

**ALSO INSIDE****TRIALS AND TRIBULATIONS FOR A MEDTECH ENTREPRENEUR**

PMD Solutions founder Myles Murray on the entrepreneurial journey

**NEXT STOP? A SHORT HOP TO... THE NETHERLANDS**

Good reasons for companies, especially new exporters, to consider going Dutch

**IRISH BREEZE GATHERS FORCE IN THE US**

What it takes to grow a consumer brand in the US

**THE RIGHT PITCH FOR THE MIDDLE EAST**

Unlocking insights on unmet customer needs for successful innovation

**REALLY THERE YET?**

Ireland's augmented reality and virtual reality (AR/VR) tech scene

# THE MARKET

# WHAT NEXT FOR EXPORTERS TO THE UK?

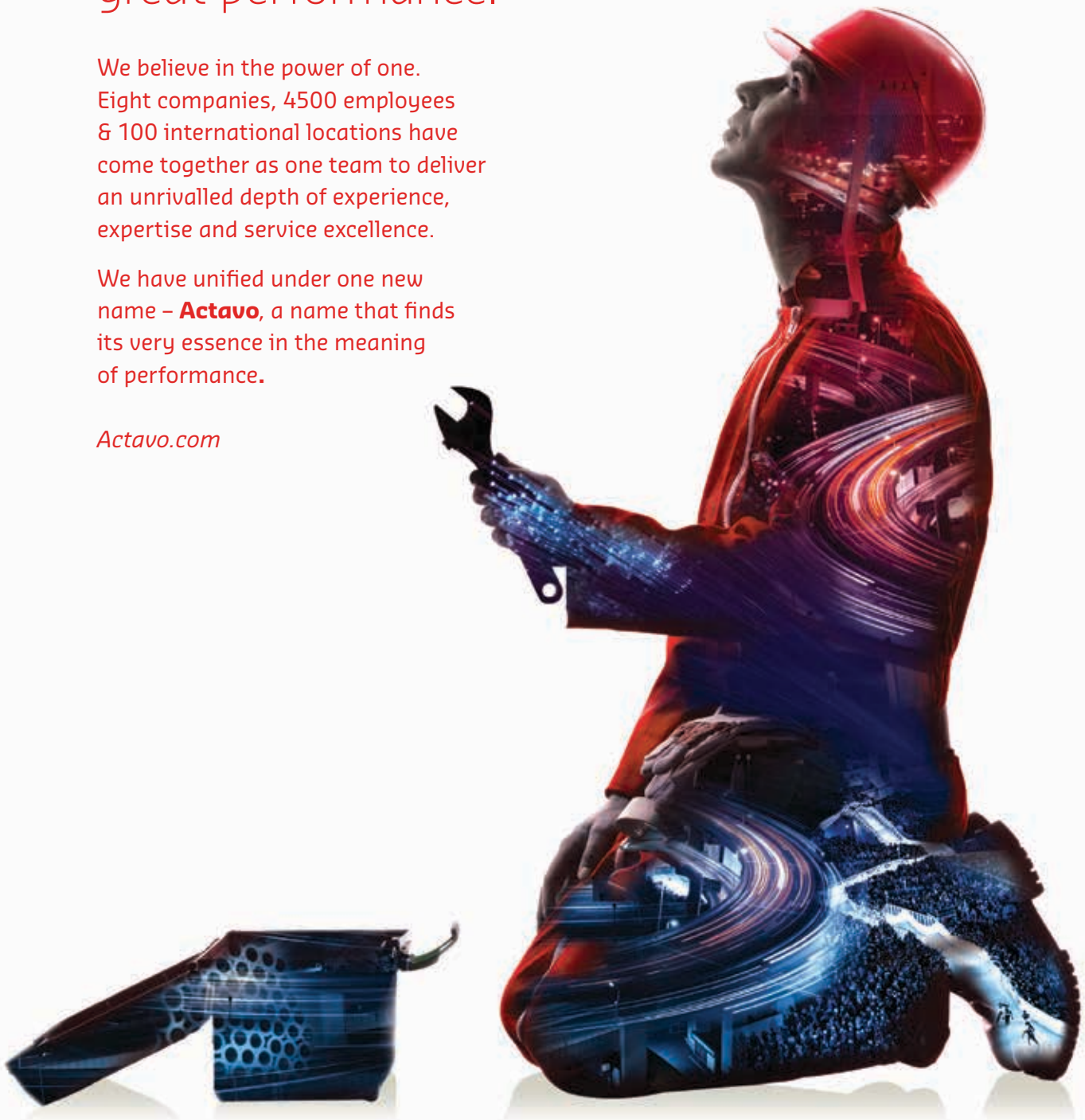


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The views and opinions expressed in The Market are not necessarily those of Enterprise Ireland. Published by Enterprise Ireland Corporate Marketing Team.

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Enterprise Ireland is funded by the Irish Government and part-financed by the European Union under the National Development Plan 2007-2013.







# Enterprise Ireland implements five pillars of support

Following the UK's vote to leave the EU, Enterprise Ireland announced immediate implementation of plans to support companies facing new challenges exporting to the UK. The five pillars of support available to clients impacted by the result are as follows:

PICTURED ABOVE: LIVERPOOL IS AT THE CENTRE OF THE UK'S SECOND-LARGEST REGIONAL ECONOMY. PLANNED INVESTMENT IN THE NORTH OF ENGLAND IS JUST ONE OPPORTUNITY AREA FOR IRISH COMPANIES BEING HIGHLIGHTED BY ENTERPRISE IRELAND'S LONDON TEAM.

**1 Information and guidance**  
Enterprise Ireland is rolling out an information campaign, including practical guides, online information and webinars, an updated UK market access guide and regional seminars in Ireland and the UK. There is also a dedicated email address: UKExportHelp@enterprise-ireland.com; an Enterprise Ireland helpline: +353 1 727 2727; and a dedicated webpage at [www.enterprise-ireland.com/UKExportHelp](http://www.enterprise-ireland.com/UKExportHelp).

**2 Market diversification support**  
Enterprise Ireland is providing increased internationalisation supports to assist client companies to evaluate new market opportunities and intensifying its international trade mission schedule for the rest of 2016 to include trade missions to Northern Europe, USA, China, India and other high growth markets.

**3 International sector clustering strategy**  
Enterprise Ireland is expanding its focus on promoting Irish sectoral cluster capabilities to international buyers in growth markets, including Northern Europe, the US and Asia Pacific, in key sectors such as construction, manufacturing, financial services, software, innovation, business process outsourcing and food. There will also be sector-focused buyer engagements over the coming months in both Ireland and targeted overseas markets.

PICTURED AT THE LAUNCH OF THE INTENSIFIED PROGRAMME OF MINISTERIAL-LED TRADE MISSIONS FOR THE SECOND HALF OF 2016 WERE MINISTER FOR JOBS, ENTERPRISE AND INNOVATION, MARY MITCHELL O'CONNOR, TD; MINISTER FOR FOREIGN AFFAIRS AND TRADE, CHARLIE FLANAGAN, TD; AND JULIE SINNAMON, CEO ENTERPRISE IRELAND. (SEE PAGE 14 FOR A LISTING OF UPCOMING TRADE EVENTS DURING AUGUST/SEPTEMBER)



#### 4 UK in-market supports

Enterprise Ireland's UK team, based in London, is helping clients identify key business opportunities in the short and medium term. They are also providing advice and support on responding to the implications such as improving competitiveness and reducing supply chain costs.

#### 5 Competitiveness & market development supports

Enterprise Ireland will intensify its work with clients exporting to the UK by providing support to improve competitiveness through programmes such as the Lean Business Offer, Innovation4Growth and other leadership and management development programmes.

### EXPORTING TO THE UK?

A new guide for Irish business post UK Referendum.

For more information please visit:  
[enterprise-ireland.com/ukexporthelp](http://enterprise-ireland.com/ukexporthelp)

**ENTERPRISE IRELAND**  
where innovation means business

A COPY OF EXPORTING TO THE UK? A NEW GUIDE FOR IRISH BUSINESSES POST REFERENDUM, HAS BEEN INCLUDED WITH THIS MAGAZINE. ADDITIONAL COPIES ARE AVAILABLE AT [WWW.ENTERPRISE-IRELAND.COM/UKEXPORTHHELP](http://WWW.ENTERPRISE-IRELAND.COM/UKEXPORTHHELP).

Announcing the supports, Enterprise Ireland CEO Julie Sinnamon noted that the UK would remain one of client companies' largest export markets and that while the result would pose challenges, Ireland had a strong, open and competitive economy, and Enterprise Ireland would move forward and implement plans to help our client companies deal with the impacts.

She also noted that even after Article 50 of the Lisbon Treaty is invoked, there would be a period of at least two years while negotiations take place between the EU and the UK about the specific trade implications. "In this period Enterprise Ireland will continue to work with our clients to help them develop a more competitive position in the UK, and also to diversify into other growth markets including the USA, Northern Europe and Asia Pacific," she said.



PICTURED: A VISIT TO THE AVIATICA COMMERCIAL BUILDING DEVELOPMENT DURING A TRADE MISSION TO THE CZECH REPUBLIC. PM GROUP IS CONSTRUCTION MANAGER FOR THE AVIATICA PROJECT.



# 2015 growth market for Irish-owned companies

The release of Enterprise Ireland's Annual Business Review results this June revealed that, in 2015, exports by client companies reached €20.6bn, exceeding the €20bn mark for the first time ever – and almost double what they were a decade ago.

All sectors and most major geographic markets saw export growth.

IN 2015, ENTERPRISE IRELAND'S OVERSEAS OFFICES BROUGHT 1,064 INTERNATIONAL BUYERS AND DECISION MAKERS TO IRELAND. A TOTAL OF 413 BUYERS FROM NORTHERN EUROPE/UK INCLUDED DANSKE BANK, AIRBUS, MOBISTAR (NOW REBRANDED ORANGE), MACE, GENZYME AND ITV STUDIOS.



## UK

Exports to the UK increased by 12 per cent to €7.5bn in 2015. At 37 per cent of total client exports, this remains our largest export market. However, its contribution to overall clients export has continued to fall from 45 per cent a decade ago.

During the year, exporters benefited from strong sterling. With the impact of the Brexit referendum, it's possible that this growth won't be sustainable into 2016/17. But, as highlighted on page 28, a number of sectors will benefit from significant investment and continue to offer good opportunities for companies with the right value proposition.

## Northern Europe

Exports to Northern Europe (excluding the UK) were up 8 per cent to €4.2bn. This was the second largest market for Enterprise Ireland client companies, accounting for 20 per cent of total overseas sales in 2015. Significant growth markets included Sweden (+6 per cent), Germany (+10 per cent), the Netherlands (+21 per cent) and the Switzerland/Austria/Liechtenstein territory (+23 per cent).

Data centres were a key source of business for clients in the Nordics and Germany, while pharmaceutical and food industry investments provided opportunities for Irish companies in the Benelux. In France, one of Enterprise Ireland's focuses was on high-lighting opportunities in the country's major economic areas outside Paris.

## North America

North America was the destination for 14 per cent of total exports by client companies. In 2015, exporters saw growth in both the US (+29 per cent) and Canadian (+7 per cent) markets, with US exports buoyed by positive currency movements during the year.

An increasing number of Irish companies established their first in-market presence in North America, and over 20 client companies won contracts in excess of €0.5m. In addition, Ireland became the seventh most popular study-abroad destination for US students.

## Southern Europe, Middle East and Africa

The Southern Europe, Middle East and Africa region accounted for 10 per cent of total exports, with significant growth from some of the Middle East markets such as Saudi Arabia (+21 per cent). Some emerging markets in Africa also provided good opportunities for Irish tech companies. As to future prospects, the lifting of sanctions re-opened the Iranian market in early 2016. Meanwhile, economic recovery continued in Spain and Italy.

## Asia Pacific

Asia was another region where client companies saw growth, with exports up 11 per cent to €1.6bn. This region accounts for 8 per cent of exports by Irish companies. Significant growth countries included China, Hong Kong and Australia. The airline industry was one source of growth, while in Japan, a number of fintech companies won significant deals.

EVERSEEN, HEADQUARTERED IN CORK, PROVIDES RETAILERS WITH POINT-OF-SALE VIDEO ANALYSIS TECHNOLOGY FOR DETECTING IRREGULAR ACTIVITIES AT THE CASH-DESK. WITH ENTERPRISE IRELAND ASSISTANCE IN 2015, THE CORK-BASED COMPANY WON A CONTRACT WITH CARREFOUR IN TURKEY. ON FOOT OF THAT SUCCESS, EVERSEEN HAS SINCE GAINED TRIALS IN OTHER MARKETS WITH CARREFOUR, WHICH IS THE WORLD'S FOURTH LARGEST RETAIL GROUP IN REVENUE TERMS.

### Central and Eastern Europe, Commonwealth of Independent States and Russia

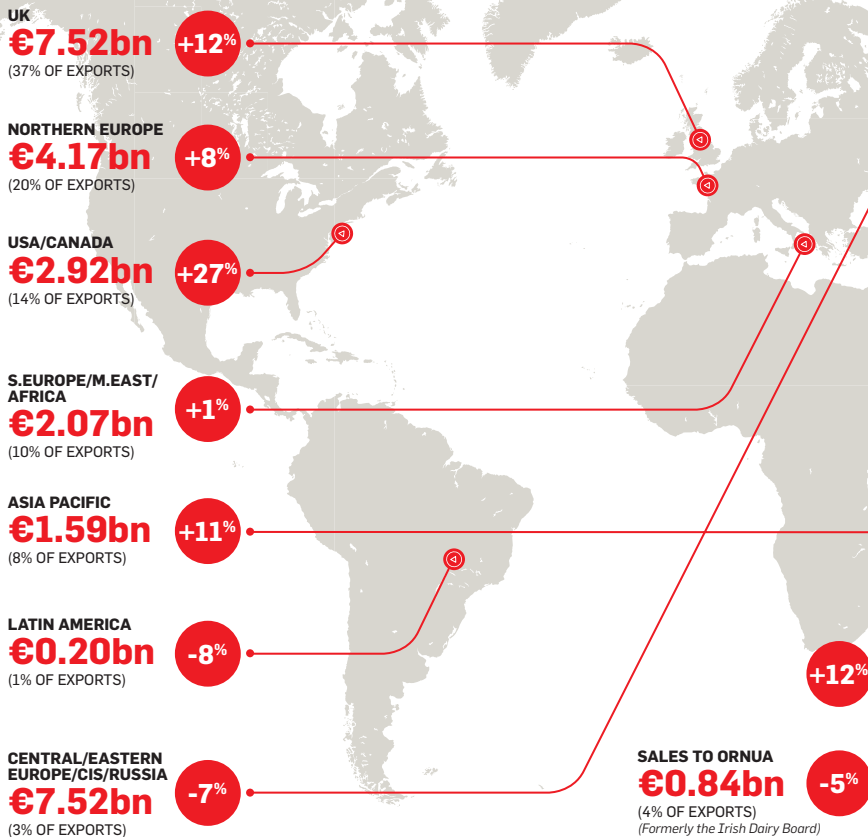
This region was the destination for 3 per cent of exports by Irish companies. Food sanctions and the weak rouble impacted negatively on exports to Russia. However, a number of non-food companies stayed in the market and continued to win deals. Exports by client companies increased to almost all other countries in the region, except Ukraine, as the economies of Central Europe saw their GDP expand at a seven-year high of 3.4 per cent. Here companies benefited from sub-supply opportunities as European automotive, pharmaceutical and ICT manufacturing continued to move east.

### Latin America

Latin America is still a relatively small market for Irish companies, with exports, at €0.2bn, accounting for 1 per cent of overseas sales by clients. Brazil's economic crisis intensified in 2015, however, overall client sales remained stable and a number of clients won significant new contracts. The overall sales contraction in the region was largely due to the reduced value of client food exports to Mexico. Mexican exports to non-food sectors were up 30 per cent.



## Client exports 2015 by territory







THE LIVERPOOL ONE SHOPPING CENTRE, WHERE VENTILUX PROVIDED EMERGENCY LIGHTING

## Ventilux expands to meet demand from the Gulf States

**E**mergency lighting manufacturer Ventilux is marking its 30 years in business by moving to new, larger, 30,000ft<sup>2</sup> premises in the Bray IDA Business Park.

With an annual turnover of €11m, the family firm earns 60 per cent of its revenue from exports – with 20 per cent of overseas business in the UK, where it has an office in Liverpool, and nearly 80 per cent coming from the Middle East. In addition to lighting, Ventilux offers uninterruptible power systems, central battery systems, battery monitoring equipment, exit signage, escape route lighting and static inverters.

In recent years, headline projects for Ventilux have included the Aviva Stadium in Dublin, Heathrow Airport, the Liverpool One Shopping Centre, the Jordan Gateway Project and the King Hussein Cancer Centre in Amman, Jordan, the Royal Oman Police Command Building in Muscat and the Intercontinental Hotel in Doha in Qatar.

"We have been selling to the Middle East – the GCC [Gulf Cooperation Council] states and Jordan – for more than 25 years," explains operations director Ian Walsh. "We've had continued success because when we find a good agent, we make sure we look after them. They are our partners; we work together."

"Another thing that has helped is that we have invested heavily in getting independent third-party test approvals for countries like Qatar, Kuwait and Saudi Arabia. This is expensive, but it sets us apart from competitors from cheaper manufacturing economies. We are supplying a quality assured product."

## Ireland ranked 7th in the World Competitiveness Ranking

**I**reland has made it into the top ten up from 16th position last year in the 2016 World Competitiveness Ranking, produced by the IMD World Competitiveness Center, a research group within IMD business school, Lausanne.

In a new world order, the USA has surrendered its status as the world's most competitive economy. The 2016 edition ranks China Hong Kong first, Switzerland second and the USA third, with Singapore, Sweden, Denmark, Ireland, the Netherlands, Norway and Canada completing the top 10.

China Hong Kong and Singapore aside, however, the research suggests Asia's competitiveness has declined markedly overall since the publication of last year's ranking.

Taiwan, Malaysia, Korea Republic, and Indonesia have all suffered significant falls from their 2015 positions, while China Mainland declined, only narrowly retaining its place in the top 25.

The study reveals some of the most impressive strides in Europe have been made by countries in the east, chief among them Latvia, the Slovak Republic and Slovenia. Western European economies have also continued to improve, with researchers highlighting the ongoing post-financial-crisis recovery of the public sector as a key driver.

However, 36th-placed Chile is the sole Latin American nation outside the bottom 20, while Argentina, in 55th, is the only country in the region to have improved on its 2015 position.

## Data centre expert group visit Dublin

**D**atacentre industry players from Germany, Austria and Switzerland as well as the Nordics and the Benelux regions visited Dublin for a knowledge sharing event organised by Enterprise Ireland in conjunction with 360° dcLounge this June, meeting with Irish companies active in the industry.

The programme, which took place over two and half days, included site visits to FacebookLab, IntelLab, CommScope Factory and a Digital Realty datacentre. It also included a presentation from Gartner on the Top 10 Technological Trends of 2016 and an opportunity for Enterprise Ireland client companies to pitch.







PICTURED: JUSTIN KEATINGE, CEO, VERSION 1, ORLA O'GORMAN, HEAD OF EQUITY, ISE, KARL FLANNERY, CEO, STORM TECHNOLOGY, EOIN GOULDING, CEO, INTEGRITY 360 AT THEIR GRADUATION FROM THE IPOREADY PROGRAMME AT THE IRISH STOCK EXCHANGE.

## #IPOready companies graduate from Irish Stock Exchange leadership programme

**C**ompany leaders participating in #IPOready, the Irish Stock Exchange's inaugural leadership programme for executives, supported by Enterprise Ireland, graduated this June.

The Irish Stock Exchange launched its '#IPOready' initiative earlier in the year to provide CEOs and CFOs a grounding in raising capital, investor relations and business management required for a stock market flotation. A secondary aim of the IPOready initiative was to nudge Irish businesses away from the traditional exit of a trade sale.

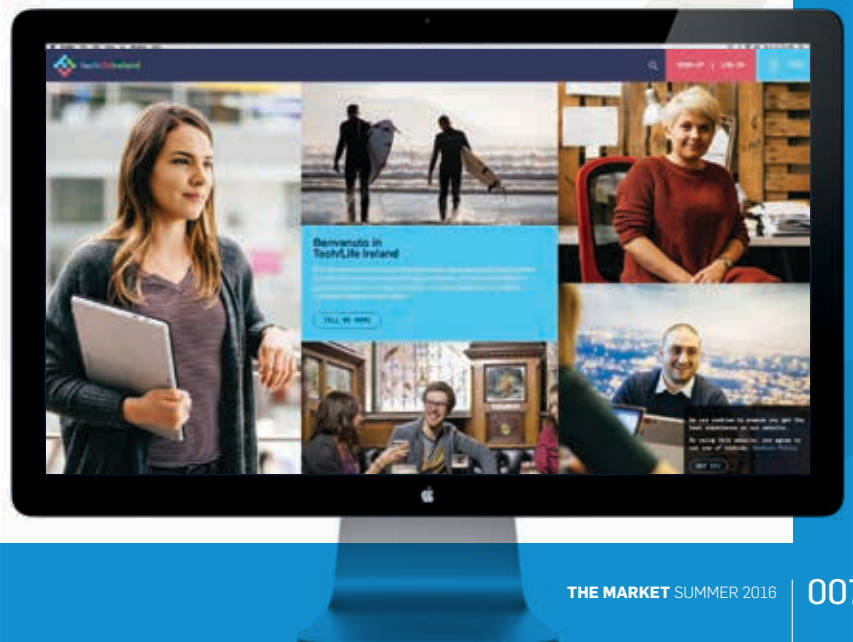
Companies participating in the programme included Cup Print, Epicom Food, Impedans, Integrity 360, Netwatch, Mcor Technologies, Sign+Digital Materials, Storm Technology and Version 1.

Having completed itineraries in Dublin and London earlier in the year, a three-day programme in New York kicked off the final chapter, where participants gained exposure to both the NYSE and NASDAQ. The visit also provided an opportunity to pitch to an investor panel at Bank of New York Mellon, receive guidance from Arthur Cox and Moelis & Company and participate in a CEO Forum, where the #IPOready cohort had a chance to listen to and engage with a panel featuring Oisín Hanrahan, CEO, Handy; George King, Chairman, Infrastructure Group; Liam Lynch VC Investor & Co-Owner, KBE; and Shane Naughton, Co-founder, Artech.

## Tech/Life initiative aims to attract tech professionals to Ireland

**T**ech/Life Ireland has been launched as a new national initiative, using digital and social media and a dedicated website, [www.techlifeireland.com](http://www.techlifeireland.com), to brand Ireland as a top destination for careers in technology. Funded by the Department of Jobs, Enterprise and Innovation, with an investment of €19m over three years, it will be delivered in partnership with Enterprise Ireland, IDA Ireland and the tech industry to help attract up to 3,000 tech professionals to Ireland each year.

The online presence is geared towards showcasing Ireland's lifestyle, tech environment and job opportunities, as well as providing practical advice about moving and working here. Initial target markets include countries in Central and Southern Europe, based on detailed analysis of talent movement, local search activity and consultation with recruitment professionals from industry. Companies can register with the Tech/Life Ireland initiative at [www.techlifeireland.com/talent-registration](http://www.techlifeireland.com/talent-registration).





MONEY 20/20

## Money20/20 comes to Europe

**M**oney20/20 US is the world's biggest event covering payments and financial services innovation for connected commerce at the intersection of mobile, retail, marketing services, data and technology. This year, for the first time, its founders also brought the event to Europe, where it welcomed 3,725 attendees, including more than 1,000 CEOs, from 1,000 companies and 75 countries; 422 speakers; 200+ sponsors and 100+ media partners at the Bella Centre, Copenhagen, Denmark.

Enterprise Ireland's office in Sweden co-ordinated a study tour for a small number of Irish companies in the fintech space. "Money 2020 chose Copenhagen because they were looking for a location outside London, and Nordic companies are known to be among the most technological advanced in Europe," said Tom Holgersson, Market Adviser, Nordics, at Enterprise Ireland. The event offered Irish companies the opportunity hear about the latest trends, technologies and regulations in the fintech space and to network with potential buyers and partners.

During the market visit, companies also got to hear about doing business in the Nordics and about the region's fintech industry.

Holgersson says that there may be an opportunity for a larger number of Irish companies to visit Money 2020, 2017, which will take place on 26 to 28 June, again in Copenhagen.

## Netwatch Group completes €19.5m funding round

**T**he BDO Development Capital Fund is co-funding a €19.5m investment in security specialists the Netwatch Group. The BDO Development Capital Fund is providing €9m, the largest of its five investments so far, with Bank of Ireland providing €10.5m debt financing.

Carlow-headquartered Netwatch uses video monitoring coupled with intelligent software to detect suspicious events at its customers' sites. Intervention specialists direct operations remotely from the Netwatch Communication Hub, visually verifying the intruders and verbally warning them that they are being watched.

The funds are to be used to drive international growth as Netwatch targets new customers in the US and UK. Commenting, Netwatch Group Chief Executive, David Walsh, said: "In the middle of the recession, we focused on research and development and expanding the business internationally. This funding announcement is validation of that decision, and [it] also lays the groundwork for the next three years."

NETWATCH GROUP CHIEF EXECUTIVE, DAVID WALSH



"In the middle of the recession, we focused on research and development and expanding the business internationally. This funding announcement is validation of that decision, and [it] also lays the groundwork for the next three years."



## Aspira doubles staff numbers as US and UK sales grow

**A**fter moving into a new HQ building in Cork, the enterprise IT and consulting company Aspira is in the process of doubling its staff numbers. Founded in 2007 as AspiraCon, the company was rebranded as Aspira last year, when it also opened up a Dublin office.

Over the last three years, Aspira/AspiraCon has enjoyed an annual average growth rate of 50% and was listed in the Deloitte Fast 50 two years in a row. CEO Pat Lucey is predicting similar growth rates this year and next, helped by growing revenues from the UK and the US.

"There are some commonalities and some important distinctions between the two markets," he told *The Market*. "The biggest thing both markets have in common, other than the English language, is their large size relative to the Irish market. We have found this means that we need to segregate the markets to take into account regional challenges. The factors driving sales in San Francisco, CA, are very different to the factors in for example, Nashville, TN. They have very different local economies, cost bases and rates of growth. Likewise, in the UK there are very different dynamics at play in the regions versus the City of London.

"In our experience, another difference has been the amount of face-time needed. We have found that we have needed to be physically present at a lot more meetings in UK as part of the pre- and post-sales cycle. That is not a big obstacle, as a trip to the UK takes no more time than a trip to many parts of Ireland, but as we grow and take on more UK work, we are now evaluating the feasibility of setting up a dedicated Aspira permanent office in the UK, to deliver project management and IT services.

"In the US, because of the sheer physical size of the place, it is far more commonplace to do business remotely via teleconferencing, and just meet up in person for the major events. However, we do find that it is worth investing the time to travel as we just cannot beat face-to-face meetings when it comes to establishing a relationship with our clients. Many of our clients are US multinationals, with whom we initially built up a relationship in Ireland and for whom we are now delivering services internationally."



PICTURED: SEOUL, KOREA

## IT Carlow celebrates 10 years of dual-degree programme for Korean students

**A**dual-degree programme for Korean students pioneered by IT Carlow and Dong-A University in Busan ten years ago is helping create an Irish 'affiliate diaspora' among Southeast Asia's biggest engineering firms, according to Ambassador Aingeal O'Donoghue.

Speaking to the 60 Korean Carlow IT alumni present at a tenth anniversary celebration event, the ambassador said it was the largest gathering of Irish graduates that she had met in Korea. So far 98 Koreans have completed the programme, and there are 16 Korean students currently studying in Carlow.

While UCC has a dedicated Institute of Korean Studies, Carlow is the only institute of technology in Ireland to have a Korean programme.

The students will have completed two years' study in Dong-A before coming to Carlow, where they receive a Level 7 engineering degree on successful completion of their course work here. On their return to Dong-A, they study for a further year and are then awarded a Level 8 degree. Hence the term 'dual degree'.

"The Koreans who come here are excellent at a conceptual and theoretical level," says Carlow IT's vice-president Declan Doyle. "But they lack practical know-how and experience. While they are with us, they work on real-life project. They will be put into pairs, typically with an Irish student, and will go into an Irish company to look at an engineering problem and will be asked to devise a solution.

"Their practical experience here makes them much sought after in Korea, where there is a strong company-man culture. These Korean students want to work with large firms like Hyundai, LG, Samsung and Daewoo and aren't as keen as Irish students to work with start-up entrepreneurial companies.

"However, now that our Korean graduates are starting to move into middle management in these companies, we hope that, when these large engineering firms look to partner with smaller companies, there will be a greater willingness to look at partnering with Irish firms. The ambassador's term 'affiliate diaspora' is very appropriate; these graduates look back on their experience in Ireland very favourably."





ONE OF OPENHYDRO'S TIDAL ENERGY CONVERTERS BEING DISEMBARKED IN FRANCE.

## €7.3m in EU funding for three research projects led by Irish companies

**T**hree Irish-led research projects are to receive €7.3m in funding through the EU's research and innovation programme, Horizon 2020, in the latest funding announcement made in Brussels this June.

Based in Limerick, Dublin and Galway, the Irish companies are leading research on systems and products that are close to being ready for commercial exploitation. The Irish companies awarded the grants are among just 16 businesses to have come through a highly competitive process involving 263 projects and 1,057 companies from across the EU.

Limerick-based company MAC is leading a group of European companies in a project focused on improving the stability of renewable energy in the electricity grid, which will receive total EU funding of close to €1.6m. The partners being led from Limerick are based in Germany and the Netherlands.

Dublin company OpenHydro is leading a project aimed at making tidal energy more cost competitive, which will receive total EU funding of over €2.9m. The project partners are from Belgium, the UK and the Netherlands.

Meanwhile, Galway-based company ÉireComposites is leading the third project, which centres on the final stage of development of light, cost-effective, carbon glass hybrid blades for wind turbine. This project, which was awarded a total of €2.7m in funding also involves partners from the UK and the Netherlands as well as Westbic, based in Mervue, Galway.

## SilverCloud recognised in Accenture digital health tech report

**S**ilverCloud, a global provider of behavioural and mental wellness online solutions, has been recognised in Accenture's Digital Health Tech Vision 2016 report as an innovative company taking charge of mental health through intelligent automation. SilverCloud is one of only five companies featured in the report, alongside four major global players: Apple, Uber, Philips Health and UnitedHealth Group.

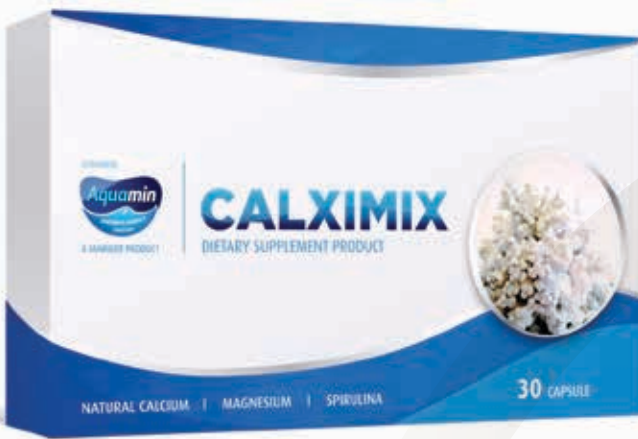
The report highlights five trends supporting the view that winning in the digital age hinges on people. SilverCloud is recognised as part of the "intelligent automation" trend. The four other trends covered in the report are the liquid workforce, the platform economy, predictable disruption and digital trust.

"As an example of intelligent automation, SilverCloud's technology is allowing the patient to engage and take charge of their own care through clinically validated online programmes that can deliver results on par with traditional therapy methods such as face-to-face therapy," noted Kaveh Safavi, senior managing director and co-author of Accenture's report.

## Model contracts to simplify contracting between companies and research institutes

**K**nowledge Transfer Ireland (KTI), the national office with responsibility for the knowledge transfer system in Ireland, has developed model collaborative research agreements along with the KTI Practical Guide to Collaborative Research Agreements to make the process of contracting between companies and publicly funded research organisations swifter and more efficient. In 2015, over 700 collaborative research agreements were signed between industry and Irish research-performing organisations.

There are two KTI Model Collaborative Agreements available, and the KTI Practical Guide to Collaborative Research Agreements contains a decision tree designed to help determine the relevant type of agreement and to understand their different benefits. These resources are designed to complement the new national IP Protocol developed by KTI and launched by the Government in January. The latest KTI resources are available, free of charge, on the Knowledge Transfer Ireland website.



## Seaweed derived mineral named among 2016 'Ingredients of the Year'

**M**arigot, a County Cork-based company specialising in marine-derived mineral health, saw its research and new product development gain international recognition at the NutraIngredients Awards this May in Geneva, Switzerland.

Developed by Marigot, with support from Enterprise Ireland, Aquamin is a marine multi-mineral complex that provides bioactive calcium, magnesium and 72 other trace marine minerals for the fortification of food, beverage and supplement products. Unlike many other mineral sources used in food, beverage and supplement preparation, it is derived solely from seaweed harvested under license off the coast of Iceland, which absorbs trace minerals from the surrounding seawater.

Through research and product development, the Cork-based company has formulated Aquamin as a mineral rich product that is neutral tasting, free of chalky texture and easily absorbed by the human body.

Aquamin was honoured as the '2016 Ingredient of the Year' in the Healthy Ageing category at the annual NutraIngredients awards dinner, which takes place during Vitafoods Europe – a global nutraceutical event focused on ingredients and raw materials for the dietary supplements and functional food and beverages industries.

Ingredients in the 'Healthy Ageing' category were critiqued on scientific merit, efficacy, safety, innovation, market potential, product formulation, and ability to increase market credibility. Additionally, the ingredient must have reflected current scientific or commercial advancement beyond current knowledge and have been commercially introduced after 1 January, 2014.

"We are delighted with this award. It really highlights the level of supporting research for Aquamin and how the coverage of science has grown across multiple health areas of bone, joint and digestive health," said David O'Leary, Commercial Manager of Marigot. "Our research programme is full of new and exciting study areas, which we are confident will highlight the uniqueness of this truly efficacious product, for people of all age groups."

## Irish company's world-first in eye tracking analysis for the logistics sector

**H**eavey RF has announced that it has become the world's first company to introduce an eye tracking technology for process analysis and enhancement in the logistics sector.

The innovation centres on the translation of eye tracking technology, which is typically used in cognitive science and in web usability studies, to logistics optimisation.

Through a head-mounted monitor and video oculography that evaluates eye movement, the system is capable of identifying and analysing 'operational reality', capturing first person perspective to give a true measurement of cognitive engagement.

For example, it can be worn by pickers in a warehouse as they carry out their work to capture, in real time, workloads, processes, and responses to situations as well as fixation and distraction points. This information can then be used by business owners to decide on priorities to improve productivity, accuracy and safety.

HEAVEY RF EYE TRACKING TECHNOLOGY IN AN OPERATIONAL STUDY.







## Noticeboard Start

### CIT student wins top prize at Enterprise Ireland Student Entrepreneur Awards

**C**ompeting in the Enterprise Ireland Student Entrepreneur of the Year Awards, Vincent Forde, a student from CIT, has been named 'College Entrepreneur of the Year 2016'. His project 'Gasgon Medical' aims to deliver unique and innovative medical devices to improve patient safety and support medical professionals during common procedures. The inspiration behind the company came from insights from doctors at Cork University Hospital on the amount of staff time taken up with setting up and monitoring IV procedures. The project has already seen significant success having won both Accenture's 'Leaders of Tomorrow' award and CIT's 'Prize for Innovation' this year.

The Student Entrepreneur Awards, which are sponsored by Cruickshank Intellectual Property Attorneys, are part of a drive aimed at encouraging students to consider entrepreneurship as a career option.

### €60m fund from Atlantic Bridge for companies emerging from third level research

**G**rowth technology funds Atlantic Bridge has announced a new €60 million investment fund for early stage companies with global potential emerging from Irish third-level institutions and universities.

The €60 million fund, now in place, will provide investment and expertise at the commercialisation stage for companies focusing on software, hardware, engineering, physical sciences, life sciences and agri-food.

The fund brings together significant institutional investment from the European Investment Fund as well as from Enterprise Ireland, AIB and Bank of Ireland, Trinity College Dublin and UCD.

**PICTURED (L-R) ARE WALTER HOBBS, EXECUTIVE DIRECTOR INVESTMENT AND FINANCE, ENTERPRISE IRELAND; GERRY MAGUIRE, PARTNER, ATLANTIC BRIDGE; MARY MITCHELL O'CONNOR TD, MINISTER FOR JOBS, ENTERPRISE AND INNOVATION; PROFESSOR PATRICK PRENDERGAST, PROVOST, TRINITY COLLEGE DUBLIN; PROFESSOR ANDREW DEEKS, PRESIDENT, UCD AND MARK HORGAN, PARTNER, ATLANTIC BRIDGE.**



**PROFESSOR PATRICIA MAGUIRE, AN ASSOCIATE PROFESSOR IN THE UCD SCHOOL OF BIOMOLECULAR AND BIOMEDICAL SCIENCE AND A FELLOW AT THE UCD CONWAY INSTITUTE, AND HER PHD STUDENT MARTIN PARSONS, PARTICIPATED IN THE 2016 UCD COMMERCIALISATION BOOTCAMP.**

### Researchers complete UCD commercialisation bootcamp

**T**wenty-one researchers have completed the seventh University College Dublin (UCD) Commercialisation Bootcamp, delivered over five weeks at NovaUCD.

The objective of the bootcamp, which runs twice a year, is to strengthen the pipeline of commercial opportunities arising from UCD and NCAD research programmes. The programme aims to equip participating researchers and postgraduate research students with the knowledge, skills and understanding of the commercialisation process.

The participants on this bootcamp represent 15 commercial opportunities emerging from research programmes currently taking place across the university.

Among them were Patricia Maguire, an Associate Professor in the UCD School of Biomolecular and Biomedical Science and a Fellow at the UCD Conway Institute, and her PhD student Martin Parsons. The team took part in the bootcamp to further develop their commercial ideas, on a faster, less expensive and non-invasive way to diagnose MS based on the results of their research activities at UCD.

### New €20m Business Angels fund to co-invest in internationally oriented SMEs

**T**he European Investment Fund (EIF) and Enterprise Ireland have signed an agreement to launch European Angels Fund Ireland (EAF Ireland) – a €20m fund set to double the investment capacity of approved business angels and other non-institutional investors investing in internationally oriented SMEs.

The fund, which is now up and running, will co-invest with approved Irish business angels in Irish-based internationally trading SMEs, with investments ranging from €250,000 to €4m over 10 years.





## Global startup summit comes to Cork

**C**ork will become the first European city to host a GEN Startup Nations Summit later this year, when more than 1,000 delegates are expected to visit the city to share ideas about what makes for a start-up-friendly economy.

The event, kicking off on the weekend of Friday, 18 November, is being held under the umbrella of the Global Entrepreneurship Network (GEN), which is a year-round platform of programmes and initiatives aimed at 'creating one global entrepreneurial ecosystem'. These events reach a climax in Global Entrepreneurship Week, when some 30,000 events take place in more than 160 different countries.

Startup Ireland, a group working to make this country an internationally recognised start-up hub, invited Cork Innovates to bid to host the event because of the "strong, robust and interconnected ecosystem" that exists in the region, said Cork Innovates project director Siobhan Finn, who is also a Startup Ireland board member.

The Startup Nations Summit will build on the 420 Startup Gathering events that were held in Dublin, Waterford, Cork, Limerick and Galway last year.

The region also has a poster boy start-up success story in Pat Phelan, the son of a butcher who founded the internet identity verification company Trustev, which was sold for €44m last year. "We believe we might have other similar success stories here," said Finn. "We see the summit as acting as a showcase for Ireland to a global audience...We will broker thousands of engagements and interactions over the weekend."

Previous Startup Nations Summits were held in Toronto, Kuala Lumpur, Seoul and Monterrey. It is reckoned that 40 per cent of delegates will come from overseas, and they will comprise a mix of entrepreneurs, policy makers and development agency staff. For more information about November's event, see [www.startupnations2016.com](http://www.startupnations2016.com) or contact [siobhan.finn@corkinnovates.com](mailto:siobhan.finn@corkinnovates.com).

**MINISTER FOR EUROPEAN AFFAIRS, DARA MURPHY, TD; JOANNA MURPHY AND ANDREW PARISH, CONNECTIRELAND; SIOBHAN FINN, PROJECT DIRECTOR OF CORK INNOVATES AND THE GLOBAL STARTUP GATHERING 2016; AND DAVID MERRIMAN, HEAD OF ENTERPRISE DEVELOPMENT, BANK OF IRELAND**



**STEPHEN TWADDELL, CHAIR, HBAN FOOD SYNDICATE; ORLAGH NOLAN, HBAN; COLM HEALY, INVESTOR, HBAN FOOD SYNDICATE; PAT RIGNEY, INVESTOR, HBAN FOOD SYNDICATE; AND BARBARA HANLY, FOUNDER, SOOPA PETS.**

## Irish pet food producers put on a show

**L**eaving a career in financial recruitment, Barbara Hanly of Soopa Pets started producing dog treats in her kitchen back in 2013, using superfoods such as papaya, sweet potato and coconut. Her market positioning is firmly 'on trend' – emphasising the purity and nutritional qualities of the ingredients.

But as the business grew, the cost of the raw materials here drove her to outsource production to Asia. Now she is developing a new range to be manufactured in Ireland from locally-sourced ingredients.

Soopa Pets already exports to a host of countries, including the UK, Spain, Germany, Denmark, Sweden, Finland, Singapore and the Netherlands.

But with an eye on further expansion, it was just one of seven Irish pet food companies exhibiting at Interzoo, in Germany this May. Interzoo is the world's largest trade fair for the pet care industry, with 1,800 exhibitors and over 40,000 industry decision makers at this year's event.

With worldwide spend on domestic pets expected to hit over €65bn by 2017, Enterprise Ireland's Düsseldorf office organised the first ever Irish pavilion at a pet care trade show, with a branded campaign under the slogan 'Absolutely Ireland'. The other six companies exhibiting were Irish Dog Foods, Phoenix Pet Foods, Connolly's Red Mills, Pure Meatsnax, Pet Treats and Horseware Ireland.

"We may be competitors at one level," Hanly says, "but there's also great camaraderie and sharing of information between us."

The company recently raised €400,000 in funding, led by business angels from the HBAN Food Syndicate, with support from Enterprise Ireland. This will support the creation of 10 jobs in Soopa Pets, with new roles in customer support and sales and marketing.

## AUGUST

### Swiss Telecom Carriers/ICT Networking Lunch

August 1

The Swiss ICT sector comes together regularly for this long-established event, providing an opportunity for company and product presentations.

V: Zurich

E: nicol.hoppe@enterprise-ireland.com

### Womenswear Trend Forecasts

August 7 to September 3

Womenswear trend forecasts for autumn/winter 2017-2018 by Peclers Paris/Holbrook Studio London.

V: DIT, Aungier Street, D2

E: stephen.hughes@enterprise-ireland.com

### Innovative Opportunities at VitaFoods Asia

August 29 to September 4

The nutraceutical event for Asia.

V: AsiaWorld-Expo, Hong Kong

E: martin.fleming@enterprise-ireland.com

### Financial Services Study Visit - Denmark

August 30 to September 1

Financial services market study visit to Denmark.

V: Copenhagen

E: tom.holgerson@enterprise-ireland.com

## SEPTEMBER

### Presidential Visit to Canada

September 1 to 16

President Higgins to visit Canada, with networking opportunities for Irish companies.

E: neil.cooney@enterprise-ireland.com

### Japanese Consumer Goods Buyer Visit

September 7 and 8

Japanese TV shopping channel sourcing visit to Ireland.

V: Galway and Dublin

E: patrick.oriordan@enterprise-ireland.com

### Aviation Market Study Visit: Africa

September 12 to 16

Aviation market study visit to airline carriers in South Africa, Nigeria and Kenya.

V: Johannesburg, Lagos, Nairobi

E: fred.klinkenberg@enterprise-ireland.com

### International Market Access and Development: CFO Workshop

September 13 and 14

Part of the Finance4Growth workshop series for CFOs.

V: Galway (13th) and Dublin (14th)

E: tom.early@enterprise-ireland.com

### Medical Device Trade Mission to Midwest USA

September 18 to 20

V: Minneapolis, St. Paul

E: ryan.murphy@enterprise-ireland.com

### US Financial Services Breakfast Event

September 19

V: New York

E: aidan.hayes@enterprise-ireland.com

### Networking Between Irish and German Tech Start-Ups

September 22

Irish tech meets Berlin tech at Silicon Allee, as Berlin is widely known, having become the digital, creative and start-up hub of Germany.

V: Irish Embassy, Berlin, Germany

E: margret.rottger@enterprise-ireland.com

### Innovation Arena @ National Ploughing Championships 2016

September 20 to 22

Europe's largest outdoor agricultural trade exhibition, the National Ploughing Championships attracts over 281,000 people over three days. Companies wishing to showcase new agri-tech innovations are encouraged to apply to enter the Innovation Arena, at [www.enterprise-ireland.com/innovationarena](http://www.enterprise-ireland.com/innovationarena).

V: Tullamore, Co Offaly

E: denis.duggan@enterprise-ireland.com

### NACAC: US Education Event

September 22 to 24

The NACAC annual conference for the US college admission community.

V: Columbus, Ohio

E: karole.egan@enterprise-ireland.com

### Animation and Special FXs Networking, UK

September 27 to 29

Pinewood reception for Irish animation and visual effects companies, coinciding with FMX conference and trade fair.

V: London, England

E: daniel.starkey@enterprise-ireland.com

### Gulf & Middle East ICT Buyer Visit

September 28 to 29

High-level ICT buyers and experts from the Gulf and Middle East will meet with Irish companies in Dublin. The event will also highlight ICT opportunities in the Gulf and Middle East markets.

V: Dublin

E: abdull.ali@enterprise-ireland.com

## OCTOBER

### Overseas Education Agents Visit

October 3 to 7

Overseas education agents visit to Ireland.

V: Dublin, Galway, Athlone, Limerick and Cork

E: terry.mcpaland@enterprise-ireland.com

### US Food - SupplySide West

October 4 to 8

SupplySide West brings together the suppliers and buyers that drive the dietary supplement, food, beverage, animal nutrition, personal care and cosmetic industries.

V: Las Vegas, Nevada

E: kelly.spillane@enterprise-ireland.com

### CPhI Worldwide

October 10 to 13

CPhI Worldwide, together with co-located events ICSE, InnoPack, P-MEC and FDF, hosts more than 36,000 visiting pharma professionals over three days.

V: Barcelona, Spain

E: carmen.gonzalezcortina@enterprise-ireland.com

### Fintech & Software Visit to Sub-Saharan Africa

October 10 to 14

Market study visit to South Africa, Nigeria and Kenya.

V: Johannesburg, Lagos, Nairobi

E: thembi.malebye@enterprise-ireland.com

### SIAL Paris

October 16 to 20

The world's largest food innovation exhibition.

V: Paris, France

E: kevin.buckley@enterprise-ireland.com

### Medtech Market Study Visit to China

October 17 to 18

Market study visit to the China International Medicinal Equipment Fair, the largest exhibition of medical equipment, related products and services in the Asia-Pacific region.

V: Shanghai

E: angela.zhang@enterprise-ireland.com

## International Markets Week

October 3 to 6

International Markets Week 2016, running from October 3 to 6, provides an opportunity for clients to hold one-to-one meetings with Enterprise Ireland's overseas market experts and other specialists, during what is Enterprise Ireland's single largest client event. During last year's International Markets Week, more than 400 Irish companies held over 1,800 one-to-one meetings with representatives from Enterprise Ireland's 32 overseas offices and Ireland-based market advisers.

In a new book, Steve Anderson and Dave Stein use case studies to reveal a strategy of customer engagement that enables businesses to differentiate themselves and align with their customers. Lucille Redmond reports.

# Beyond the Sales Process

**I**n the old days, it was all about the sale. But as recession bit and business-to-business buying changed, the time executives spend on buying products and services has diminished. Today, it is estimated that the buying process takes up less than 5 per cent of executives' time.

Sales strategies have changed to work in this new ambit. The strategies that now work are Engage, Win and Grow. Making the sale is no longer at the centre; now, ongoing relationships are core, according to authors of *Beyond the Sales Process* Steve Anderson and Dave Stein. Stein, a coach on the International Selling Programme and the Excel at Export Selling series, will be well known to many Enterprise Ireland clients.

Co-author and fellow sales guru Steve Anderson quotes a sales manager who said, "I do my best selling when the customer isn't buying... When they're buying, the walls are up, there's pressure, there's stress." But outside the time of the actual sale, she said, "I can take steps to distinguish myself and my organisation, and they're much more open with me."

The Andersen and Stein method – 'Engage, Win and Grow' – is a deliberate strategy of engagement that starts with research about your customer, moves on to the relationship and first sale, then consolidates by growing that relationship so that your company is differentiated from other business relationships,

and your teams are aligned with your customer's.

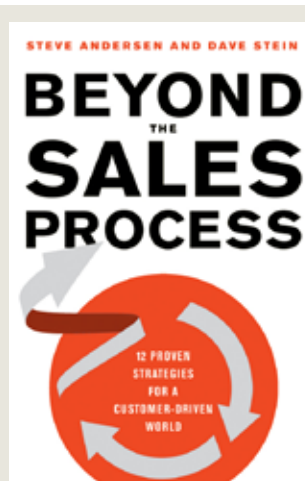
The best time to become a student of your customer, the authors say, is before the sale, when the opportunity is a mere flicker on the

horizon. This is the time to do your research: and the best source of information on your customer is the customer – in person, and through the company website, social media – all the places where the customer is revealed and available.

Case studies in *Beyond the Sales Process* include Siemens, Zurich, Hilton, BNY Mellon and MSD. The study of MSD (Merck Sharp and Dohme), for instance, focuses on this healthcare company trading in a market changing through insurance company acquisitions and hospital consolidations, in which individual doctors have less autonomy in how they treat patients.

For MSD, these changes offer an opportunity: instead of concentrating on products, the company is moving to a longer-term perspective and more global implementation.

For instance, one of MSD's customers, Premier Inc, involves an alliance of 3,400 US hospitals and 110,000 other providers. The study quotes MSD's Denise Juliano, who has brought the relationship between MSD and Premier from a point when "they couldn't pick Merck out of a line-up" to MSD being one of its top three suppliers, through, she says, a trusted and transparent relationship.



The best time to become a student of your customer is before the sale, when the opportunity is a mere flicker on the horizon.

*Beyond the Sales Process: 12 Proven Strategies for a Customer-Driven World*  
by Steve Andersen, Dave Stein; Amacom Books





# **Trials and tribulations for a medtech entrepreneur**

**RespiraSense, a novel medical device from Cork-based start-up PMD Solutions, has been piloted in hospitals in Ireland, Germany and Hong Kong and received EU funding to take it into the marketplace. Founder Myles Murray tells John Stanley about the journey to date, complete with its own breath-stopping moments.**

**A**s a child in Togher, Cork City, Myles Murray loved taking things to pieces – to see how they worked. “I wasn’t so good at putting them back together, though, which didn’t impress my parents,” he recalls. A course in mechanical engineering at the Cork Institute of Technology helped address this shortcoming. But never an enthusiastic student, he quit college after two years to find work.

In 2008 he returned to CIT, and this time it was different. He encountered Seán F O’Leary, a senior lecturer renowned for encouraging students to enter innovation competitions. Murray caught the bug, going on to eventually win CIT’s 2011 Entrepreneur of the Year award with his honours degree final year project on continuous respiratory rate monitoring (see panel).

Now he faced a dilemma. He could stay on for a Master’s degree – and reassign his IP on respiratory rate measurement – or be welcomed with open arms by the Rubicon Business Incubation Centre on the campus.

“I spent two weeks doing nothing but considering my options. Eventually I concluded I had nothing to lose and everything to gain by trying to develop my idea in Rubicon,” Murray recalls.

He plunged into the centre’s Genesis programme, transferring to its Enterprise Ireland successor, New Frontiers, when it started at Rubicon in mid-2012. “I was an engineer who liked problem solving, and this was my first insight into business development. It was the steepest learning curve I was ever on,” he says.

At this time he also came into contact with the South Cork Local Enterprise Office (LEO). LEO approved an employment grant, subject to matching promoter funding. With trepidation Murray approached AIB’s Douglas branch, where manager Anne Dorney approved him a €20,000 personal loan. With the combined funding, Murray spent most of 2012 proving the concept and filing patents... And then the funds ran out. Fortunately, Murray’s pitch to Dorney had been so impressive that when she took early retirement at the end of 2012, she volunteered to become CFO of

## **The big idea**

**R**espiratory rate is a key indicator of a patient’s general well-being, so changes can signal some of the most frequently occurring adverse events in a hospital. However, currently, in most general healthcare settings, nurses visually count how many times a patient breathes per minute, which is a highly subjective method.

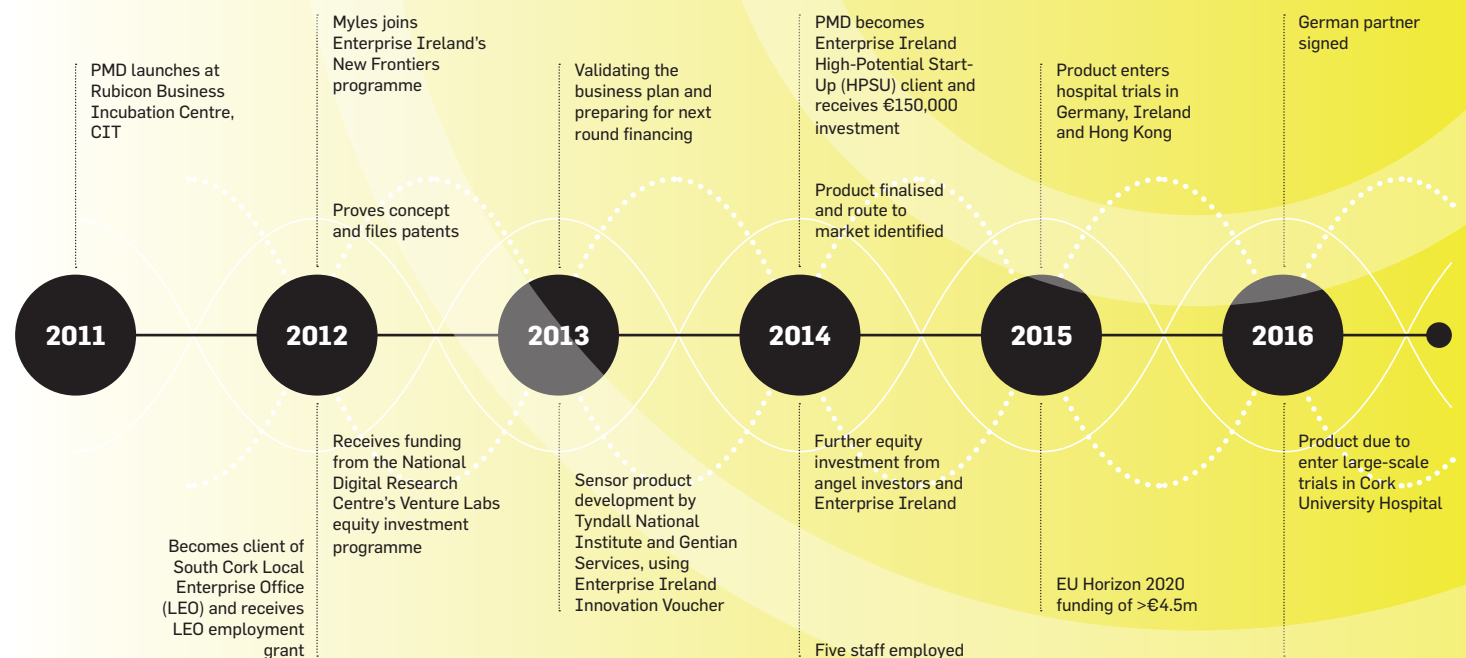
PMD’s RespiraSense device is the world’s first continuous and accurate discrete sensor that measures the ‘mechanics of respiration’. Having mapped the entire chest and belly and looked at the mechanics of breathing, Murray’s novel approach is much more practical than any previous attempt at a solution. The small wireless unit is attached to the patient’s chest on admission to hospital. Small sensors measure voltage, while algorithms are used to eliminate signal noise, ensuring reliability and accuracy.

Data is stored within the device and the breathing rate can be monitored on a range of mobile devices, with alerts triggered when the rate exceeds pre-set levels. This gives medical staff the earliest signs of possible patient deterioration from conditions such as respiratory compromise, increasing severity of sepsis, worsening pneumonia and oncoming heart attacks. The device, a discrete wireless sensor, is designed for general ward patients who are at risk of adverse events until discharge.





## Major milestones





Murray's company, PMD (Pulmonary Medical Device) Solutions, and an equity investor.

That helped tide the young entrepreneur over until he secured a €5,000 loan from the Dublin-based National Digital Research Centre, followed by €100,000 under the NDRC's Venture Labs equity investment programme.

Through 2013, Murray worked on validating the business plan and preparing for next round financing. He used an Enterprise Ireland Innovation Voucher to engage the Tyndall National Institute at UCC to help develop the revolutionary sensor required for his new system. In addition, he linked up with Gentian Services, a product design and development specialist in Co Clare, which, in return for equity, agreed to help design and build the first product at well below cost.

In January 2014, PMD became an Enterprise Ireland HPSU (high-potential start-up) client, receiving an immediate EI investment of €150,000 and the promise of a further €100,000 injection later. Things were coming together, with a team of five and a clear strategy on the route to market.

"We were fortunate that the product is non-invasive, and therefore not subject to the same stringent testing by regulatory authorities as one that is. But this is still a brand new market that we have to develop. So everything we do over the next two to three years will be geared to establishing RespiraSense as the standard in breathing rate monitoring," Murray says.

The product was ready in November 2014 and the following year was spent getting it piloted in 10 hospitals in Ireland, Germany and Hong Kong. Then the day before PMD was due to close a €450,000 private fund raising in early 2015, the investor withdrew. It could have been a deathblow, as the additional €100,000 EI investment was conditional on additional third-party funding.

"I had five guys in the office I wouldn't be able to pay the following month. But I told them how the land lay and asked them to give me 60 days. The entire team came on board, continuing to work and hit their milestones, and with their support, we scraped by until we secured an investment of €150,000 the following August."



Later this year, customer trials, involving up to 2,000 patients over 12 to 24 months, will start at Cork University Hospital and a leading Danish teaching hospital.

**Myles Murray was presented with an Enterprise Ireland Graduate of Outstanding Innovation Achievement Award at the 30th Annual Cork Mechanical, Manufacturing and Biomedical Engineering Exhibition, CIT, April 2016.**



Between December 2014 and June 2015, PMD had pursued European funding under a Horizon 2020 funding pool for SMEs. This finally came through with funding of €4.265 million in November 2015, with PMD one of 38 SMEs across Europe to secure funding in that round.

"It was the jump start we needed," Murray says. "We'd been so hungry, taking pay cuts and even no pay at all, to get us over that line. So we were ready and focused, and when the money landed, we knew exactly what to do with it."

Later this year, customer trials, involving up to 2,000 patients over 12 to 24 months, will start at Cork University Hospital and a leading Danish teaching hospital.

The Horizon funding puts the company on a very different footing, requiring plans to bring it to the next level. In response, Murray is expanding the board of directors and has recently put much thought into exactly what kind of company it is going to be.

"We have a two year runway, and we need a plan for what we do at the end of it. With the board and our investors, we've looked at three options: become a sensor company providing specialist components for multinationals; become a medical device company, with a view to exiting profitably through a sale; or build a healthcare company focused on providing benefits to patients. I'm pleased that we've agreed to the last of these. PMD will grow as if we want to dominate as a market leader, and we'll be willing to work with bigger guys to achieve this," Murray says.

Partnership approaches should give PMD leverage and scale, helping it develop and bring to market second and third generation products already in the pipeline and setting up PMD as a brand for years to come. Murray has lots of ideas for the future, many related to the Internet of Things and big data.

"We're now getting approaches from the multinationals," Murray says. "They all see this as the future, but are unsure which way to go with it. Respiratory monitoring will be worth north of \$2 billion over the next 20 years. We're slap bang in the middle of this at just the right time."





A venture capital (VC) company should provide tech start-ups with much more than money. Ian Campbell asks two entrepreneurs who have done deals how start-ups should size up potential investors.

# Nothing ventured?





Some high-tech start-ups operate in slow moving markets where it's better to focus on R&D and a small number of customer trials than chase down capital.

**T**he good news for start-ups is that there's never been more money available from venture capital funds in Ireland. Over 20 companies manage the money, a big leap from the half dozen that were around at the start of the millennium. Each has its own investment portfolio and the hard-earned experience to spot a start-up that fulfils their fundamental business requirement, tipping the scales in favour of reward over risk.

The upshot is a long line of entrepreneurs knocking on their doors with business plans. They might even have customers, picked up while bootstrapping their businesses with seed money or taking part in accelerator schemes like Enterprise Ireland's High Potential Start-Up programme.

Inspired by like-minded entrepreneurs who have secured multimillion investments and emerged from successful exit strategies with enormous wealth, they believe they have a great idea and are convinced they can do the same. They just need to find the right investor.

Easier said than done? For sure, but insights from successful entrepreneurs Steve Collins (Havok, Swrve) and Paul Quigley (NewsWhip) suggest that dealing with VCs is more straightforward than many first-timers might imagine.

### Do you really need an investor?

"First of all, you have to decide whether you want to grow organically or bring in outside investment," says Steve Collins. "Sometimes you don't have to be the first or fastest, and there are measured ways of going after opportunities, but if speed to market is really critical and revenue is overly constraining, then it makes a whole lot of sense to talk to investors."

He makes the point that some high-tech start-ups operate in slow moving markets where it's better to focus on R&D and a small number of customer trials than chase down capital. His own experience, first in the games industry and now in mobile marketing automation, has been about succeeding in dynamic sectors where investment speeds up the ability to scale and compete.

Like Swrve, NewsWhip is an internet business that had to scale quickly. Paul Quigley's first backers were already in his network when he was working as a lawyer in New York. With NewsWhip co-founder Andrew Mullaney, they secured initial seed funding of \$200,000 from Shane Naughton and Hal Philipp, entrepreneurs-turned-investors with firms Inundata and Meridian Growth Capital. The first based in New York, the second, London – no coincidence that they are both big media cities. "We are at the cutting edge of how media is discovered and distributed, and New York and London investors got that straight away," says Quigley.

The NewsWhip idea, a platform for scanning and measuring social publishing trends, was kickstarted on an NDRC LaunchPad accelerator programme and developed with support from the AIB Seed Fund, the Dublin Business Innovation Centre and Enterprise Ireland. Last year, a funding round raised \$1.6m from various venture capital outfits, including Matter, a San Francisco-based investor that focuses on new media.

### Are your interests aligned?

Engaging with VCs is often portrayed as an adversarial battle, something that Collins is quick to debunk. "You are looking for alignment more than anything else. People get caught up in the mechanics, the nature of the

ABOVE; PAUL QUIGLEY, NEWSWHIP





**A** good business plan plays a part, but there's no escaping the fact that VCs back people first. "It's a cliché, but it's 100 per cent true," says Frank Walsh, a partner in Enterprise Equity Venture Capital. "I always say, and I'm only half joking, that a VC has to be a good judge of people and have a keen grasp of the obvious."

Enterprise Equity's faith in people was evident when the company stuck with Steve Collins and Swerve when it carried out a major pivot, switching focus from the games industry to the emerging opportunity around mobile marketing automation. It helped that Walsh had known Collins since the Havok days, highlighting how VC support is always stronger if you've been down the road before.

"An experienced entrepreneur who has done it all in the same space and is coming back into the market will find it much quicker and easier than someone just out of a multinational doing it for the first time," says Walsh. "The same basic proposal can have an entirely different journey depending on who you are."

VCs don't expect watertight financial predictions, but they do look for people who can second-guess the questions that are likely to arise. "You want someone who thinks they know what the answers might be rather than a rock solid view of what's going to happen in the future, because that's impossible," he says.

Entrepreneurs should also do their homework on the VCs they are pitching to. "Some people come in to us looking for €5 million. They've come to the wrong place because we specialise in earlier stage funding," he explains.

As more VCs are taken on in different rounds, the part that Enterprise Equity plays in steering a company will diminish as newer investors take on the more active role. "Everybody needs to understand how everybody's business model works and how everybody is going to get paid at the end. They need to be clear on what represents a good outcome for different people at different stages."

VC investment works best for entrepreneurs who understand the balance between dilution and scale, Walsh adds. "They are the people who think it's better to retain a small piece of a big pie, rather than a big piece of a small pie, and see that the insights and expertise of others can help grow something of real significance."

And he urges start-ups to look beyond money to the other things a VC can bring to the deal. "Too often they look at the valuation of the company, not at what the VC can create and achieve, which is much more important than the price."

**Frank Walsh, partner in Enterprise Equity Venture Capital, offers insights from the other side of the table.**

## View from the VC



FRANK WALSH, PARTNER, ENTERPRISE EQUITY VENTURE CAPITAL





"Having depth and detail in your slides is handy, but fundamentally you have to pitch the market opportunity and show how you will make the best of the opportunity."

deal and the terms. While they are important, you have to get to a point where parties on either side of the table want to do the deal," he says. "It happens when it's a win-win for both. It's like any transaction in that respect; there's nothing magical about it."

He warns against spending too much time on 40-page business plans that are out of date by the time you drop them on someone's desk. What the VC wants is a good presentation and a sensible conversation where you make it clear you have done the market research.

"Having depth and detail in your slides is handy, but fundamentally you have to pitch the market opportunity and show how you will make the best of the opportunity," he says. "Investors are professional people and want indicators that you are a solid team and know what it's all about."

All early-stage entrepreneurs have the exit slide in their deck, the one about being acquired by a competitor or becoming a public listed company. "There's no point," says Collins. "It's blindingly obvious. At the earlier stage, you should be talking about the size of the market and the competitive landscape, not exit strategies."

#### What experience can you tap into?

There are commonalities around growing tech companies but there comes a point when a sector-specific focus from the VC plays a part, according to Paul Quigley. Matter in San Francisco was initially drawn to NewsWhip because it wanted to connect its partners to media companies and has gone on to introduce the firm to new customers. A close and reciprocal relationship has developed with NewsWhip's CTO even working inside Matter for a time.

Early investors had already helped the company develop expertise around running

a business. "They expect monthly reports and structure so we had to develop more discipline, which was really good for us. You learn to monitor key metrics and openly talk through big decisions. You may not always agree, but it's healthy to have an ongoing dialogue with smart people," says Quigley.

From the start-up's perspective, it's important that the VC brings more than money to the table. You want them to understand your market. At the second or third round stage, you should be looking for a VC with the experience and network of connections to advance your business in all sorts of ways. For NewsWhip, it was Matter; for Swrve, Atlantic Bridge.

"We've had a lot of help from them in building out our management team and hiring a new CEO," says Steve Collins. "As you move through different investment rounds, the more recent investors take more of a leadership role at the board level. It's a natural progression."

#### Can you let go of the fear of letting go?

There is one aspect of VC relationships that some entrepreneurs struggle with: the loss of control and dilution of shares that comes with each new round. Get over it, says Collins.

"There's very little wriggle room. Any VC coming in at series A or B rounds will want between 25 and 40 per cent of the company," he says. "If your goal is to minimise dilution and maximise valuation, then the smart VC will put in terms and stock structures that will give them more control in the event that expected growth and valuation aren't achieved. My advice would be to go for as simple a deal as possible."

NewsWhip has multiple investors and no regrets. "We knew from the outset that we would need capital upfront to build the platform to make the revenue. The company wouldn't have been possible without it, and we've been happy with the levels of dilutions to date," says Quigley.

He reiterates the point that the role of investors is about much more than money. "You need people with other perspectives. We are exposed to a huge amount of high-level information that helps us make more informed decisions."

STEVE COLLINS,  
FOUNDER OF HAVOK  
AND SWRVE





Ease of doing business, openness to innovation and fluent English are just some of the reasons all companies, but especially new exporters, might consider the Netherlands.

**John Stanley reports on three Irish companies going Dutch.**

# Next stop? A short hop to... the Netherlands



450

Irish companies currently trading in The Netherlands



1:40

Flight time between Dublin and Amsterdam



86%

Of population fluent in English



2%

Economic growth bringing the value of the economy to €679bn



## Fresh growth for Forest Produce



**L**ike the proverbial challenge of selling coal to Newcastle or sand to the desert, when Steve Carmody joined Forest Produce in October 2014 he was tasked with researching market opportunities in the Netherlands for the Tralee-based foliage supplier.

Founded in 1994 by forester Jim Costello, Forest Produce is one of the leading foliage growers in Europe, supplying wholesalers, supermarkets and florists. Between March and December 2015 "we did a lot of market research to make sure we were making the right offer in the right way," Carmody says.

When Carmody targeted a large Dutch retailer last September, the buyer indicated that he wanted to purchase a combination of flowers and foliage and suggested that Forest Produce makes its pitch to the floral packer that supplied the retail group. So now in the Netherlands, Forest Produce works through local packers.

Nevertheless, the ultimate retail buyer is king, and Carmody emphasises the importance of certification to support the company's credentials as an eco-conscious, sustainable business. With the largest retail chain in the Netherlands only doing business with GlobalG.A.P. suppliers, that was the certification Forest Produce went after.

"It was a big investment to get us ahead, but it was necessary," he says. The company now supplies three large customers in the Netherlands on a weekly basis and hopes to double that by the end of this summer.

One of the best ways of building sales, Carmody says, is to invite customers to Ireland. "In our experience, when customers see what we're doing on the ground, our sales go up." Dutch buyers are open to trying new products and innovation. They simply want the best, regardless of origin, so Irish companies don't have to contend with any patriotic bias, he believes.

Carmody adds that the Netherlands is an ideal location from which to do business with the rest of Europe because "the transport structure is brilliant, and that means we can offer a good service. If we can gain a solid foothold here, it will give us a foothold in the whole of Europe."

He has found Dutch people very easy to work with, but echoes a common refrain amongst the Irish doing business there: Be prepared. "Always go in with something to offer; don't just arrange a meeting for research purposes." Another common warning is to be ready for Dutch forthrightness. "Don't take offence at their directness," Carmody says.

Dutch buyers simply want the best so Irish companies don't have to contend with patriotic bias.





## Natural attraction for MagGrow



**G**ary Wickham, MD of the early-stage spinout MagGrow is finding the Netherlands fertile ground for a new business with an innovative idea. The MagGrow system, developed at UCD, is based on the simple idea of fitting agricultural sprayers with magnetic inserts, which impart an electromagnetic charge to the sprayed liquid. All living plants and soil have a magnetic field, so the magnetically charged liquid is attracted to its target, dramatically reducing the amount of spray lost to wind drift and providing more uniform crop coverage.

Starting from a blank canvass, Wickham had looked at the UK, France and Germany as well as the Netherlands. Attending meetings with Enterprise Ireland's International Markets Week, everyone he spoke to recommended the Netherlands as his best European starting point.

"The Dutch have a reputation as early adopters; they're open to innovation and to

innovative and productive ideas related to agriculture in particular. And they also have brilliant test centres," he says.

With the help of Enterprise Ireland, Wickham identified and signed a Dutch agent in the space of three months, and last year the MagGrow system entered a commercial evaluation with a large seed potato grower in the north of the country.

Wickham also used Enterprise Ireland for market research and advice on tax and legal matters, and he is an enthusiastic supporter of the Irish Netherlands Business Association. "It's been hugely beneficial for us," he says, "and it's a must for networking."

This is Wickham's second business in the Netherlands, and he admits, "I love the place." He describes the Dutch as "excellent people to do business with. They're very forthright and straight, honoarable and decent, punctual and professional." He also values the fact that "they're not caught up in titles and they're not tolerant of begrudgers."

"The Dutch have a reputation as early adopters; they're open to innovation and to innovative and productive ideas related to agriculture in particular."

## Top tips for meetings

Dutch people are direct. If they are not interested in what you are selling, you will be told.

The Dutch like to plan and use their time well, so punctuality is extremely important; to them being late is a clear indication of unreliability.

Don't use a meeting purely for general research. You may ruin a potentially good contact. Always bring something to the table so that the meeting is of genuine benefit to everyone involved.

Have a clear objective and set an agenda for every meeting. Keep the small talk to a minimum; Dutch people like to get down to business quickly.

Listen as well as talk. Discussion is valued in Dutch culture, and people in the Netherlands like to air their opinions.

Dutch business culture favours facts over emotional arguments – every time. Proof that a product or service can save a verifiable amount of money will always get you a favourable hearing.

Don't make promises you cannot keep. In the Netherlands you will be expected to deliver as specified, on time, every time.



# A sound choice for Ventac

**A**lready well established in the UK and Ireland, where they were supplying approximately 60 per cent of the available customer base, in 2012, the Bus & Coach team at Ventac in County Wicklow started looking for new markets.

Ian McDevitt, the division's business development manager, says: "We engaged with Enterprise Ireland, and they made us aware of the Automotive Campus in Helmond, the Netherlands, and its collaborative benefits. We are targeting tier 1 and tier 2 suppliers to the automotive industry. The campus provides a good fit for us, with similar small enterprises and excellent networking opportunities."

Although there is a relatively small number of key players in the market, Ventac has found the Benelux in general, and the Netherlands in particular, as attractive growth locations, with broad opportunities in commercial and industrial vehicles.

The County-Wicklow-based company, which provides noise control solutions for buses, coaches and industrial applications, offers full-service bespoke solutions, supported by an acoustic laboratory for problem solving and the design and rapid

prototyping of parts. Its value proposition emphasises a combination of weight reduction, cost savings, quality and acoustic performance.

It helps, McDevitt says, that the Dutch are open to innovation and new ideas. "They are enthusiastic about collaboration when they see problems to be solved, and they will work with you to develop their solutions," he says. "For us, therefore, innovation has been a door opener — even within the industry's two to three year project cycles. There is an appetite for change. Other cultures are more sceptical or their instinct is not to expose themselves to risk, but in the Netherlands, they are open to it."

He adds that it takes time to build relationships, and Irish people trying to do business there need to understand that a lot of decisions are consensus-based. "They take a decentralised, committee-based approach, and it can seem as though they are taking longer to reach decisions than they should, including at technical or marketing level," he explains. "There is no obvious key decision-maker, and that may be frustrating. But when a decision is made, they will stick with it, although there will necessarily be periods of validating change."

"Other cultures are more sceptical or their instinct is not to expose themselves to risk, but in the Netherlands, they are open to it."





# Six good reasons to go Dutch

1

Irish companies have traditionally performed well in the Benelux region. Established construction and engineering players, for example, are winning business in greenfield and expansion pharmaceutical and food projects, usually starting with multinationals they have already worked for in Ireland. However, the breadth of Irish activity in the Netherlands runs the gamut from beef to medical devices and everything in between. Over 450 Irish companies are actively trading in the market.

2

The Netherlands is Ireland's third largest trading partner, with the total value of trade (imports + exports of goods and services) between the two countries in 2014 worth €26.3 billion, or 7 per cent of Ireland's total trade with the rest of the world. In 2015, the Dutch market accounted for 5 per cent of exports by Enterprise Ireland clients company at €0.93bn.

3

The Netherlands is an open economy in every sense. It's the Eurozone's fifth largest economy and third largest exporter, deriving over 65 per cent of GDP from port activities and merchandise exports. The Netherlands scores 28th overall and first in terms of ease of trading across borders in the World Bank's 2016 Ease of Doing Business Index. It is also an economy also noted for its stability, highly skilled workforce and developed infrastructure, and it is the world's sixth highest location for FDI.

4

Some 86 per cent of the 16.9 million-strong population are fluent in English. Dutch people relish the opportunity to 'practise' their English on native speakers, and business people are almost universally fluent, so, unlike many continental countries, being able to speak the national language is by no means essential.

5

Flight times between Dublin and Amsterdam are just over an hour and 30 minutes. Moreover, the Netherlands is a compact country, with excellent transport infrastructure, so it's entirely possible to fly into Amsterdam and cover the country in a day. Equally, the Netherlands can be covered as an extension of the UK market, with flight times between Amsterdam and the south of England as short as 30 minutes.

6

Dutch GDP grew by 2 per cent to €679 billion last year, double the rate of growth in 2014, mainly on the back of strong private consumption and growing exports. The country's fiscal position is also good, with the current account remaining comfortably in surplus. The positive momentum has carried over into this year, with continued growth in industrial production, optimistic consumer sentiment and business confidence reaching a five-year high in April 2016.

Dutch people relish the opportunity to 'practise' their English on native speakers, and business people are almost universally fluent.

## Useful contacts

Ireland Netherlands Business Association [www.inba.nl](http://www.inba.nl)

Irish Club in the Netherlands [www.inshclub.nl](http://www.inshclub.nl)

Netherlands Foreign Investment Agency [www.investinholland.com](http://www.investinholland.com)

For further information, contact Enterprise Ireland's manager for the Benelux [paul.browne@enterprise-ireland.com](mailto:paul.browne@enterprise-ireland.com)



# Keep calm and carry on in the UK

Whatever happens following the Brexit 'leave' vote, the UK will continue to be a key export market, writes **Marina Donohoe**, Enterprise Ireland Director, UK and Northern Europe.



MARINA DONOHOE

**D**espite understandable concern over the UK's vote to leave the EU, our nearest neighbours will remain a natural first market for Irish exporters due to proximity, a shared language and similar business cultures. While strategies to offset whatever consequences arise from the UK vote are advised, businesses in Ireland would be missing a trick if they discounted the UK market. In fact, Enterprise Ireland has identified seven key opportunities for Irish companies based on government initiatives and evidence of sectoral growth.

## Financial services/fintech

The breadth of UK financial services sector is huge, with over 250 foreign banks; expertise across retail banking, insurance, capital markets, bonds, equities, currency, payments, regulation; and allied sector-specific advisory, legal and professional services. The sector employs 2.2 million people in the UK. It is a truly global centre of expertise, where there will continue to be opportunity for fintech companies after any UK exit from the EU. Opportunities will also emerge during exit negotiations, particularly for legal, advisory, professional services and IT solution providers, as firms may seek new structures around regulation, compliance, currency handling, money laundering and data handling. This is a sector where

Enterprise Ireland has been working for many years, and, as any new opportunities unfold, we are well-placed with high-level contacts to introduce our clients to key decision-makers.

## Aerospace

The UK aerospace industry represents 17 per cent of the global market and is considered the largest in Europe and second globally (after the US). Turnover in 2015 rose by £1.9bn to £31.1bn. Enterprise Ireland's participation at the Farnborough Airshow in July 2016 was a key initiative to help Irish companies secure business, and, with Ministerial attendance, it highlighted Irish capability in this growth sector. Aerospace is vastly outperforming the wider UK economy, with productivity up 30 per cent over the past five years, compared with the national average of 2 per cent.

Through the Aerospace Growth Partnership (AGP), industry and Government are working together to ensure the UK is well placed for future growth opportunities. Investment in skills, technology and the competitiveness of the UK supply base is making a difference.

## National Health Service (NHS)

In 2014, the NHS outlined a proposed capital outlay of £8bn by 2020 to transform the organisation through

improved efficiency. Within this strategic plan, key spending areas highly relevant to our connected health/medical devices/ services clients include:

- £1.8bn to create a paper-free NHS
- £1bn on cyber security/privacy
- £750m updating remote care
- £400m digitising the NHS (apps/ telehealth)
- £250m on data for outcomes research.

Several initiatives are underway to win business for our clients, including a report mapping out key opportunities, which will be released shortly.

## National Infrastructure Delivery Plan

The UK's National Infrastructure Delivery Plan envisages £483bn of investment in over 600 infrastructure projects and programmes, in all sectors across the UK, to 2021 and beyond. Irish companies are operating in these sectors already, and there are huge opportunities with investment in areas such as transport, communications, energy, flood defences, science and research, waste and water treatment.

## Northern Powerhouse

The goal of the Northern Powerhouse initiative is to rebalance the country's economy and establish the North as a global powerhouse. Cities include Liverpool, Manchester, Leeds, Sheffield, Newcastle



## Economic Infrastructure Investment

Investment Area	No. of Projects	Planned Spend
Communications	6	£6bn
Energy	167	£256bn
Flood Defences	29	£4bn
Science and Research	32	£5bn
Transport	329	£134bn
Waste	10	£0.5bn
Water	29	£19bn
<b>Total</b>	<b>602</b>	<b>£424.5bn</b>

Source: HM Treasury and Cabinet Office (2016)

and Hull, as well as Cumbria, Lancashire, Cheshire, North Yorkshire and the Tees Valley. The commercial opportunities lie in supporting initiatives in road, rail, freight, aerospace and skills development. Key deliverables include improving freight capacity, and road and rail infrastructure. For example, the HS2 high-speed train network will cost £55.7bn.

### Scottish Government's investment plan

Enterprise Ireland continues to have a strong geographical focus and plan within the Scottish market. Key areas of investment that will provide opportunity for clients include energy, water and housing. For instance, the Housing Supply Budget has been set at £690m for 2016-17. This will deliver between 8,000 and 9,000 affordable homes, 28 per cent more than the average output in the last two years.

### Water market opportunity

UK water utilities are planning a total expenditure of £41bn from April 2015 to March 2020. Enterprise Ireland is working with UK and global buyers who have access to this opportunity, which could also be a stepping stone to international projects.

### Hull City and Humber Region

Following a turbulent decade, characterised

by unemployment, poor growth and a lack of investment, Hull is suddenly showing strong employment growth and better productivity. Long associated with low-value, traditional sectors like logistics and manufacturing, Hull has begun the process of transformation and diversification, placing it firmly on the UK's business map. But Hull's transformation remains very much in progress, as it still shows relatively weak productivity and modernisation. Major investments are planned in the digital, energy, and manufacturing Industries and in local infrastructure and these will support growth.

### Greater Manchester

Greater Manchester's ten local authorities represent the largest functional economic area outside of London, with 1.4 million people working in the region. It generates £56 billion in GVA every year – 40 per cent of the North West's overall GVA – and has an impressively diverse economy. While currently lagging behind in terms of productivity, the region expected to outstrip UK growth averages over the next 10 years. In 2015, the Greater Manchester Region had the fastest growing economy in the country.

### Leeds City Region

The Leeds City Region is the largest region outside of London, generating 5 per cent of

national economic output and employing 1.4 million people. In addition, Leeds has a huge business population - 109,000 companies – second only to London. The region has experienced considerable growth and development over the last decade, following £3.8bn in investment in large-scale development projects. While it lags behind in productivity and skills, it is rapidly improving and keeping pace with major business hubs in the UK.

### Liverpool City Region

Liverpool is at the centre of the UK's second-largest regional economy. With access to 6 million customers and an economy worth £28 billion, the Liverpool City Region is home to 266,000 businesses, including many multinational companies such as Barclays, Maersk, Sony, and Jaguar Land Rover.

Liverpool has experienced a remarkable transformation in the last 10 years. It has diversified and welcomed new sectors and now has the second-highest number of high-growth firms in the UK. While it still faces challenges in terms of skills, poverty, and private sector jobs, it continues to grow and attract businesses.

### Sheffield City Region

The Sheffield City Region is a significant economic area, generating over £25.7bn for the UK economy. Traditionally, Sheffield's growth relied on the steel and coal industries, which continue to be important for the region, accounting for £3.5m GVA. However, Sheffield's economic base has diversified, with major employers across multiple sectors, including HSBC, Boeing, Rolls Royce and BT. But it has more to do. While Sheffield continues to grow and has a promising future, it faces the considerable challenge of not just growing but ultimately transforming into a truly 21st century, outward-looking and diverse economy.

*This article first appeared in 'Exporting to The UK, A New Guide for Irish Businesses Post Referendum', available at [www.enterprise-ireland.com/ukexporthelp](http://www.enterprise-ireland.com/ukexporthelp)*



With aircraft builders having full order books for the next 10 years, certification is the key to sub-suppliers winning a piece of the action. Donal Nugent reports on Irish precision engineering companies that have earned their stripes and showcased their ability at Farnborough International Airshow this July.

# Landing in Farnborough, with precision







Ireland's footprint in the world of aviation may be famously large – from leasing to running airlines, and supplying seating fabrics to software. But turn to the business of building planes, and the country might seem to disappear off the radar.

While this is certainly true of the Republic, according to Invest NI, Northern Ireland is Europe's eighth largest aerospace region in revenue terms, with a hub of over 60 companies

operating at the cutting edge of design and manufacture. Flagship for the region is Bombardier, with its Belfast-based facility the single largest manufacturing operation in Northern Ireland. While the region's success is built on its historic engineering capability, it is not unique within the UK. Rivalry between US and French rivals Boeing and Airbus may grab the headlines, but Britain's aerospace industry is Europe's quietly flourishing giant, having cornered some 17 per cent of global market share (second only to the US) and enjoying annual turnover of £25 billion.

For all the opportunity, engagement by potential suppliers south of the border has traditionally been low. However, this looks set to change.

In 2015, six client companies participated in an Enterprise Ireland-coordinated pilot SC21 programme. Approved by 17 of the major aerospace and defence manufacturers, including Bombardier, Boeing B/E and Airbus, SC21 (Supply Chain for the 21st Century) is a change and accreditation process designed to accelerate the industry's competitiveness by raising the performance of its suppliers.

At this year's Farnborough International Airshow in Hampshire, Enterprise Ireland coordinated an Ireland pavilion for the first time, with all six companies showcasing Ireland's offer.

Almost uniquely, suppliers are entering the sector with the industry's active support, with primes like Bombardier and B/E Aerospace having provided sponsorship and support for companies to gain two key industry accreditations, SC21 and AS9100 – another widely adopted and standardised quality management system for the aerospace industry.

In 2014, Takumi Precision Engineering and DPF Engineering became the first two companies in the Republic to receive SC21 bronze accreditation. Congratulating the companies on their achievement, Stephen Cowan, vice president of Supply Chain & Fabrications, Bombardier, observed that his company was keen to support "the expansion of the programme into the Republic of Ireland, as we recognise the importance of having a competitive supply base across the island of Ireland with whom we, and other companies, can do business".

## TAKUMI TAKES TO THE AIR

Gerry Reynolds is managing director of Limerick-based Takumi Precision Engineering, a company that had largely concentrated on the medtech sector until recently. In 2012, Takumi made its first tentative move into aerospace, a decision that has since "grown into an avalanche of work," Reynolds says. "Aerospace has gone from being a non-existent part of our business to over 50 per cent of our turnover this year. We

see this growth progressing strongly on the strength of a number of programmes over the next three to four years."

Fortunately, medtech and aerospace share some important commonalities. "Both are highly regulated sectors, with a strong focus on traceability, training of staff, and on being world class in terms of the technology employed," Reynolds adds. "Quality is also a given in both. So, in terms of regulatory challenges, entering this space shouldn't be overly difficult for a company similar to ours. What can be challenging is honing your work practices to suit the needs of an aerospace client."

Every potential supplier will be put through their paces to confirm their ability to deliver to the most exacting specifications and will need to absorb the cost of that, he explains. "If you want to get onto an aerospace programme, you're expected to frontload your engineering and inspection costs. These can quite often be considerable. In our case, we had 15 years of mature business behind us. If we had stumbled on the same opportunity 10 years ago, we probably wouldn't have been strong

enough from a balance-sheet point of view."

It's also important to be realistic about the level of work that a successful relationship will bring, he adds. "Typically, you are not going to see automotive type volumes in aerospace; they are not going to be built in their thousands. In this sector, 20 components a month is considered great volume. What's important for both parties is that the business is sustainable, so you have to be comfortable and knowledgeable about your own cost base. Delivery on time is also critical. Building an aircraft is a huge logistical exercise, and it can't be held up by the shortage of a few brackets."

That noted, a key attraction is that, once a supplier has established its capability, "other companies know you can support them on their programmes. In that sense, the business is very complementary and scalable."

Experience to date has also shown this is very much a face-to-face business, where companies need to be present

"We are still heavily involved in medical devices, and tool making in general will always be a large portion of what we do. But I imagine that, in five years, aerospace will represent over 50 per cent of our turnover."



SEAMUS LANCASTER,  
DFP



STEPHEN HOGG, BELLURGAN  
PRECISION ENGINEERING





at major shows and make personal connections. Reynolds encourages other Irish companies interested in opportunity to break the habit of "focusing on the company down the road" and to consider the bigger opportunity. "We have the space and skillset. If we demonstrate we have the support structure, there is no reason why we couldn't see a major aerospace company coming to Ireland or the sector become as big an employer here as medical devices."

### EXPANDING OUT FROM MEDTECH

Established in Carlow in 2003, DPF Engineering shared Takumi's initial focus on medtech, building on founder Seamus Lancaster's background in the multinational sector. It was in the process of general networking that the first opportunity to work for the aerospace industry emerged. "I saw the value in it and recognised the complexity of the requirement suited our capability. As we researched it more, we also saw this was a flourishing industry and a long-term opportunity."

With the support of InterTradeIreland, feasibility and R&D work led to the company attending some events where they got to meet the purchasing team from Bombardier. "After gaining an understanding of what was needed in terms of accreditation, we went to work at getting it. While doing that, we were also talking to Bombardier, which was ready to do business with us once we had that accreditation."

From a figure of zero 18 months ago, aerospace now represents some 15 per cent of the company's turnover. "We are still heavily involved in medical devices, while toolmaking in general will always be a large portion of what we do, but I would imagine that, in five years, aerospace will represent over 50 per cent of our turnover. The journey so far has been enjoyable, and it has given the company a new focus. Three years ago, we weren't thinking about aerospace at all, now we are beginning to think of it in terms of it being our number one industry."

He agrees that proof of ability is key to scaling the business. "We are now expanding into the rest of the UK and showing other companies we have ability to deal with larger, complex projects. The accreditations are validation that our systems and our delivery times are robust."

For companies looking to follow this path, Lancaster advises that "starting out, you need to get involved with organisations like Enterprise Ireland and ADS (which oversees SC21), and go to events that procurement people and decision

makers attend. The bottom line is you 100 per cent need accreditation. However, for any serious player on this island, getting that should not be daunting."

Lancaster recommends the approach DPF Engineering took in running both certification processes at the same time. "In bringing them along together, you take away the double jobbing. We got both accreditations bedded in within the company in 12 months."

"The relationship has opened our eyes to the possibilities of lean manufacturing. They have finger-nailed how to do treble the amount of work by manufacturing in a smart way, and we can apply those lessons to all our work."

### RECEIVING CERTIFICATION IN 2016

A manufacturer of high-precision machined components and metal fabricated assemblies, Bellurgan Precision Engineering makes seating and cabin fit-out products, a sector it has been involved in for a decade. The company achieved SC21 bronze earlier this year and expects to receive AS 9100 during the summer. Stephen Hogg, who took over the role of CEO last year, sees the accreditations as central to driving the business' continued expansion.

Like the other companies, Bellurgan has a strong presence in the medical device sector, stretching back over 18 years. The decision to pursue SC21 came following an approach by Enterprise Ireland and was undertaken with B/E Aerospace as sponsor. The company is Bellurgan's largest and longest-standing aerospace client, and the relationship has, Hogg says, "also opened our eyes to the possibilities of lean manufacturing. They have finger-nailed how to do treble the amount of work by manufacturing in a smart way, and we can

apply those lessons to all our work."

For companies looking to move into the sector, his advice is pragmatic. "Start by putting your best foot forward and getting some kind of recognition in terms of certification. If you view the standards as a way of enabling you to work in a more efficient, lean way, you become more responsive and will get the recognition you deserve. Our experience has also been that if you reach out to the right people to help you get those awards, it makes things much easier."

Aerospace will remain part of a balanced portfolio of clients for the company, even if it is an ever increasing part of that portfolio. The long-term growth opportunities should be more than enough to encourage Irish companies to take a serious look at the sector, he says: "The market for precision engineering in general is vast right now. All any of us can do in the Republic of Ireland right now is to supply into that. We won't be stepping on each other's toes."





Since the 2015 collapse and slow recovery of oil prices, the Gulf region is experiencing budgetary pressures that have led to robust plans to build the non-oil economy. Resulting growth sectors include tourism, aviation, financial services, retail and healthcare. Gordon Smith reports on three Irish tech companies that have found their place in the Middle East. While targeting different sectors, all three share a common success factor: the right product in the right place at the right time.

# The right pitch for the Middle East





# Fitting the bill

**A focus on innovation allied to clever marketing has allowed Miagen, a small specialist provider of financial performance applications, to carve out a successful and growing niche.**

**S**ometimes in business, the stars align for a company and its product or service coincides with an emerging market need. That's been Miagen's experience in the Middle East. The company builds corporate performance management and financial planning systems that give a clear view of organisational performance and profitability – a message that resonated strongly with buyers in the region since its economic slowdown began in 2014.

"I think we were bringing a skill that was probably in short supply. We work with cloud technology, so we can do things very quickly. It's a very competitive market now, and customers there want to see value," says Miagen CEO Teddy Murphy.

Economics are cyclical, but cultural characteristics of the market also played to Miagen's strengths. "A lot of the companies in the region want to be the best in the world, not just in the Arab world. They see an opportunity to build the best solutions. A lot of larger companies in the Middle East have expertise in the western world as well as the eastern world. The innovators in these companies are the ones who are aware of what's possible," adds Murphy.

Miagen deliberately targeted its marketing to appeal to this trailblazing spirit. A chance meeting with Etihad representatives at an innovation event in London led to the airline becoming the Irish company's biggest customer in the region. Three intensive days of presentations at Etihad's head office led to a quick decision, and Miagen delivered a budgeting model for the airline three months later.

"When customers there are fired up for business, they can work very quickly," says Murphy. The Etihad deal alone was 25 per cent of Miagen's turnover in 2013 and has since led to projects double and triple that size for the Irish company. It also led directly to work with some of Etihad's partners such as Jet Airways, Air Serbia and Air Seychelles.

Miagen's first customer in the region was with Qatargas, a \$60 billion giant, in a deal won via tender in competition against much larger vendors. Murphy sees this as willingness in the region to work with the most suitable provider, irrespective of size. A similar openness to innovation resulted in a contract with Aramex to develop an enterprise reporting platform that met the need for timely stock exchange reporting, while working within Aramex's business processes.

Referrals carry a lot of weight in the market. Working with Kuwait's National Real Estate Company opened the door to other deals for Miagen in that country, including with Al-Babtain Group and Petroleum Coke Industries.

Miagen also used cold calling to build initial sales leads. "You can't buy a database of names in the Middle East, you have to glean that information over time," says Murphy. Accepted wisdom is that local partners are essential for getting a first foot in the door with companies in the region, but Miagen opted to set up in Abu Dhabi Airport Free Zone and trade directly. "You can find the business model that works for you," Murphy says.

Miagen's experience also seems to counter the long-held impression that the Middle East is a market that rewards patience, time and persistence. However, the need for improved corporate performance as a buffer against tough economic conditions was surely a factor in Miagen's case, and the result has been annual growth of 30 per cent. "We have a strong plan for the next four years, which will take our growth exponentially higher. With the fall in the price of oil, it's bringing to the fore a requirement for companies who deliver value quickly," Murphy comments. "If the customer's need is urgent and you're available to deliver on it, then you can do well. It's a global market now, so you need to be ready to move if they are."



Miagen's first customer in the region was Qatargas, a \$60 billion giant, in a deal won via tender in competition against much larger vendors.



# The right call

Investing time and resources has helped Ding achieve a market-leading position in many countries throughout the region – and the growth isn't stopping there.

**L**ocal presence has paid off twice over for Ding in the Middle East. It was in Dubai in 2005 that founder Mark Roden was inspired to develop technology to allow the region's many ex-pat workers to send credit back home to the mobile phones of family and friends. The company's decision to set up an office there in 2008, and invest further three years later, led to one of Ding's biggest breakthroughs.

In 2012, Ding launched a phone-to-phone channel in Saudi Arabia, Bahrain and Oman, complementing the previous model whereby customers had to visit a website, shop or kiosk to send airtime to phones back home. Stephen Slattery, head of operators for Africa & Middle East, says the move changed Ding's entire business in the region.

"Month on month since then, we've never seen a dip in the transaction volumes. It's the fastest growing channel and it's seen significant growth. We had thousands of customers using the service within the first few hours of launch, and within six months, tens of thousands using it every day."

Dubai is Ding's regional headquarters, staffed by up to 20 people or around 10 per cent of its global team. The office is also a hub for Africa, China, South-East Asia, India and Pakistan. After starting in the UAE, Ding then began providing its service in Qatar, then Saudi Arabia, followed by Oman.

"In markets like the UAE and Qatar, where we also have a local office, we've somewhat gone back to basics, investing in good local account management and good local marketing. We're very localised: we go to where our customers are, speak to the customers that are using our service and we do promotions that are interesting to them," says Slattery.

Ding now connects to more than 350 mobile operators in the region in addition to working with exchange houses, bank machines and kiosks to cover the various ways people want to send credit home. Across the Gulf region, it has at least 70 per cent market share and is at least three times bigger than its largest competitor, Slattery says. In the UAE, where it only sells via retailers, it has 90 per cent of the market.

The job is by no means finished, though. Ding still has some partners left to recruit, and next year it will expand its distribution channel in Qatar. "Saudi Arabia is still huge for us, and if we look at the retail opportunity in Saudi, we're only scratching the surface. We have at least 1,000 outlets but there are tens of thousands there. And we're planning to do a lot more deployments with operators in the region."

Ding's phone-to-phone service is only possible when delivered through mobile operators. Zain KSA of Saudi Arabia has millions of ex-pats on its network and was one obvious target, but the lack of a reference customer was a challenge. Slattery believes the prior years spent in the region pioneering the service, educating customers and creating distribution channels, along with a constant local presence, helped to reassure the customer that Ding could deliver.

"It was the fact we had the good, local team and the biggest presence of our competitors in the region that convinced them. We met them every week, and we walked them through our platform so they could see we were able to take millions of transactions per week," says Slattery. "In my view, it's simple; there's no argument. We would not have the phone-to-phone channel if we didn't ramp up and invest here in Dubai in 2011. We wouldn't be where we are if we had gone about it half-heartedly."



"In markets like the UAE and Qatar, where we also have a local office, we've somewhat gone back to basics, investing in good local account management and good local marketing."







# Just the ticket

**With a rapidly expanding business that's meeting a global need in the travel sector, Boxever already has one Middle Eastern heavyweight in its corner.**

**T**he airline industry group IATA's latest passenger forecast pegs the Middle East as one of the fastest growing regions worldwide for passenger traffic far into the future: with growth projected at 4.6 per cent per year to 2034.

Founded specifically to focus on data science and omni-channel personalisation for airlines and travel providers, Boxever is unsurprisingly eyeing the market. The Dublin-based tech startup has already won business with Emirates, the region's largest airline and the seventh largest in the world by revenue.

Elizabeth Kenny, Boxever's head of marketing, points out that its customers are global brands and their needs tend to be similar no matter where they happen to be headquartered. "Emirates' focus is all about customer experience and we help them achieve this," she says.

Technology-fuelled disruptors are chipping away at industry giants in areas like retail, travel and transport. Boxever aims to help airlines to fight back by using analytics in a smarter way to understand their customers and serve them better. It claims that reaching customers through email or mobile at specific times – for example when they've abandoned an online purchase on a booking website – can help airlines to boost revenues.

Expanding rapidly, Boxever reported 463 per cent compound revenue growth to the beginning of this year, when it announced that it had closed a series B funding round of €12 million. Noel Ruane, lead investor with Polaris Partners, said airlines and the travel industry have an unmet need for customer intelligence technology that can deliver profitable, personalised experiences for passengers.

Explaining further, Kenny adds: "Boxever's Customer Intelligence Cloud

enables travel marketers to build a 360-degree view of every customer and apply predictive analytics and machine learning to automatically create personalised, one-to-one marketing experiences that lead to higher conversion rates, increased revenue and truly differentiated customer experiences. Every travel company wants to achieve these, whether they are based in Europe or the Middle East."


Kenny confirms that Boxever is "continuously working with other travel retailers in the Middle East". She declines to name other customers in the region that the company is currently working with, other than referring to an interview with Etihad's chief marketing officer which ran on Boxever's blog during April.

Boxever's model is to tailor its packages depending on the client requirements, with sales and customer teams based globally. "The Middle East is a great place to do business. It is increasingly easier to reach with all the new routes on offer," Kenny says. That still calls for hard yards, even after the first deals are signed, she adds. "Relationships get you in the door but continuously exceeding expectations and delivering exceptional results is what keeps you there."



Middle East air traffic passenger growth is estimated at 4.6 per cent per year to 2034.





# The Ramadan Effect



**Ramadan 2016 has ended and it's back to business as usual. But what is Ramadan and why does it have such a big impact on business? [Ikram Ur Rehman](#) and [Clare Roche](#) with Enterprise Ireland's Middle East and North Africa team explain.**

### **The Holy Month**

Ramadan is the ninth month of the Muslim year, during which strict fasting is observed from dawn to sunset. The annual period of abstinence, prayer and giving to charity is observed by 1.6 billion Muslims worldwide (roughly 23 per cent of world population). The Holy Month is also a time for spiritual growth, self-control, discipline and patience. The hours of fasting, vary with most countries in the Middle East averaging 11-16 hours, while Muslims in Denmark endure an average of 21 hours.

Ramadan begins with the first sighting of the crescent moon. Dates may differ country to country depending on the decision of that nation's clerics or 'moon committee'. The general rule of thumb is that Ramadan moves forward by approximately two weeks each year. Ramadan began on 6 June in 2016 and will commence on 27 May in 2017. The breaking of the fasting period is marked with the festival of Eid al Fitr, a time for family, giving and celebration, comparable to the Christian celebration of Christmas.

### **Doing business in the Middle East**

In countries where Muslims are the majority, Ramadan has a drastic impact on daily life. For expatriates and visitors in Muslim countries, the consumption of food and beverages (even water) and smoking in public places is strictly forbidden from sunrise to sunset. Alcohol and the playing of loud music is restricted and conservative dress is encouraged.

The Holy Month brings about significant implications to the working environment in the Middle East. Working hours are reduced and both public and private

sector offices tend to operate between 9am and 3pm. It is a difficult time to contact people, with key contacts often travelling or on leave, and any important business decisions or meetings are often postponed.

These changes do not make the ideal environment for the modern business traveller, and the general consensus is that unless it's urgent, schedule your trip before or after Ramadan. It is also advisable to remain patient and respectful with your Muslim contacts and use the period to focus on internal business activities or other markets. Companies trading in the Middle East should prepare for the Ramadan 'slow down' and plan sales targets and pipelines accordingly.

### **Business slows but doesn't stop**

Although Ramadan undeniably marks a sluggish period for business growth, those who are flexible and adaptable can take advantage of some unique opportunities. The many Iftars (the meal eaten at sunset) and Suhoors (the meal eaten before sunrise) hosted by local companies and organisations as well as expat groups provide a valuable occasion for networking and cementing relationships with close contacts or business partners as well as an opportunity to get involved in local culture and traditions. If you must have a business meeting, make sure to schedule it early in the day when your Muslim contacts are likely to be most alert. A simple gesture of gifting dates or Arabic sweets will be well received. Wishing your Muslim contacts a 'Ramadan Kareem' or 'Eid Mubarak' will also go a long way in demonstrating cultural awareness and respect.

Although Ramadan marks a sluggish period for business growth, those who are flexible and adaptable can take advantage of some unique opportunities.





The manager of WaterWipes' new sales office in New Hampshire tells Mary Sweetman what it takes to grow in the US market.

# Irish Breeze gathers force in the US



**T**he story of WaterWipes is one of recognising a market need from up close and personal. Louth-based businessman Edward McCloskey, son of Boyne Valley Foods founder Malachy, established Irish Breeze as a cotton wool, soap and skincare manufacturer over 20 years ago to further diversify the family business beyond food.

When his own little bundle of joy arrived in the mid-noughties, Edward didn't need a huge amount of convincing to recognise the attraction of wet wipes for busy mums, dads and minders, carrying out those messy cleaning jobs that come with nappy changing. But at the same time, he was shocked to learn of the cocktail of chemicals they contained – and convinced they weren't doing anything to help his new-born daughter's nappy rash.

The idea for WaterWipes was born: a product that combined all the convenience of a wipe, but was as pure and wholesome for little ones' sensitive skin as cotton wool and water.

## Dot-com channel

Five years of intensive R&D and product development followed to find a way of binding the cotton wool and keeping the wipe sterile within the pack without chemicals. Part of the innovation, centres on a modification to the molecular structure of water by researchers at McCloskey's alma mater Trinity College Dublin. Containing 99.9 per cent water and 0.1 per cent grapefruit seed extract, WaterWipes are the world's first totally chemical free baby wipes.

As time has proven, the idea was sound. But supermarket own-brand baby wipes typically retail at about 99c per pack, so the launch of a premium product into a mature, commodity market mid-recession wasn't the most fortunate timing.

"It resulted in a lot of sales focus on the dot-com channel, starting with Amazon and the usual suspects," explains French native Christophe Bernigaud, who was hired by Irish Breeze as marketing manager for WaterWipes in January 2012.



Bernigaud, who has a background in international sales development and marketing, both online and in the 'real world', took on responsibility for developing the brand's online sales, which included the UK, Irish, US, Canadian, New Zealand, French, German and Baltic markets.

### Seeking a focus

Seeking one of these regions to focus on and become a significant player in, Irish Breeze looked across the Atlantic. "When we started seeing the feedback, we started focusing on the US, because it offered the biggest opportunity in volume terms, but also because it was waking up to a natural trend," Bernigaud explains. "We saw we could surf this trend. While the cheapest was winning in Europe, we could be competitive within the natural/organic niche in the USA."

On the back of deals with US retailers, including Walgreens/Duane Reed, Target and Amazon, as well as growth into the medical sector, where the skin-friendly wipes are being used in premature infant care, Irish Breeze opened a US sales and marketing office for WaterWipes earlier this year. The office in Portsmouth, New Hampshire, is headed by Bernigaud and resourced with two US business development executives. Manufacturing remains in Ireland.

As to strategy, "multichannel is now", Bernigaud explains, so it no longer makes any sense to distinguish between online and 'offline' sales. All the old ingredients of the marketing mix are still required, plus some new ones.

"The bricks and mortar retailers all sell online. The busy mom going round the supermarket has her mobile always with her. You need a 360-degree presence. Online, offline, above the line and below the line."

### Marketing

For the consumer to make that psychological journey from product awareness to the 'buy' decision, "they need to have seen the ad in the baby magazine in their obstetrician's office, tried a sample, and seen the product on the supermarket shelf.

"You still need marketing, PR, events, your paid, your earned and your owned media. Your research needs to be qualitative and quantitative," Bernigaud continues. "There is no silver bullet."

As to digital, he recommends a carefully considered approach to social media. "Just because you are on Facebook, doesn't mean you will sell. I'm more interested in behavioural marketing." This is a strategy that responds to an individual's online behaviour, reflecting their personal interests, actions and preferences – said to yield higher rates of opens, clicks and conversions than generic "batch and blast" messages.

Or as Bernigaud puts it: "You need to know the customer

and understand what's important to them, what they care about. I'm not marketing a target. I'm targeting the market. I don't care whether the consumer is 20 or 60. I'm interested in their behaviours."

Significantly, research has shown that the majority of WaterWipes' purchases in US drugstores are by non-diapering households. That means the chemical-free wipes are being selected by occasional carers such as grandparents; athletes for after-sports hygiene; empty nesters – owners of the so-called third child, for pet-care; as well as uses such as geriatric care and feminine/personal hygiene.

"They appeal to a lot of people, so we are looking at developing additional products," Bernigaud says. One example is a beauty-category, environmentally friendly wipe for make-up removal.

"We started focusing on the US, because it offered the biggest opportunity in volume terms, but also because it was waking up to a natural trend."

### Second target

In addition to the consumer, Irish Breeze has another target group – the retail buyer – to consider, be that Target, Walmart or Amazon. Here Bernigaud says that, again, pre-digital-world approaches remain valid. People buy from people, and understanding what's important to them is about all the usual things that corporates care about: the retailer's value proposition – what sets them apart from their competitors; their pain points, where they are being hit or threatened; their corporate culture and the language they use to describe their

business. For example, knowing that Target refers to the store's customers as 'guests' demonstrates that you understand Target's universe.

"We also need to understand the marketplace at every state level; each is a different country," he adds. That's why the new US sales and business developers are experienced account managers, but "not too experienced". They're at a point in their lives where they can take on a lot of travel and don't mind being away from family.

Illustrative of the commitment needed, when we spoke, Bernigaud had just landed off a flight from Europe to New Hampshire, when he got a call to fly to St Louis the next morning to meet a buyer from Schnucks, a Missouri-headquartered retail chain with 96 outlets in the Midwestern states.

"That would be considered small in the US. In Ireland, we'd consider it huge," he says, underscoring the potential of the market.

Ease of reach to the air connections the team needs to provide high-level services to its buyers was part of the logic for locating in New Hampshire. "We're 45 minutes to both Boston International and Boston Regional and just an hour's drive to Portland, Maine," Bernigaud says. "Plus Portsmouth is an absolutely stunning town and a great place to live."



# Informed innovation: How to arrive at a compelling customer offer







**Product innovation cannot be judged a success unless it delivers something the customer actually wants. The problem? Customers don't always say or even know what they want. But, as Anthony King reports, the Innovation4Growth programme is providing a set of tools for unlocking insights on unmet needs and wants.**

**I**n Ann Arbor, Michigan, a storehouse holds thousands of products that all failed shortly after launch. The products held in the collection are a monument to the banality of failure, with rows of health, beauty, food and other products. A US study estimated that 90 per cent of new food and beverage products fail.

Products fail for all sorts of reasons, but failure to understand the customer is often a crucial ingredient. "It is so important to understand your customer before you innovate," says Karen Hernández, a senior executive with Enterprise Ireland's Capability and Mentoring Department. "It doesn't matter how good your R&D process is, if what is coming in at the start isn't right." The Innovation4Growth (I4G) programme led by Enterprise Ireland in partnership with the Irish Management Institute offers lessons in how to go about innovating (see panel). One starting point is the customer.

Keith Goffin is a professor of innovation and new product development at Cranfield University; he recently spent time with Irish companies attending the second phase of I4G. He sees himself as handing out tools to tap into the 'hidden needs' of customers, needs that the customers themselves are very often unaware of.

#### **Reality check on what customers say**

It's a mistake to simply ask customers what they would like. "Customers typically struggle to articulate what they need," says Goffin, who carries 14 years in marketing and new product development at Hewlett-Packard under his belt. "Customers will describe your current products, essentially saying I want it to be faster, cheaper, lighter, that kind of thing. Direct questions generate relatively poor superficial responses." You are likely to pick up ideas for incremental variations on existing products. Consider life before the smartphone: what ordinary customer looking at their legacy 'brick' phone would have been able to articulate or even envisage the eventual Swiss-army-knife range of digital applications that current mobile devices offer?

"A lot of organisations brainstorm internally, but this is not very effective because then you are basing innovation on current knowledge," Goffin explains. "You can convince yourself the idea is good, and then go outside and ask other people, and then believe their answers." This is a topsy-turvy approach and a path to failure. Market-led innovation taps customers first.

Customers hold deep insights, but you need to drill down. Goffin gives as an example a project he worked on with a Swedish medical company. Surgeons asked about visibility during operations answered emphatically that this was not an issue. But when filmed at work, surgeons were seen to often move their heads, as shadows from colleagues or equipment spoilt their view. The company designed a disposable "light stick" in response to a hidden need.

Talking to the companies that successfully enter the second phase of I4G, Goffin outlines a number of tools they can use to gain customer insights. He advises against picking just one. "Quite a lot of companies have been trying to sell their single method, but I'd draw the analogy to a detective. Despite what TV says, a detective doesn't solve a crime purely using forensics. They'll use video, hunches, interviews, forensics, reports from criminals, and put it all together."

Goffin presents I4G participants with three valuable techniques for extracting customer insights for innovation. Some of these come from psychological and anthropological research. They are known as the repertory grid, ethnographic and lead user techniques.



**KEITH GOFFIN**

A lot of organisations brainstorm internally, but this is not very effective because you are basing innovation on current knowledge. You can convince yourself the idea is good, then go outside to ask other people and believe their answers."

**Tool 1:****Repertory grid**

**T**his technique from psychology probes people's tacit knowledge. It is an indirect way of questioning that compares and contrasts and so helps articulate hidden beliefs and needs. For instance, you might ask someone to name six mobile phones. Customers will be given three cards – say for example, Apple, Samsung and Motorola – and asked how two are similar and different. Comparing and contrasting features helps extract perceptions. Then three more products are turned over, always with the same questions.

"Psychologists use this method of comparing and contrasting to probe deeper. It really helps us think more deeply," Goffin explains. It is one of his favourite techniques for digging out "hidden needs" and one that repaid dividends to Irish company Crest Solutions (see panel). In another instance, Bosch used this method when entering the pharmaceutical production equipment market.

**Tool 2:****Ethnography**

**E**thnography refers to a set of techniques borrowed from anthropologists, who use it to understand tribes. Likewise, sociologists use ethnographic techniques to explore other cultures. Why? If you ask people about what they do, it is unusual to get the unvarnished truth. The same goes for focus groups: people may put a positive spin on a product, but never purchase it. For example, Goffin has worked with the forestry company Coillte on outdoor adventure activities. In customer interviews, parents indicated that the entire family would participate in certain activities. However, in practice, almost no one chose them.

It's not that customers purposely mislead, rather what they say may prove aspirational. Ethnography provides a reality check. One technique centres on filming customers using your product or services in realistic settings. For instance, when shoe company Clarks entered the walking boots market, they spoke to and filmed walkers in the Lake District, England, to understand how they were using their boots. "It is a sort of 'day in the life' approach," says Goffin.

**Tool 3:****Lead user**

**T**he lead user technique involves selecting your most extreme customers and understanding the issues they face. These are customer who use your products or services in the most extreme circumstances. They will have in-depth knowledge on how to adapt the products to meet their personal or professional needs. Formula 1 is a classic example for tyre companies. Manufacturers of hiking boots might approach professional climbers and talk to them about their needs, uses and customisations.

"A lot of this can happen around sports: typically the top 20 athletes in an extreme sport may be hired by sports goods companies, whether they are mountaineers or surfers or whatever. SMEs can identify their equivalents fairly quickly and learn from them," Goffin explains.

The first stage involves identifying relevant trends, then recruiting lead users and conducting workshops with them.

Goffin says that no single one of these techniques will give a complete picture. For the most comprehensive set of insights, he advises innovation teams to use a combination of different approaches.

If you ask people about what they do, it is unusual to get the unvarnished truth.



### Customer feedback identified new business area for Crest Solutions

Implementing techniques learned on the Innovation4Growth (I4G) programme to illicit customer feedback led to a new line of business for Cork-based Crest Solutions. Crest, an industry leader in machine vision solutions, has developed the Pharmaceutical Training Academy to provide customised training for the pharmaceutical industry.

Two years on, innovation team leader John Hegarty says the benefits of the I4G programme far exceeded initial expectations. The company benefited from new approaches from the get-go, Hegarty says. Initial meetings that questioned why things were done in a certain way drew attention to R&D within the company, and using the repertory grid to gain customer feedback has led to a more cost-effective model of product development.

"We had been looking at innovation inside out," he recalls. "We were coming up with ideas we thought the customer wanted, developing those and then going to the customer." On the product side, "we would have perhaps over-engineered or over-complicated our products, which increased costs, increased time to market and increased complexity for customers. Essentially, we were engineering-led rather than customer-led."

### Fresh approach to innovation for engineering and environmental consultancy

Ken McGauran, director at Nicholas O'Dwyer, a Dublin-based engineering and environmental consultancy, says the company is reaping rewards from participation in the Innovation4Growth (I4G) programme. "We are now finding out what customers want rather than wilfully going down the road of developing something," he explains. One output has been the development of a lighter, cheaper asset management system version for telecommunications tower visits and maintenance management. "We sat down with clients and went through their actual needs," says McGauran. The result was a more refined product that could be run as an app, rather than an all-embracing system.

The techniques learnt as part of the I4G programme helped move clients away from a tendency to talk only about Nicholas O'Dwyer and provide a better overview of the concerns of their industry generally. "We've extended the new approach to another part of our organisation, and we are trying to embed innovation more generally. We hope this will allow us to stand out, differentiating the company and our products," McGauran says.

### A programme to build innovation management capability

Mining for customer insights is just one element of the Innovation4Growth (I4G) programme, led by Enterprise Ireland in partnership with the Irish Management Institute. "The overarching objective of I4G is to build a cohort of management teams within Irish companies that can deliver significant international growth through innovation," explains Karen Hernández, a senior executive with Enterprise Ireland's Capability and Mentoring Department. "So this is about building the capability to generate and validate new ideas that meet customer needs

but also supporting participants to implement a number of important innovation initiatives within their companies and building the confidence and capability to drive and sustain an innovative organisation."

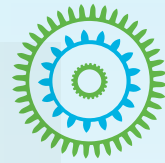
Management teams from 50 SMEs were selected to take part in the first ever programme. The 50 companies, represented by three executives from the management team, participated in an innovation-boost camp followed by tailored mentoring and coaching. In 2015, 57 managers from 19 companies moved on to and completed phase two. Those who exited

the programme after first stage included a combination of companies who needed time to become more 'innovation-ready' before taking part in phase two of a later programme and participants who had already gained enough insight to get initial projects kick-started.

Meanwhile, those on phase two, selected on the basis of having demonstrated "the time, the team and the tenacity" to drive innovation, worked with a dedicated coach on real-world innovations that are yielding new processes, services or products.

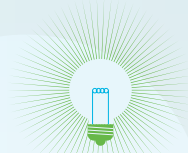
Find out more: Contact Karen Hernández on 01 7272577, email [Karen.Hernandez@enterprise-ireland.com](mailto:Karen.Hernandez@enterprise-ireland.com) or visit [www.enterprise-ireland.com/innovation4growth](http://www.enterprise-ireland.com/innovation4growth).

### A PATH TO INFORMED INNOVATION



— 1 —

Take a systematic approach to learning from customers, rather than informal chats. A rigorous approach can mean lots of work, but put the effort in, and it is likely that you will steal a march on your competitors.



— 2 —

Don't give innovation as an extra task to everyone. They will get frustrated if they cannot do it properly. Instead, build a team with a day in the diary, allocating perhaps three or four days per month.



— 3 —

Keep the innovation team in-house rather than outsource. Hunting for 'hidden needs' is exciting; let your own teams go out and visit customers.



— 4 —

Get senior management involved early in the process.





# Really there yet?

Virtual reality (VR) and augmented reality (AR) are two of the hottest technology sectors at the moment. Cian Molloy reports on a world full of very real opportunities.

**D**ublin-born game developer Owen Harris says that his life changed three years ago when he tried on a prototype of the Oculus Rift, a virtual reality headset. Dave

Whelan, CEO of Immersive VR Education, says the same thing about his first experience of using a prototype Oculus Rift in 2013.

Both men got early versions of the device via a US\$2.5m Kickstarter campaign in 2012 and immediately upon trying it for the first time, both decided they would work in the world of VR. Since then Facebook has bought Oculus, the company, for US\$2Bn, and Harris and Whelan have separately developed award-winning VR products that showcase the potential of the technology.

Harris is best known for DEEP VR, part game, part art installation and part therapy,

whereby players travel through an undersea world, controlling their movement and the ambient lighting with their breath as they glide across the seascape. Players view their surroundings using an Oculus Rift headset, but they interact with them using a custom controller strapped around their chest. DEEP VR was an awards finalist at this year's A MAZE in Berlin and at EGX Rezzed in London.

"I developed DEEP for myself, to help my meditation and breathing exercises, because I have suffered from anxiety and depression. But other people have really connected with it," says 35-year-old Harris. "At the moment, I am grant aided by the Dutch Government, and DEEP is being used in the Netherlands to help teenagers who suffer from anxiety, depression or anger management issues. Our first scientific review has validated some of our claims and the philosophy behind what we are doing.



I am also working with Cambridge University and Cancer Research UK to develop a VR project to help medical practitioners better understand the patient's perspective and the disease."

In Waterford, Immersive VR Education is celebrating winning a fourth award for Apollo 11, a VR experience, viewable on the Oculus Rift, the HTC Vive and the PlayStation VR. "The one I am most proud of is the best film/best interactive story award at the first Vision Summit, which is the VR equivalent of the Oscars," says Whelan. "Most VR titles are based on fantasy, so we were helped by the fact that Apollo 11 is based on a real story, using archive material. You see what it was like to sit on top of the rocket or walk on the moon; you hear Neil and Buzz talking to you in the headphones."

In its first two months on release, Apollo 11 grossed US\$200,000 and was the second biggest selling VR entertainment title of all time. (Currently, it is ranked sixth.)

### VR for education

Employing six people and recruiting six more this year, Immersive VR Education has also developed a VR simulation of a chest drain insertion for the Royal College of Surgeons to help train and test students. "Previously, the test was a series of multiplechoice questions written out on five or six pages," says Whelan. "We've provided a VR experience for the Samsung Gear VR that is immersive. If a student makes a mistake, the patient in front of them dies." It was made available as a free download online less than a month ago and was downloaded 40,000 times in the first two weeks.

Whelan was a web developer before he entered the world of VR. "I ran a review website for VR titles," he said. "That got me in touch with a lot of VR developers in Silicon Valley, and I pitched the idea of Apollo 11 to one of them. That is how we got started. Now we are looking at developing Lecture VR, a platform that allows online lectures to be accessed in a more engaging way. Currently, only 16 per cent of participants complete the average online course – we believe VR lectures can help reduce the dropout rate."



TSSG CEO, BARRY DOWNES

Immersive VR Education is a spinout from the Telecommunications Software & Systems Group (TSSG) at Waterford Institute of Technology. TSSG CEO Barry Downes reckons there are 'enormous opportunities' for Irish enterprises in the VR and AR space, particularly AR.

VR market activity is mushrooming – CCS Insights predicts that VR headsets and smartglasses will hit 15 million units this year and 97 million by 2020. Meanwhile, Digi-Capital reckons that AR/VR revenue from hardware and software could be as high as US\$150bn by 2020. Notably, it predicts AR will take the lion's share at US\$120bn, with VR taking US\$30bn.

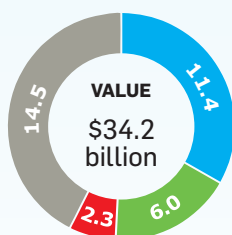
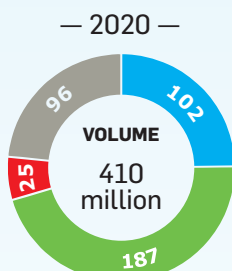
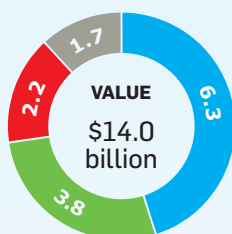
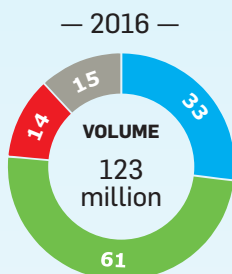
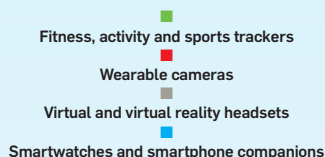
### Non-identical twins

VR and AR are like non-identical twins, inevitably bundled together, but with their own distinct personalities and character traits. Virtual reality is the easiest to explain – it's a computer-generated simulation of a three-dimensional image or environment that can be interacted with in a seemingly real or physical way. Augmented reality is where a real world view, via smartglasses, a smartphone or a table, is supplemented with computer-generated output in the form of text, sound, graphics or video.

"TechCrunch claimed that the Netherlands was a hotbed of AR/VR activity because there were 30 companies there. At TSSG, we are in the process of publishing a map of AR/VR in Ireland, and, so far, we have listed 42 companies."



## GLOBAL WEARABLES FORECAST, 2016-2020



Source: CSS Insight

Using a VR headset is described as an immersive experience, but perhaps 'submersive' is a more accurate description. The real world is completely blocked out from view: When Facebook CEO Mark Zuckerberg walked through a crowded conference room at this year's Mobile World Expo in Barcelona, he was completely unnoticed because everyone was wearing a Samsung VR headset.

Don't knock that profoundly immersive quality, says Nikki Lannen, CEO of Dublin-based games developer WarDucks, creator of Sneaky Bears. "VR is brilliant for shutting out the aeroplane environment when you are travelling to New York."

"VR is for media, games, experiences and education," says Downes. "It won't be too long, for example, before we are using VR to view premiership football via 360-degree cameras positioned at the best seats in the stadium."

"But AR has a whole load of possibilities for enterprise applications in all kinds of companies, companies that aren't IT enterprises, but that use IT in their daily operations. We're already working on an AR project for the banking and financial services sector."

"Recently, TechCrunch claimed that the Netherlands was a hotbed of AR/VR activity because there were 30 companies involved in that space there. At TSSG, we are in the process of publishing a map of AR/VR in Ireland, and, so far, we have listed 42 Irish companies in this sector. Companies like ZolkC that are producing AR apps for mobiles for use at tourism sites in Ireland, the UK and Canada."

"One of the reasons that AR is going to take off more rapidly is that it is often accessed on a mobile, and almost everyone has a smartphone these days. All the major players are investing in headsets and smartglasses."

## Processing power for the AR/VR revolution

One of Ireland's leading players in the VR space, Enterprise Ireland client company Movidius, is set to double its staff over the next 18 months.

Founded in Dublin in 2006, but now headquartered in California, as a semiconductor designer Movidius developed the world's first low-powered vision processing unit (VPU), the Myriad 2, which is suitable for a wide range of applications, including VR and AR.

"Long term, we are extremely bullish on AR and VR," said Movidius marketing director Jack Dashwood. "They have the potential to become ubiquitous computing platforms in the way that smartphones have become today. We are very much involved in this space. That said, as a company, we are diversified across a number of verticals making use of advanced visual intelligence, including drones, smart cameras and IoT [internet-of-things] sensors."

"When it comes to AR, we've had some interesting

applications on smartphones for a number of years now, but I think true immersive AR needs to be in front of the eyes. Display technology will become better and more compact, while Movidius is doing its part by making the sensing side as low-power and compact as possible. Seamless AR may very soon lead to a successful implementation of 'natural computing' where information is seamlessly woven into the real world, when and where we need it, and where the information is hidden when we don't. Once we nail the natural computing interface, we believe that this technology has the potential to supplant the smartphone."

For the last two years, Google has been using Myriad chips at the heart of its Project Tango initiative, which is aimed at giving phones and tablets a sense of space and 3D orientation. Word on the street is that Google will also be using Myriad in its VR headsets but Dashwood would only say: "We have a business relationship with

Google, but we don't disclose exactly what is being worked on."

Last year, Movidius raised \$40m in funding to accelerate the uptake of vision sensing using its semiconductors. Currently, the company employs 135 people. "We are growing as fast as we reasonably can," said Dashwood. "It's always a balance of scaling up while getting the right people. We would not be surprised to be roughly double our staff 18 months from now. We're actively looking for top talent, but we're also looking at growing more junior engineers from various disciplines to be experts in our rather unique technology."

"As for revenue, we're not able to disclose exact numbers right now, but we did roughly 10x our 2014 numbers last year, and we expect similar levels of growth for 2016."







There is the Microsoft HoloLens. Google is expected to launch an enterprise version of Google Glass, and everyone is waiting to see what Apple is going to do. They have a number of patents in this area."

### The patent race is on

Indeed, the patent race is on, with tech giants investing heavily in anything they think will give them a lead. The best known example is probably Magic Leap, which is developing a head-mounted virtual retinal display that can superimpose 3D computer-generated imagery over real-world objects. It has yet to bring a product to market, but Magic Leap has already taken US\$1.3Bn from investors, including US\$540 million from Google. Last year, Google bought TCD spinout company Thrive Audio to gain ownership of technology that makes headset audio playback sound more realistic.

"It really is the Wild West," says Whelan. "If you have a great idea for VR, now is the time to set up a business." Harris agrees: "Now is the time to be working in this space, while things are still shaking out. There are opportunities now before things start to calcify."

This technology will become ubiquitous, says Whelan pointing to Samsung's decision to give away more than 300,000 Gear VR headsets with S-series smartphones. "Soon, you will get a VR headset as standard whenever you upgrade your mobile phone," he says. "In fact, most VR headsets are basically the sensor elements in a mobile phone re-combined."

That said, some are more sophisticated than others. While the Oculus Rift and the HTC Vive cost several hundred euro, Google Cardboard is literally that: a headset made from cut-out cardboard into which you slot a mobile phone.

At this year's AR VR Innovate conference in Croke Park (see panel), several commentators claimed that headsets and smartglasses would supersede the smartphone, but Harris believes that there are physical limits to the growth in the popularity of VR. "The problem with VR is that a lot of it requires quite a bit of space, so that when you move around, you are not bumping into walls or furniture, and that is quite difficult if you are living in a place like Dublin or in most city centres. I don't think VR will be as ubiquitous as mobile phones, but they

## Reality check on enterprise at applications

Cian Molloy was at the AR VR Innovate conference in Croke Park this April to survey the virtual lie of the land.



"AR/VR is already saving online retailers money because it is helping customers get an idea of how a particular garment might look on them, so the returns rate is much lower and returns are a major cost," Matthew Duke-Wooley of Beecham Research told delegates. "Surgeons are using VR glasses to superimpose scans on to patients' bodies to better understand what they are looking at. The solution pays for itself the very first time a surgeon doesn't have to leave the theatre to go back for his notes, such is the cost of running a theatre today."

Outside the conference hall, a more mundane time-saver was being showcased by Samsung: with estate agents Sherry FitzGerald, you can now take a virtual tour of a property to see if you fancy it.

AR solutions help customers 'see before they buy', explained Leigh Davidson of Cimagine a company that has developed an app allowing users to see how a virtual 3D model would fit in the real world. Using the app, Shop Direct (Littlewoods) and John Lewis customers can view how a piece of furniture will look in their own home and whether it will fit.

"AR is the industrial revolution 4.0," claimed Regan Wynn of DAQRI, who discussed his firm's DAQRI Smart Helmet

for the construction industry. "It is not a consumer item," he said. "The nearest equivalent is a hard hat and safety glasses."

Smart Helmets are providing a good return on investment, he said, firstly, because users have almost instant access to technical data and, secondly, because the inbuilt camera can be used to detect hidden problems.

"Smartglasses will overtake smartphones as the mobile internet enabled device of choice in the very near future," predicted Scott Hope of ARExM, a provider of smartglasses. But Vincent Gibson of DIT said: "I have been researching the use of building information modelling in the construction industry, and I find there that the overall preference is for a handheld viewing device – it is the one way of ensuring that everyone, client, contractor and architect, has the same view of a project."

Another option was showcased by Professor Jennifer White of Imperial College London, the 3D-MOVE or 3D Mobile Visualisation Environment. Essentially a small, roofless, three-walled room, made from fabric and a frame, and fitted with 3D projectors, it allows construction professionals to view 3D models at a 1-to-1 ratio and is already being used on the Crossrail project in London.

could be as ubiquitous as printers – something that not everyone has, but most people do."

Warducks' Nikki Lannen, who organises an Irish VR Meet-Up once every two months, agrees. "I think VR is going to be massive," she told *The Market*. "But it will be another platform alongside the mobile and the tablet. Because of this, we will be developing multi-platform games – not all of them will be for VR, not all for the desktop."

"It really is the Wild West. If you have a great idea for VR, now is the time to set up a business."

This month's gadgets highlight the value of good ergonomics and a user-friendly interface. [Ian Campbell](#) puts them to the test.

# Smarter by design



## Sony FDR-AXP33 camcorder

€1,100

**T**he main calling card of the AXP33 appears to be its XAVC S recording format, a consumer version of 4K, which is revolutionising the broadcast industry. This incarnation is capable of catching 3,840×2,160 resolution at either 24 or 25 frames per second, but the catch is that you'll need an expensive 4K monitor to see the optimum results. It's a moot point as to how useful this will be to most folks. I was happy to stick with 1080p video at 50fps and use up less space on my SD card.

Either way, you get rich and detailed images, a huge leap in terms of dynamic range and resolution compared to the video quality on camera phones. For the wannabe videographer, it's a great starting point with simple point-and-shoot functionality is supplemented by manual overrides. The flip-out touchscreen viewfinder is where you access your controls, as well as monitor and review footage. A nice touch is the projector feature that lets you beam the image to a wall for instant sharing.

The variable speed zoom lever is a tad fiddly to master, but it's a small niggle on a well-designed camcorder.

## Panasonic LUMIX DMC-TZ100

€749

**D**espite all the cutting-edge features, there's something reassuringly old school about the TZ100's metal body and robust build quality. You don't get the sense of any corners cut with a Panasonic compact travel camera that captures wonderful, natural colours with the help of a 1-inch sensor and 10x zoom.

There's an electronic viewfinder, but it's very small with a fiddly focus wheel that soon had me opting for the 3-inch LCD on the back of the camera. Shame that it's fixed in position, but the image quality was excellent.

Much is made of a 4K video capability that has dubious value if you don't have a 4K monitor (see Sony camcorder review), except Panasonic has come up with an impressive use case with Post Focus. Shoot a clip in 4K, then select the element of the picture you want in sharp focus and watch the depth of field magically shift. Very clever.

Competing compacts may have bigger zooms, but you'd be hard pushed to find better picture quality, thanks to the bigger sensor and its ability to capture more light.



## Samsung S7 Edge

€850 SIM-free

**W**ith a powerful combination of design aesthetics, performance and features, the Samsung Galaxy S7 and S7 Edge will take their place at the top table of smartphones in 2016. The Edge, in particular, exemplifies the first – a sloping fascia and chic metal chassis make it the most attractive smartphone on the market.

But it's not just looks. Under the bonnet, a whippet-fast eight-core processor and 4GB of RAM make light work of multi-tasking without impacting on performance. The 5.5-inch AMOLED display, a tad bigger than the 5.1-inch screen on the S7, is gorgeous, quad-HD apparently (2560x1440 resolution) and superbly vivid.

Another 'best-yet' claim might be made for the camera. The rear is 12MP, but picture quality is as much about the lens and the sensor as the pixels. Samsung claim its 'dual pixel' technology delivers brighter, sharper images, even in low light. It's true that it rarely struggles, and the focus will lock on to subjects even in dim-lit rooms. Shortcuts to selfies and a panorama mode add to its camera credentials.

The S7 phones also see Samsung reinstate a microSD slot, supplementing the onboard 32GB of storage with cards that can take up to 200GB. All up, it's a premium smartphone that covers every base effectively and still manages to look fab.



Under the bonnet, a whippet-fast eight-core processor and 4GB of RAM make light work of multi-tasking without impacting on performance.

Credit to Samsung for devising a mobile phone VR experience that is ergonomically excellent and well thought through.



## Samsung Gear VR

€99

**S**amsung's latest foray into a wireless virtual reality kit is a fun smartphone accessory supported by a growing number of games and apps. Though it doesn't deliver the high-resolution PC experience that Oculus Rift and HTC will be touting this year, or match PlayStation's imminent VR games, it does deliver Oculus technology on a budget, just €100 for the headset. The caveat is that it only works with premium phones, the S7 and S7 Edge.

Credit to Samsung for devising a mobile phone VR experience that is ergonomically excellent and well thought through. The S7 attaches to the visor with a reassuring click, and it's surprisingly comfortable to wear, thanks to straps that runs across the top of your head as well as the back.

Download the Oculus app to your phone, and you're off, with the built-in gyroscope and accelerometer changing the view when you turn your head. Having learnt the basics and adjusted the focus with a wheel on top of the visor, you're ready to explore a growing range of content.

The library includes a mixture of games and video, but the hard fact is that the image resolution isn't great. Fun and compelling for sure, but I suspect the visual experience will need to step up if Samsung's wireless version of VR is to be more than a gimmick. Even then, the curse of 3D TV might prevail if people aren't prepared to wear glasses/headsets in the pursuit of home entertainment.





# Amsterdam

Considered an 'alpha world' city, Amsterdam is the commercial capital of the Netherlands and one of Europe's primary financial centres. Many significant Dutch institutions – some among the world's largest companies – are headquartered here (including Spar, Heineken, Amstel, Elsevier, AkzoNobel, ABN AMRO, KPMG, Ahold, ING and Philips). The city centre is home to several compact business areas, but Amsterdam's key commercial district is Zuidas, which rivals Canary Wharf (London) and La Defense (Paris), with over 700 businesses. Further good news for business travellers? The cost of overnight accommodation has fallen with a surplus of city centre hotels.

## FROM THE AIRPORT TO THE CITY

Schiphol Airport is located 18km southwest of Amsterdam. Trains to and from the city's Central Station operate every 10 to 15 minutes, and ticket machines (with English-language options) accept the standard international credit cards. Tip: unless you are a day-tripper, don't buy return trip tickets, as they are valid only for same-day travel. The Amsterdam Airport Express bus departs every ten minutes (7am-6pm) and every 15 minutes before 7am and after 6pm. If you prefer to travel by taxi, be advised/warned that Amsterdam's taxis are among the most expensive in Europe.

## EAT/DRINK

**Lunch:** Goodies, Huidenstraat 9, is a much frequented stop off for a snack. We're designating it for lunch, but to be honest it serves up terrific food at any time of the day. Lunch options include sandwiches and salads (with mostly organic ingredients), but if you're wandering around in the evening, its tapas-style starter menu won't disappoint. [www.goforthegoodies.nl](http://www.goforthegoodies.nl)

**Dinner:** If you're looking for a traditional Dutch restaurant with the kind of ambience that makes you feel good, then you've just walked into La Falote, Roelof Hartstraat 26. Located in the Museum Quarter, the food is seasonal and traditionally prepared. [www.lafalote.nl](http://www.lafalote.nl)

**Bar:** Don't mind that this 18th century pub, located at Egelantiersgracht 12, goes by the name of Café 't Smalle – it's actually one of Amsterdam's most charming 'brown' bars. As well as an al fresco waterside terrace, check out its interior wood panelling, mezzanine bar and head-spinning spiral staircase. [www.t-smalle.nl](http://www.t-smalle.nl)

**Café:** Latei, Zeedijk 143, is an eatery with a difference – it combines the innate charm and chic of a second-hand shop with the functionality of a café. Yes, it's true – after your coffee and cake, you can buy pretty much anything that isn't nailed down. [www.latei.net](http://www.latei.net)

## NOT TO MISS

Most visitors know how to negotiate Amsterdam's main tourist spots and attractions, but did you know that the city is host to one of the most 'secret' gardens in Europe? The Begijnhof, a sheltered garden/courtyard where noise levels are kept to a minimum, was originally a sanctuary for the religious sisterhood of the Beguines. It remains private property, which means that tour groups are not allowed (officially). The people most welcomed are those who will respectfully and quietly gaze in wonder at the courtyard's houses, one of which dates back to 1420. Begijnhof 30, 1012 RM Amsterdam [www.begijnhofamsterdam.nl](http://www.begijnhofamsterdam.nl)

*Find out more;*

[www.amsterdamcitytours.com](http://www.amsterdamcitytours.com) / [www.iamsterdam.com](http://www.iamsterdam.com) / [www.amsterdam.info](http://www.amsterdam.info)

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