durham company

A North East company is being helped to access millions of pounds of potential new business thanks to an internship programme run by The Forge.

Durham Filtration Ltd has taken part in a Knowledge Exchange Internship (KEI) to investigate the impact of different filtration systems on biomass-fired power stations.

The Jarrow-based company provides filtration products for a range of sectors, including oil and gas, dust and fume control and power generation.

As biomass-fired power stations have become increasingly prevalent, the KEI has allowed Durham Filtration to get a better understanding of the complex needs of this expanding market. KEIs, which are part-funded by the European Regional Development Fund are unique to The Forge.

Ben Dannatt, a chemical engineering graduate from Newcastle University, was employed by Durham Filtration to research the challenges faced by biomass power stations in relation to flue gas filtration systems and their associated costs. As well as subsidising Ben's salary, the KEI also provided academic support and mentoring from Teesside University. Ben says, 'The KEI has resulted in some tangible assets for the company by combining the relevant academic, industrial and economic data. It should allow Durham Filtration to break new markets with an enhanced offering.'

With the biomass filtration market worth more than £5m a year, Durham Filtration's managing director Barry Goulden believes this could have a major impact on the business. He says, 'Over the course of the KEI, the scope of the project has expanded and we're now in talks with filter fabric manufacturers about potentially selling equipment in Europe. It's a complete game-changer.'

Professor Gary Montague, from Teesside University's School of Science & Engineering, adds, 'This project has opened up several new areas of investigation. As well as being of great benefit to Durham Filtration it will help to inform our teaching and research at Teesside University.





A pioneering start-up, spun out of Teesside University research, has been shortlisted for a prestigious international award.

TeeGene Biotech Ltd, which is based in the Teesside business and science park at the Wilton Centre in Redcar, has been shortlisted alongside companies from the USA, Australia and Nigeria in the Best Business Start-Up category at the IChemE Global Awards 2015.

TeeGene Biotech has developed innovative ways to extract high-value chemicals from algae, plants and microorganisms. In particular, the company has found ways to develop biosurfactants, which act like soap and help to emulsify different liquids, from strains of bacteria.

The Institute of Chemical Engineers (IChemE) Awards celebrate excellence, innovation and achievement in the chemical, process and biochemical industries.

Dr Pattanathu Rahman, pictured, founding director of TeeGene Biotech, is a biotechnology programme leader at Teesside University with 20 years of research experience on novel biotechnological approaches in bioproduct development, and a recipient of a Society for Applied Biotechnology Award of Excellence in Microbial Biotechnology.

He says, 'Most people consider soap to be an effective means of removing bacteria from their skin. However, we have flipped this concept on its head by discovering a way to create soap from bacteria.

'The biosurfactants we create can be manufactured in a lab and are said to be fully biodegradable, with minimal impact on the environment. It's a very exciting technology with tremendous potential for applications in a range of industries.'

Potential uses for the biosurfactants include oil recovery, reducing pollution and food processing.

The biosurfactant market in Europe is already worth £511m and is expected to grow to £1.35bn by 2030 and algal biosurfactants still represent a major untapped and unexplored area of research.

TeeGene Biotech was established in December 2014 to utilise its expertise in bioremediation and waste water treatment and to commercialise biotechnology based on bioreactors and bio-product development

The nomination for the IChemE Global Award caps a successful few months for the company.

In June, TeeGene Biotech won an innovation grant by the Biotechnology and Biological Sciences Research Council Network as well as support from the Bio Base Europe Pilot Plant to test and develop its processes.

In February this year, the start-up was also named as a runner up in the Innovation in Bio-Based Product Development category at the Industrial Biotechnology Leadership Forum awards held in London.

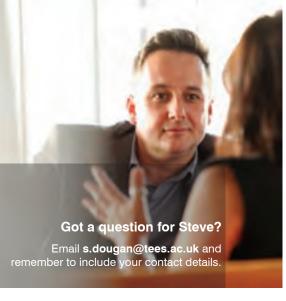
The winners of the IChemE Global Awards will be announced at a ceremony on 5 November at the Hilton Birmingham Metropole.

Find out more at teegene.co.uk or email rahman@teegene.co.uk



with Steve Dougan

Steve Dougan is The Forge's head of graduate enterprise. He coaches and supports graduate entrepreneurs as part of an award-winning start-up support team.



Q. What are the benefits of social media for my business?

Sharing content with thousands of followers at once isn't the only benefit of social media for business. Here are my top ten benefits:

1 Learn about your customers

With tools like Facebook Insights you can learn the dominant languages spoken among your social media audience, as well as their age and gender.

2 Target audiences more effectively

Geo-targeting is an effective way to send your message out to a specific audience or demographic based on their location. Social networks like Facebook and Twitter have tools that allow you to communicate the right kind of content to your audience.

3 Find new customers and expand your audience

Social networks like Twitter allow small businesses to locate their current customers or seek out potential customers using content search

4 Receive instant feedback from your customers' perspective

Social media for business gives you instant access to positive or negative feedback, which provides you with valuable insights into your customer's experiences and perceptions.

5 Improve market intelligence and get ahead of your competitors

With social media monitoring you can gain key information on your competitors, therefore improving your market intelligence. This kind of intelligence will allow you to make strategic business decisions in order to stay ahead of your competition.

6 Increase website traffic and search ranking

So you built a website for your company? Now what? One of the best benefits of social media for business is using it to increase your website traffic. In fact 31% of all site visits now arrive at a website from a social media platform. Not only will social media help you direct people to your website, but the more social media shares you receive, the higher your search ranking will be.

7 Share content easier and faster

In the past, marketers faced the challenge of ensuring their content reached their customers in the shortest possible time. Using social media as the distribution and aggregation channel, sharing content has become cheaper and faster.

8 Social media helps generate leads for 1/3 of the cost

Social media can be an easy way to generate leads. For example, the social media aggregator Hootsuite's marketing department was built around content and social platforms, and Twitter adverts have enabled them to scale, increase their reach, and fuel demand generation.

9 Create deeper more meaningful relationships with customers

Social media is great for creating rich and engaging relationships with your customers. For example, social media allows Virgin Atlantic to create dialogue with travellers, therefore creating relationships with customers before, during, and after they have booked a trip with the company.

10 Increase brand awareness and reach with little to no budget

Social media has allowed companies to increase brand awareness and reach of their brand at little to no cost

Contact The Forge to find out more:

01642 384068 theforge@tees.ac.uk

Social enterprise helps families in conflict

A counselling psychologist who set up a social enterprise to support families going through acrimonious relationship breakdowns is celebrating her first year in business.

Dr Sue Whitcombe, who completed her Doctorate in Counselling Psychology at Teesside University, set up Family Psychology Solutions last year and is based in the University's Victoria Building, where she received guidance and support to help launch the social enterprise.

Family Psychology Solutions offers specialist services to families and children, as well as the professionals and practitioners who work with them. It also provides expert witness assessments in family court proceedings.

'Our core provision is working with complex relationship issues, particularly where there is hostility, conflict, rejection, alienation or estrangement,' explains Dr Whitcombe.

'The behaviours found in parental alienation are quite common. In some highly conflicted relationship breakdowns this can lead to one parent being rejected by a child in favour of the other. This is the result of the interaction of a range of complex factors. Our work with families focuses on understanding these factors and finding solutions together.

'This is something I am very passionate about and I don't think that a child's

welfare and happiness should be determined by which parent has the most money or who has the most power in the courtroom.

'The repercussions for children affected in these cases can include enduring mental health difficulties, substance misuse and lifelong problems with relationships.'

Dr Whitcombe has carried out work across the country during her first year running the social enterprise but is eager to focus more on local families

She adds, 'Setting up the social enterprise and helping families in difficult situations is something I have wanted to do for a long time.

'Completing my doctorate enabled me to carry out more in-depth research into parental alienation and it gave me both the confidence and expertise to set up Family Psychology Solutions.

'The support I received, and am receiving, from the University is fantastic and I have been extremely busy - working all over the country and providing expert witness reports in family court proceedings.

For more information email

info@familypsychologysolutions.org or call 01642 384632



Our core provision is working with complex relationship issues, particularlu where there is hostility, conflict, rejection, alienation or estrangement.



If you need help implementing social media within your business there are a range of training and consultancy solutions available in the Tees Valley.



By Gary Martin

WORKING TOGETHER

to change attitudes to alcohol

Dorothy Newbury-Birch is professor of alcohol and public health research in Teesside University's Health and Social Care Institute. Her work focusses on reducing alcohol related harm in society – particularly for young people and those within the criminal justice system.

Professor Newbury-Birch's rise through the ranks of academia was not particularly straightforward.

She was raised on the Meadow Well estate in North Shields and as a young single mother, was looking for opportunities to better her life. She was able to secure a free childcare place at her local college and, although it was very hard, she hasn't looked back since.

'I just wanted better prospects and saw studying as an opportunity where I wouldn't have to rely on benefits,' says Dorothy.

She excelled in academia, achieving a degree in social sciences and completing a PhD, before working for both the Australian National University (UK-based) and Newcastle University. In January she accepted the post of professor of alcohol and public health research at

Teenagers might, for example, drink on a Friday night because they see all of their friends doing it. But how do they say no?

the Health and Social Care Institute at Teesside University.

'Thanks to my academic work, I have enjoyed a standard of life that I didn't think was possible when I was younger. I am delighted that the Health and Social Care Institute is allowing me to take my work forward.'

Professor Newbury-Birch's research examines the risks of alcohol to both individuals and society and the interventions that can be carried out to work with people who have alcohol use disorders.

She has carried out research for a wide range of organisations and departments including the British Medical Association, Public Health England, Youth Justice Board, Department of Health and Joseph Rowntree Foundation.

'My work is very much about working together with practitioners, funders and service users to identify and tackle issues,' explains Dorothy.

'At present my team and myself are working on nine projects that can make a real difference to real people.

'Around one in three people in society have some kind of alcohol disorder and around three quarters in the criminal justice system, so the most important aspect is to encourage people to understand that alcohol misuse is an issue which we all need to think about.

'Rates of alcohol use disorders are high in the North East so it is an important area for academic research. We're aiming to become the hub for alcohol research and lead on work that is important to science, public health and members of the public.'

Professor Newbury-Birch is currently leading a study which aims to change the behaviour of teenagers and prevent them getting into dangerous situations as a result of alcohol.

Teesside University and Newcastle University, in a collaboration through Fuse: the Centre for Translational Research in Public Health, are working with colleagues from the University of Kent, King's College London and Liverpool John Moores University on the SIPS JR-HIGH project funded by NIHR PHR – managed by Dr Emma Giles at Teesside University

Dorothy hopes that if the research proves successful it can be rolled out into mainstream secondary school education in a bid to cut risky drinking among teenagers and has secured a PhD student, Gillian Waller, who will look into how we can get public health interventions embedded into schools if they are proven effective.

She says, 'We all know that many teenagers experiment with alcohol, but we want to provide them with the information, tools and motivation to change their behaviour.

'Teenagers might, for example, drink on a Friday night because they see all of their friends doing it. But how do they say no? What alternatives are there? Do they feel empowered to make their own decisions?

'Our aim is to educate them and prevent them getting into risky and potentially dangerous situations in the first place.'

Professor Newbury-Birch is also collaborating with colleagues at Newcastle University carrying out a review of health interventions for service personnel before their return to civilian life which will include alcohol interventions.

Most service personnel make the transition back to civilian life very successfully. However, for the small number who experience difficulties, the period of transition may be a particular time of susceptibility to reduced well-being.

The evidence from the review will be used to influence policy makers, and inform researchers, clinicians and service providers in their work with the service and ex-service community.

'This work is extremely important to service personnel and their families,' adds Professor Newbury-Birch.

In the 250th celebratory issue of

miss events.

Animation Magazine, Animex was

highlighted as one of their 25 can't

world of computer games and animation to

development and Animex director, Gabrielle

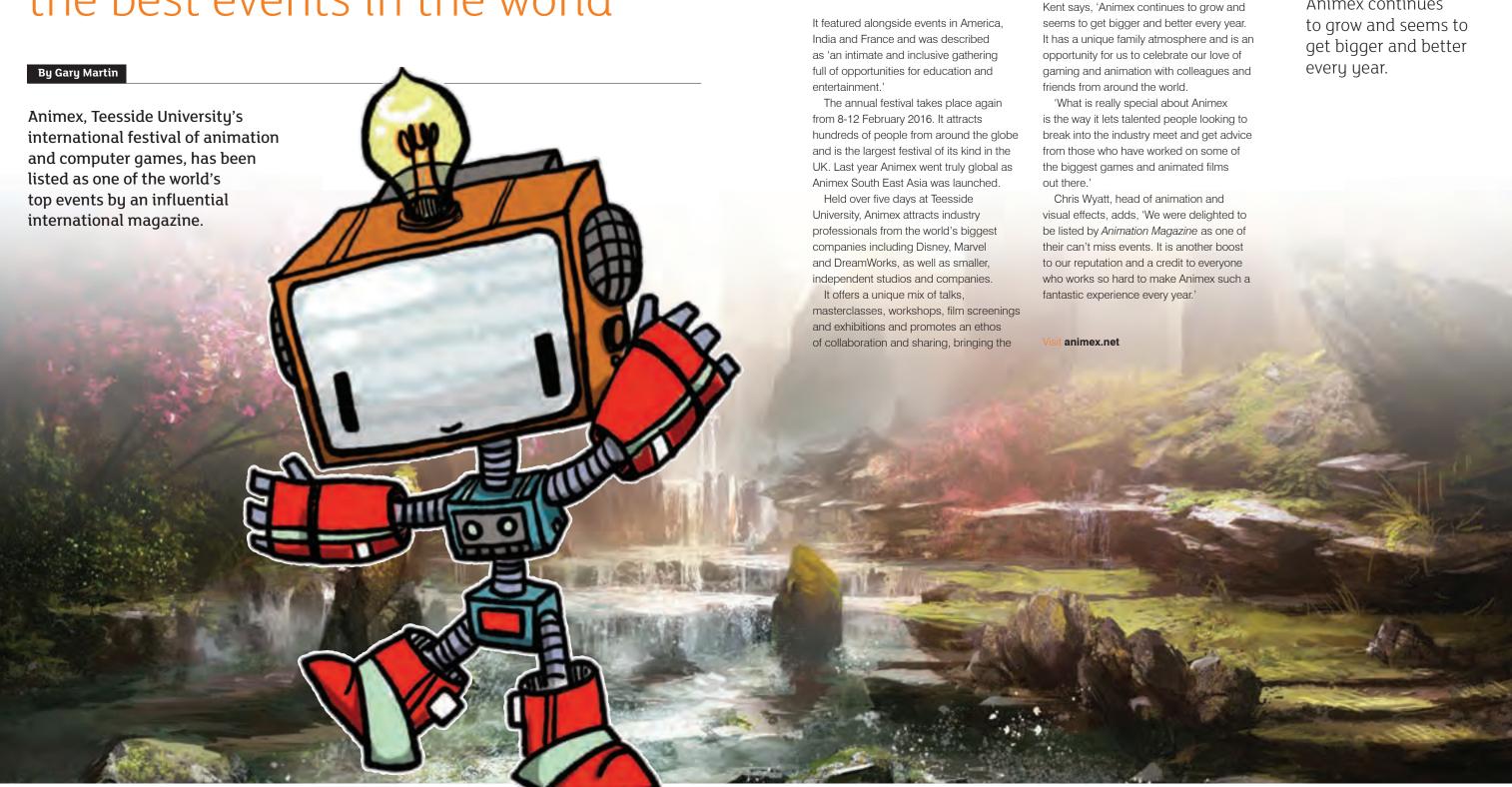
an audience at all levels of expertise.

Senior lecturer in computer games

66

Animex continues

Animex hailed as one of the best events in the world



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