



Creative Industries Report

Part 1: The Creative Economies

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Written by Nic Wistreich
Hello Ideas
for Sponge It and Honeycomb

Introduction

The advent of the digital economy has created as many problems as it has solved. For the creative company looking to establish, stabilise and grow in this area there are significant challenges: piracy; competition for users and their attention in the face of social and new media; consolidation – such as the shift of the ‘Big Six’ record majors into a ‘Big Three’ – and the dominating effect of web giants; and a myriad of largely untested new business models and strategies to choose from in an attempt to try and stay afloat. On the other hand, access to tools, markets, skills acquisition, talent networks and global sales – the drivers of business success – has never been cheaper or easier.

Traditional power centres such as London and New York are loosening their grip in a networked economy where Calvin Harris can record and release his first album from Dumfries on MySpace, and become the world’s highest paid DJ barely seven years later – or where Markus Persson in his evenings in Sweden could create what would become the world’s best-selling independent game of all time, *Minecraft*.

For rural and regional economies outside of the major cities, this networked shift offers great potential – as they are able to offer lower living and overhead costs and often a higher quality of life. But with greater distances between companies and suitable talent there’s a strong need for regional networks to foster and support collaboration, knowledge-sharing, training, joint-tendering and skills-exchanges. In preparing this report it’s been clear that the existence of such networks allows many small and medium-sized enterprises (SMEs) to gain a collective power greater than the sum of their parts.

In this study for Honeycomb, a network and EU-funded initiative working across the Republic of Ireland, the West of Scotland and Northern Ireland, we explore the digital and creative economies. In this first part, after taking a broad look at the sector as a whole, we examine both local and international trends for companies working in animation, film/TV, interactive content, video games and music, supported by detailed surveys with companies working in those sectors across the Honeycomb regions. In the second report we look at digital advertising and branded content, and the market for creative digital content from smaller providers across large businesses, advertising agencies, tourism, healthcare and education, with research on how best to approach companies.

The mixture of strengths and challenges in the digital economy is an operating condition of doing business today – and the successful companies are those with business models that work with the challenges as much as the strengths, rather than trying to shoehorn a twentieth-century business model into a new environment. Being connected to a global networked economy brings with it greater competition than ever before – not least from the developing world – which is why the companies able to leverage their creativity digitally for a world market that’s hungry for good ideas, stories and content, have great potential.

The Creative Economy

As western economies emerge from crippling recessions, the creative economy is a sector that's proven resilient against outsourcing, automation and falling demand. Unlike the 'knowledge economy', pitched during the first web boom in the late nineties as the West's answer to declining manufacturing and industry, for the creative economy "it is not enough to store, process or analyse information, it must be creatively transformed into something new and valuable" (Mark McGuinness).

The creative economy is broadly defined as an area that covers key areas of advertising, architecture, art and antiques, crafts, design, designer fashion, film, interactive entertainment, libraries and museums, music, performing arts, publishing, software and computer services, TV, video and radio.

- ✦ In the UK in 2013, the creative industry grew 10% year-on-year to make a £77bn contribution to GDP, employing 1.7m people (5.6% of jobs) and some 8.8% of total service exports – an amount worth £17.3bn. The creative industries accounted for 1 in 18 (5.6%) of all jobs in the UK in 2013 – a level that ranges from 1 in 20 jobs in Northern Ireland (5.3%) to 1 in 9 jobs (11.4%) in London. Almost a third (30.3%) of creative industries jobs are based in London.
- ✦ In Ireland, DKM Consultants put the value of the cultural and creative sector in 2009 at €11.8bn, or 7.6% of GDP. Employment is estimated at 170,000 or 8.7% of total employment.
- ✦ In 2006 in Scotland, turnover for the creative sector was £5.1bn, employing over 163,000 people, 6.3% of the population as a whole.
- ✦ In Northern Ireland – home to over 250 media production companies – the creative industries contribute £330m to the local economy and employs over 43,000 people, 5.3% of the population.

Globally the creative sector is estimated at around \$1.3 trillion according to the United Nations Conference on Trade and Development (UNCTAD), with annual growth rates between 5% and 20% in different countries. Between 2011 and 2014, employment in the UK within the creative industries grew at five times the rate of the wider economy, with employment up 10% in the period – while growth of over 20% was seen within the East of England, the East Midlands, the West Midlands and Yorkshire and Humberside.

As well as high growth rates, the creative sector is resilient against automation, where work is replaced by software or machines. NESTA found that 87% of highly creative workers are at low or no risk of automation, compared with 40% of jobs in the UK workforce as a whole.

“Beneath the surface, unnoticed by many, an even deeper force [is] at work – the rise of creativity as a fundamental economic driver, and the rise of a new social class, the Creative Class... The creative individual is no longer viewed as an iconoclast. He –or she – is the new mainstream.”

– Richard Florida, *The Rise of the Creative Class*

The digital transformation

The UK and Ireland are both highly advanced digital economies, with widespread broadband, tablet use and smartphone adoption.

Ireland enjoys some of the fastest broadband speeds in the world with 79% of the population online. According to We Are Social's [annual world review](#), 50% of the population are regular Facebook users and 71% of the population have some social media presence. Internet users spend an average 3 hours 40 minutes online a day on a desktop or laptop; while mobile Internet users spend almost 2 hours on average using the Internet on their phones. Furthermore, 57% of the population have a smartphone, 44% of whom have purchased an app with it (Google Mobile Survey).

“[Steve Jobs] knew the best way to create value in the twenty-first century was to connect creativity with technology, so he built a company where leaps of the imagination were combined with remarkable feats of engineering”

– Walter Isaacson, *Steve Jobs*

In the UK, Internet usage is at 87%, with users spending an average of over 4 hours a day online on a desktop or laptop, against 1 hour 34 minutes on a mobile. Around half of that time is spent on social networks: 85% of the population have a social media presence, with 51% regularly on Facebook.

The UK government's definition of the 'digital economy' is split into two areas: 'information and communications technology' – such as software and hardware – and 'digital content'. Digital content, which forms the basis of this report, was broken down by the Centre for International Economics in 2005 of having three types: *core* content industries where the output is digital (such as videos or e-books), *embedded* content industries, where digital content is an input into offline products (such as the use of computer-aided design in architecture) and *distributors* of digital content.

The UK was [found in 2012 by Boston Consulting Group](#) to be the most advanced Internet economy in the G20, with 8.3% of 2010 GDP – or \$2.3tn – coming from the Internet. This compares with 4.7% in the US, 4.1% G20 average and 3.8% EU average (Ireland figures were not provided). The UK, similarly, has the highest proportion of online retail sales, at £104bn in 2014 – approximately a quarter of overall retail sales.

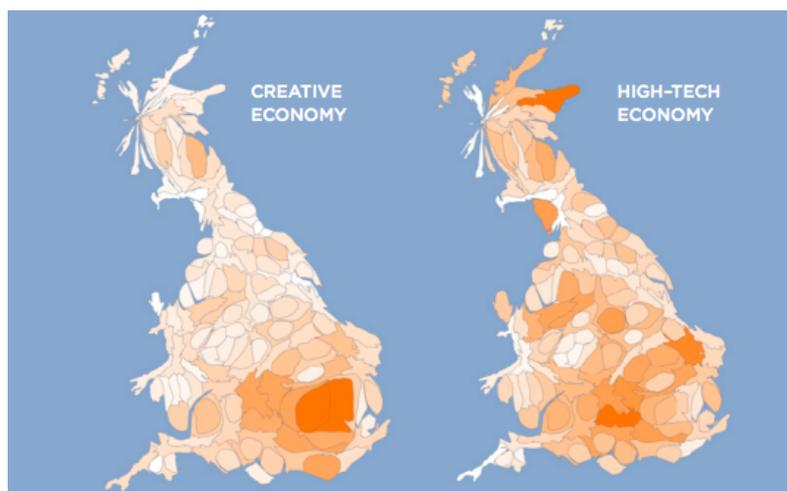
Internet benchmarks for Ireland, UK & World.

	Ireland	UK	World
Average broadband speed	13.9 Mb/s	10.7 Mb/s	3.9 Mb/s
World speed ranking	7	17	-
Number of Internet users (2012)	3.73m	54.86m	2,769m
Internet use penetration	79%	87%	39%
Internet use world ranking	34	14	-
Number of fixed broadband subscriptions	1.07m	22.6m	695m (est.)
Number of mobile broadband subscriptions	3.03m	45.42m	2,095m (est.)
Mobile broadband penetration (world ranking)	64.2 (19th)	72% (14th)	29.5%

Sources: Akami; [International Telecommunications Union](#); Ofcom

Regional shifts

One of the key benefits of the digital economy is the redistribution of economic power from traditional centres to anyone connected to the digital network. While the UK creative sector, for instance, is hugely concentrated around London and the South East – and in turn around Soho in London – the high-tech and digital sector spreads more evenly from south to north, as NESTA illustrated in their 2015 report, *The Creative Economy and the Future of Employment*.



Their visualization (on the right)

shows the difference in economic activity for both the creative and high-tech sectors – a larger region and darker colour indicates a higher concentration of jobs in each sector.

This is why clusters, knowledge centres, and regional and local networks are key to further distributing economic and cultural power. Projects such as Honeycomb support the creation of these structures, which in turn allow a breadth of companies with different skills (for instance across design, development, intellectual property (IP) protection, financing and public relations) to better collaborate on projects, tenders and new ventures as well as share skills and expertise. While such companies may be spread across multiple cities, towns and rural locations in a region, such network hubs are a step towards creating the networks that easily exist at, for instance, the members' clubs and restaurants of Soho in London – where a large number of deals and new connections are made.

Internet usage across UK and Ireland

UK (2014)	Internet users	Never used	Ireland (2014)	Internet users	Never used
London	90%	10%	Dublin	90%	10%
South East	90%	10%	Mid-East	85%	15%
East of England	89%	11%	State	84%	16%
South West	89%	11%	Mid-West	84%	16%
Scotland	87%	13%	Midland	81%	19%
North West	86%	14%	South West	80%	20%
Yorkshire & Humber	86%	14%	South East	80%	20%
East Midlands	86%	14%	West	80%	20%
West Midlands	85%	15%	Border	78%	22%
Wales	85%	15%			
North East	84%	16%			
Northern Ireland	80%	20%			

Sources: *Central Statistics Office (Ireland), Office for National Statistics (UK)*

Of course, Internet skills, access and broadband speeds vary across the country, as the above chart illustrates. Lower demand for Internet access in turn impacts where telecoms companies prioritise their infrastructure investment, inevitably prioritising areas with greater demand. A quarter of businesses surveyed by the Federation for Small Business – who have focussed on provision of better regional and local broadband – said that Internet access problems had cost their company over £1,000 in the previous 12 months. In addition, 49% of rural business were dissatisfied with their service and a huge 94% viewed reliable broadband as critical to the success of their business. The speed between cities and rural areas can vary by a factor of up to three – Ofcom found an average of 11.3 Mb/s rural average against 31 Mb/s in large towns and cities.

This is why government schemes to support rural and regional broadband are so important. In Ireland a National Broadband Plan was first unveiled by Pat Rabbitte in 2012 with an aim to deliver a minimum 30 Mb/s broadband to the whole country, initially for 2015, but later a target was set for 2020 with a €500m investment. Meanwhile, the Digital Scotland Superfast Broadband programme is one of the largest rural broadband connectivity schemes in Europe with funding from a range of sources to support connectivity, firstly in the Highlands and Islands and, secondly, across the rest of Scotland. Superfast broadband is typically fibre-optic based enabling download speeds of up to 80 Mb/s and upload of 20 Mb/s.

Across the whole of the UK, the Superfast Broadband Programme over three phases seeks to make superfast broadband available to 95% of the UK (including the same target for Scotland) by 2017, and 90% by 2016. In addition, the Super Connected Cities scheme runs across the UK and offers SMEs in 50 cities grants of up to £3,000 to cover installation costs associated with connecting to super fast and ultrafast broadband – delivered on a first-come first-served basis.

Skills shortages

The majority of creative companies surveyed for this report identified technical skills shortages. Different reports have highlighted the problem with ICT (information communication technologies) skills shortages in Ireland (Severe ICT skills shortage); Northern Ireland (ICT skills shortages hamper NI Companies Growth); Scotland (Scotland's IT Skills Shortage needs to be addressed); and across the UK (IT skills shortage still tops the technical agenda).

In 2014 the Scottish Government launched a £6.6m Digital Skills Investment Plan, while somewhat similar plans for creative skills have been launched in the rest of the UK. There has been much analysis of ICT skills shortfalls in Northern Ireland, and in 2014 sector body Momentum produced a Digital Action Plan with government support, looking to improve access and provision. Looking wider across Europe, the Grand Coalition for Digital Jobs is an EU scheme launched in June 2013 to tackle the huge lack of digital skills in Europe and deal with the huge number of unfilled ICT-related vacancies, which they recognised as:

- ✦ An estimated shortfall of 900,000 IT professionals by 2015
- ✦ A declining number of computer science graduates.

The coalition has proposed actions to improve the image and attractiveness of computing careers, provide training packages co-designed with the industry, improve alignment of third level degrees and curricula with industry needs, and improve recognition of qualifications across the EU.

The other core skills shortages highlighted, especially by the companies commissioning and buying content, is business acumen – including fair pricing, cost-control and budget management, presentation and marketing. A number of creative companies highlighted this as well.

Creative Sectors & Businesses

Animation

The Irish success story

Ireland's links with animation go back far – much of the Disney family came to America from Ireland, and the late heir of Disney and nephew of Walt, Roy Disney, kept a home in Cork, spending 3–4 months a year there. Today, the Irish animation sector is a global success story experiencing high growth and acting as a key driver of Ireland's digital and creative economy. While some of the success can be attributed to the long-standing availability of tax incentives for TV production (the UK only started offering them in 2013), the sector started to emerge globally with the creation of the American-Irish Sullivan Bluth Studios in Dublin in the early eighties. Attracted by tax and government incentives, the studio – in partnership with Steven Spielberg's Amblin Entertainment – moved from California, producing features including *An American Tail* (1986), *The Land Before Time* (1988) and *All Dogs Go to Heaven* (1989), before bankruptcy forced it to close in 1995. However the studio had established strong training networks with animation courses and colleges. A new boost came in 1997, when Section 481 was introduced, offering generous tax rebates for feature film and television production. In January 2015 this rose to 32% of eligible Irish expenditure from 28% with more flexible criteria – one of the highest in the world.

“[In the 90s] we had almost 500 staff, 40,000 sq feet, six floors and people walking with trolleys stacked higher than the height of two people distributing scenes. If that studio was around today, it would have 80 people in about 4,000 sq feet and everything would be digital. It just transformed the way we work and how everything operates. It's the biggest contributing factor to where we are today.”

- Gerard O'Rourke, on the Sullivan Bluth Studios.

The sector in Ireland employs at least 1,000 people and is worth €78m according to PricewaterhouseCoopers (PwC), and has attracted a wide range of international broadcasting commissions, including Disney, Nickelodeon, CBBC and Cartoon Network, with work winning global awards and acclaim. There is broad industry-supporting infrastructure including Animation Ireland, a network and industry champion, sponsored by Enterprise Ireland; subsidised training through Animation Skillnet; and the newly inaugurated Irish Animation Awards.

Funding for the sector is available through both Section 481 and direct funding of features and television through the Irish Film Board (IFB). The IFB – with over €13m available in 2014 – has specific funding for both animation development and animated TV production, which is normally expected to reflect Irish culture in some way.

In Scotland, the Scottish Animation Network is a membership body to support networking, promotion, skills and education for anyone working in the sector in Scotland, and receives no government funding. Sylvain Chomet's decision to make his film *The Illusionist* (2006) in Edinburgh provided a boost to the industry, while companies such as Red Kite Animation have long gained international commissions for TV production. Scotland Loves Animation is an annual festival in Glasgow, Dundee and Edinburgh, largely focussed on anime and with a growing international reputation.

Animation across Northern Ireland, Scotland and the rest of the UK is supported in training through Skillset, with the industry-funded Animation UK organisation campaigning for better conditions for UK producers. The sector employs around 5,000 people across the UK, generating some £300m while

feature films from Aardman Studios in Bristol have made \$925m worldwide. UK tax relief was extended to TV production and animation in April 2013, and in April 2015 this was extended further to children's TV programmes. It offers up to 25% on eligible expenditure for productions that pass a cultural test.

Surveyed companies

The eight companies profiled represent a strong cross-section of the Irish animation sector with five companies in Dublin, one in Kilkenny, one in Louth and one in Belfast.

- + Brown Bag Films is one of Europe's biggest animation studios, with a staff of over 160 and offices in Los Angeles and Manchester. Founded in 1994 by Cathal Gaffney and Darragh O'Connell, they've collected three Emmys and two Oscar nominations.
- + Cartoon Saloon works on international TV and feature projects including work with Disney, Cartoon Network and the BBC. Founded by Paul Young, Tomm Moore and Nora Twomey in 1999 their first feature film *Secret of Kells* and its follow up *Song of the Sea* (2014), with a €7.5m budget, were both nominated for an Academy Award.
- + JAM Media was founded in 2002 with their show *Tilly and Friends* (2012–) winning 2015's Irish Film and Television Academy (IFTA) for best animation. They have developed a user-personalisation technology called Head-Hunter.
- + Kavaleer Productions both creates original productions and co-produces with overseas companies looking to access Section 481, with an increasing focus on interactive.
- + Mooshku is a new small company that specialises in children's content across all media – television and interactive.
- + Treehouse Republic produces a range of animated content from advertising to corporate and interactive as well their own production the online game, 'Dragon's Fist'.
- + Wiggleywoo produce original animated series following over €1m in start-up funding in 2013.
- + Zinc Films are a CGI studio working across commercials, concept art and modelling, with a range of blue chip clients.

Region focus

Regional focus typically varies depending on the company size – the smallest companies focus almost entirely on the Republic of Ireland, with the largest having a far greater focus on international markets, particularly North America. For the mid-sized companies in Ireland, the UK makes up a third to half of work.

Sector focus

Companies are focussed on a range of areas. All created original animated content ranging from shorts to feature films, and most worked in TV with around half doing some interactive work as well. Other areas include design, visual effects (VFX), app/phone development, commercials, corporate videos, games, brand engagement, storyboarding, concept art and e-books.

Skills shortages

Across the animation companies surveyed, three quarters specified they required expertise and all of these described it as 'difficult' or 'very difficult' finding staff with the right expertise. The key skills highlighted as being required were:

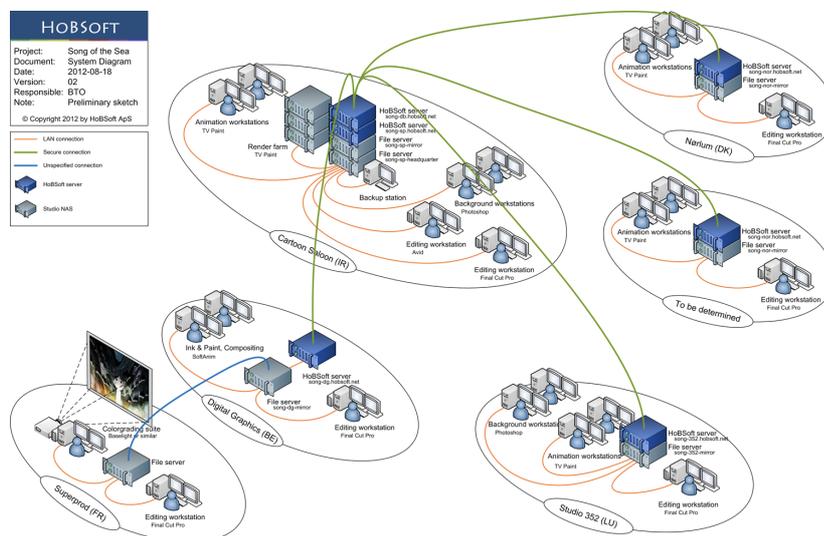
- ✦ Technical
- ✦ Creative – highlighted by two companies
- ✦ Managerial – two companies also indicated shortages here
- ✦ 3D and CGI expertise
- ✦ International sales.

Use of technology

Digital technology has transformed the sector – with a digital production process considerably reducing the cost of producing content.

For Oscar-nominated *Song of the Sea* (2014), **Cartoon Saloon** worked with Danish company **HoBSOft** to create a file management, production pipeline, render-farm and quality control system between the different companies involved (see pictured), who spanned Ireland, Belgium, France and Denmark. Director Tomm Moore, co-founder of Cartoon Saloon, documented the full production process, from development through to award success, [on his blog](#).

JAM Media in Belfast have developed a personalisation technology called **Head-Hunter** that allows users to combine the studio's animation with a photo of their choice and render the result to video, allowing the user to download or share it on social networks.



Film & Television

UK & Ireland attracting international productions

The Irish film and TV production sector is estimated to be worth over €550m, employing over 6,000 people across some 560 SMEs. In 2013, the independent Irish film, TV and animation production sector contributed €168m into the Irish economy through job creation and the spending on local goods and services; an increase of approximately 18% on 2012 figures and 42% on 2011 figures. In 2013, the Irish Film Board funded 16 Irish feature films, 6 creative feature co-productions, 31 feature documentaries, 1 TV drama and 7 animated projects. International TV productions includes major series such as *Penny Dreadful* (2014–), *Vikings* (2013–) and *Ripper Street* (2012–).

In the 12 months ending March 2015, the British Film Institute (BFI) reported that feature film production spending in the UK was £1.438bn from 180 films. The vast majority (£1.285bn) of this was inward investment from overseas companies – the highest level yet – with films such as *Avengers: Age of Ultron* (2015) and *Star Wars Episode VII* (2015). A total of £122.3m was spent on 116 domestic British features, with approximately half (59) budgeted under £500,000 and 57 budgeted at over £500,000. This was the lowest level of production in the UK since 2001, although the figures are expected to be revised upwards over time as more films are registered.

During the same period, some £529.8m was spent on high-end TV production, such as Northern Ireland-shot *Game of Thrones* (2011–) and *Downton Abbey* (2010–2015). This included 49 domestic productions, with a spend of £251.6m and 28 inward-investment/co-productions, with a spend of £278.1m. In 2013, UK TV exports earned £1.28bn, with almost half being from America. Independent TV productions as a whole earned £2.8bn in 2012.

In 2012, more than 70,000 people were employed across UK film and video production, distribution and exhibition. In the same year, there were over 5,000 film production companies and over 2,200 post-production companies, 415 film distributors and 205 exhibitors.

As a whole in the UK, TV, film, radio and photography employed an estimated 239,000 people in 2013. Freelance workers accounted for 45% of this figure and 95% of production companies employed 10 people or fewer. There is a strong geographic bias in the sector – while 28.2% of the UK workforce is based in London and the South East, 67% of film and video production employment is based there.

At the heart of Northern Ireland's film and TV production is Titanic Studios, set in an 8-acre site; a five-minute drive from central Belfast with two purpose-built sound stages, famously used by HBO for all five seasons of *Game of Thrones*. The Linen Mill Film and Television Studios, 30 minutes' drive from Belfast, are built around a 40,000 sq. ft. soft-sound stage.

Scotland has long discussed creating a dedicated film and TV studio and in 2013 the Scottish Government formed a Film Studio Delivery Group, inviting bids to create a studio in Scotland, with a possible private bid currently in discussion. In 2009 the film-specific agency Scottish Screen was merged with the Scottish Arts Council to create Creative Scotland, which published a new strategy for film in 2014. The agency does not include TV production, however, it has attracted a number of high-profile big-budget features including *Under the Skin* (2013), *World War Z* (2013) and *Cloud Atlas* (2012).

“Why is the future so bright? Because for the very first time in the history of the art form, movies really can be made for very little money. This was unheard of when I was growing up, and extremely low budget movies have always been the exception rather than the rule. Now, it is the reverse.”

– Martin Scorsese in a letter to his daughter

Surveyed companies

- ✦ Asylum Pictures, a Scottish film and TV production company founded in 1997.
- ✦ COCO Television produces TV for Irish and international markets.
- ✦ Fever Kid Films, a production company working on its first feature film.
- ✦ Highwind Media, creating corporate videos, virals and web videos.
- ✦ John Kelleher was controller of programmes at RTE and official censor, setting up a production company in 2011 to produce films, TV and digital content.
- ✦ Red Rage Films, founded in 1997, produce high-end commercials, film and TV.
- ✦ Ripple World Films, founded in 2007 with a London office launched in 2010 and a distribution arm in 2013, focussing on features and TV dramas.
- ✦ RTÉ Digital, funded throughout the TV licence fee, are responsible for all digital services for RTÉ, such as RTE.ie, plus on-demand radio and TV services.
- ✦ Screenworks was founded in 2008 to produce drama and documentary for film and TV.
- ✦ Sideline, a major TV production company, founded in 2005.
- ✦ Speers Film has been running for 24 years with success in advertising, TV and feature films as well as offering production services.
- ✦ Spirit Level is a London-based production company who have produced dozens of acclaimed feature documentaries, as well as mobile apps and post-production services.
- ✦ Stop Watch Television produces corporate and online video.
- ✦ Strike Films has two TV commissions in production/development.
- ✦ The Picture House offers production and post services for commercials, short & TV.
- ✦ Whackala makes Irish-Spanish productions focussed on social issues.

Region focus

Thirteen companies are in Ireland with the remainder in Scotland, Belfast and London. While all companies saw their local market as the main priority, the majority also took business from overseas markets – in particular the UK and North America.

Sector focus

Besides film and TV production, companies are also involved with photography, animation, corporate videos, sales/training/instruction videos, social media/web video, virals, production services, post-production services, distribution, sales and apps/games.

Skill shortages

Fewer companies specified skills shortages – but the most commonly referenced shortage was around technology, including innovation, which was referenced by four companies (26%). Three companies mentioned creative skills shortages and two described managerial shortages. Other skill shortfalls include the following areas: commercial and entrepreneurial, legal, sales, digital marketing music, animation and editing.

Video Games

While competitive and fast moving, the games industry has shown consistent growth, with an expected annual compound growth of 8% – set to take the global sector to \$102.9bn by 2017, from \$75.5bn in 2013. There were 1.6bn game players worldwide in 2013; a level boosted with the rise in mobile gaming.

Ireland has a long historical connection with video games – Atari opened a plant in Tipperary in 1979, producing 2,000 arcade boxes a month until 1998. Since 2003 GamesDevelopers.ie has been the online hub for the industry, as long running as the annual [Games Fleadh](#) in Limerick. Demonware was founded in 2003 and produces the multiplayer engine for the ‘Call of Duty’ franchise – in 2007 it was purchased by Activision, who keep studios in Dublin and Cork as does Zynga, Blizzard and King. The country spends around €240m a year on video games.

In NESTA’s 2014 survey of the UK video games sector, 1902 video games companies were found, with iOS (iPhone and iPad) the most popular platform developed for. This represented a yearly growth of 22% since 2011. In this sector 95% of enterprises are micro or small business, with a Gross Value Added (GVA) to the economy estimated by NESTA of £1.72bn in 2014, although other estimates put this at £1bn and Olsberg put it at £755m. At the same time the UK games sector generates £2bn in global sales each year according to Tiga, with the US, China and Japan the top three markets.

Around 12,000 people are employed in games, split between 9,400 in development, 900 in publishing and 1,800 in retail. In an attempt to boost video game investment, games were brought under the UK tax incentives for film, animation and high-end TV production in April 2015. Video game development is more distributed than the film, TV and advertising sector, with 80% of the workforce employed outside of London, according to industry trade body [TIGA](#).

Global gaming regional market share of players and value – 2013

	Number of players – % of total	Market value – %
Asia Pacific	740m – 46%	\$31.9bn – 42%
Europe, Middle East, Africa	520m – 32%	\$18.7bn – 25%
North America	190m – 12%	\$21.9bn – 29%
Latin America	170m – 10%	\$2.9bn – 4%

Source: NewZoo

Scotland is home to Rockstar North, formerly DMA Design, developers of *Lemmings* and the *Grand Theft Auto* franchise, which had collectively sold 150 million units as of September 2013. In its first week *Grand Theft Auto IV* set a new record, selling 6 million copies worldwide and grossing over \$500m. In 2011 the Association for UK Interactive Entertainment (UKI) found Scotland was home to nearly 25% of UK video games companies, with the sector employing 650 developers and a further 1,190 related staff. The [Scottish Games Network](#) provides an online hub for companies in the region.

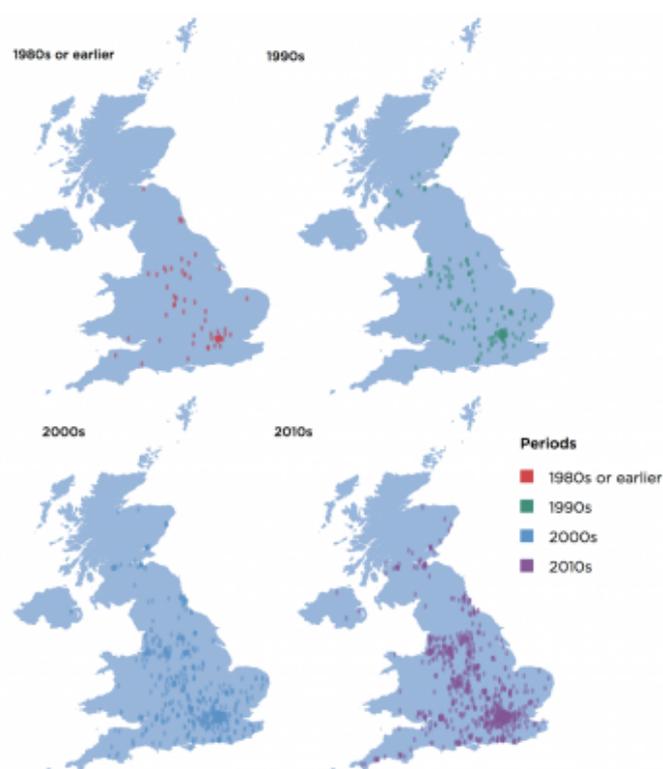
Northern Ireland was home to the leading game developer David Perry, whose games including *Earthworm Jim*, have made of a \$1bn in retail sales. However, when he started writing programmes in

“There was no one offering me any jobs in Belfast. There were no companies that did this, so there was no option but to go elsewhere... [but now] you can develop a game on the iPhone and have that game out in a month. You don't have to spend three years and millions of pounds to find out if people like your stuff, there is more room for experimentation now.”

– David Perry, producer of *Earthworm Jim*, *Terminator* and *Teenage Mutant Ninja Turtles* games

his Templepatrick bedroom there were no jobs, so he left for Los Angeles, where he lives today. Digital Circle is a network of digital companies in Northern Ireland that lists [38 games companies](#) at publication.

UK games companies distribution 1980–2010 (Nesta)



Key video game hubs with a high concentration of companies identified by NESTA include Brighton, Cambridge, Cardiff, Dundee, Edinburgh, Guildford and Aldershot, Liverpool, London, Manchester, Oxford, Sheffield and Rotherham, Warwick, Stratford-upon-Avon.

One of the key emerging trends in game use brought about by the rise in mobile and web/social-media gaming is the shift in gamer demographics. [Populus found in 2014](#) that women made up 52% of Britons who had played a video game in the previous six months, with 69% of the population having played in that same period. Furthermore, 27% of gamers are over 44 years old – with 32% of 65–74 year olds playing within the last six months. This has triggered a debate across the games press about the presentation of women and

gender/identity stereotypes across gaming, traditionally targeted at teenage boys, with web series such as [Tropes in Video Games](#) exploring the subject, with much related discussion.

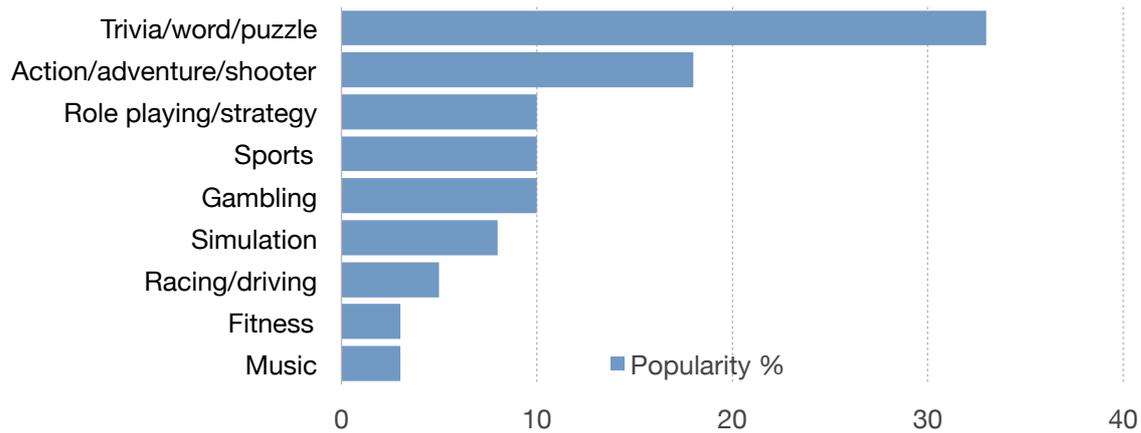
Global gaming device market share of players and value – 2013

	Number of players – % of total gamers	Market value – %
Console with TV	690m – 43%	\$23.6bn – 31%
Massive Multiplayer Online (MMO)	800m – 50%	\$15.4bn – 20%
Mobile phone	1,110m – 69%	\$12.8bn – 17%
Casual web games	1,200m – 75%	\$7.4bn – 10%
PC	960m – 60%	\$7.2bn – 10%
Tablet games	450m – 28%	\$4.8bn – 6%
Handheld console	300m – 19%	\$4.4bn – 6%

Source: NewZoo

The games sector has been quicker than other sectors to adapt to online sales, with the digital sales of games in the UK at £1.5bn – bigger than the combined digital sales of video and music at £1.3bn according to [ERA Entertainment monitor](#). Free apps with the in-app purchase model are the most popular, representing 76% of the revenue share in the UK for apps (Distimo/App Annie). Over half of the £500m UK app market is spent on games (Research2Guidance).

Favourite video game genres, UK 2014, IAB



Surveyed companies

Eighteen companies were surveyed:

- ✦ Atom Split Interactive is a games development company and consultancy working across web, graphic design and branding.
- ✦ Beat Your Manager produces a fantasy football based video game.
- ✦ bitSmith Games' one game, *Kú: Shroud of the Morrigan*, got to number 1 in the Irish iOS App store and won a number of awards.
- ✦ Codemasters was founded in 1989 and is one of the oldest British game studios, starting with the ZX Spectrum and now employing over 500 people across sites in Warwickshire, Birmingham and Kuala Lumpur.
- ✦ Introversion Software was founded in 2001 creating games up to console level, including the recent cult success *Prison Architect*, which has 250,000 players and a \$1.5m turnover.
- ✦ KamaGames produces a range of social games across mobile, steam, Xbox and Playstation reaching over 70 million users worldwide, and best known for online poker and casino games.
- ✦ King Digital, the Swedish company behind *Candy Crush Saga*, had a turnover of \$1.9bn in 2013. With 348 million monthly users, it has offices in a dozen countries.
- ✦ Kuju Entertainment was founded in 1999 and with studios in London and Brighton has produced over 100 video games across all major consoles and PC with studios Headstrong and Zoe Mode dedicated to mass-market games.
- ✦ Lift London is the first European studio to be created by Microsoft Studios for games development, initially as an incubator for indie developers with a focus on free-to-play games.
- ✦ Neon Play was founded in 2010 by a group of experienced developers and has 55 million downloads for its games.
- ✦ Ninja Theory have been making consoles games since founding in 2004 and are working on their first mobile game.
- ✦ Rebellion Developments were established in 1992 and produce games typically with strong film and comic tie-in, from their first major game *Alien vs Predator* for the Atari Jaguar to a *Harry Potter* and *Mission Impossible* games.

- ✦ Rising Star Games is a publisher with a portfolio of over 100 titles across all consoles.
- ✦ Rocket Rainbow is a games studio with a platform based iOS title.
- ✦ SixMinute make games for mobile and social media platforms.
- ✦ Studio Powwow produces cross-over games with animation and offers services across animation, games, transmedia and IP.
- ✦ Sugra Games operates in Ireland and the UK with a focus on mobile devices.
- ✦ Tribal City Interactive is a new company with experience producing games for iOS.

Region focus

All companies sold globally – with a slight bias towards their home-nation market. Nine companies are based in Ireland and nine in the UK (several in both).

Sector focus

Beyond games design, advertising, publishing and software development a number of companies also offer software consulting and quite a few offer animation and VFX services. Rebellion Development has also spread into genre book publishing, film production, card games and role-playing games.

Skill shortages

Games companies can roughly be split into three categories:

- ✦ The smallest, typically founded by developers, seek business support, marketing, PR, financial, sales and management support.
- ✦ Mid-sized companies, with a few successes, seem to be most interested in finding experienced developers and project managers as well as artists.
- ✦ The largest companies specified no required skills – but many have existing requirement processes detailed on their websites.

Some specific skills highlighted – analytic driven marketing, community management, creative marketing, and developers in Node.js and Sencha Touch technologies.

Use of technology

Atom Split Interactive worked in conjunction with Cloudystar to create the Tipper Z retro-fitting stylus, which turns normal pens into touch pens.

Studio Powwow has been working with various animation tools for game development – in particular, Spine and DragonBones. Both of these animation tools use 2D skeletal animation to create texture atlases to animate 2D objects. These can help to create performance-enhanced, resource-friendly animations.

Interactive content

The digital and interactive content sector as a whole benefits from greater regional distribution than traditional creative industries, with over 74% of UK digital companies outside of London. This in turn has created regional specialties and knowledge-centres. Interactive as a term covers a number of areas including web and software development; desktop, phone and tablet application development; digital and social media marketing; e-books; digital signage; e-learning; digital kiosks; software systems and network infrastructure. It often includes games and interactive entertainment but for the purpose of this report these have been dealt with separately.

Given how broad the sector is (potentially including all web sales and e-commerce) – not to mention internal software and ICT – valuations for the sector vary massively. For the number of digital companies, UK Trade and Investment (UKTI) claims there are approximately 100,000 software companies in the UK, while the National Institute of Economic and Social Research (NIESR), adopted a new methodology to find there are at least 270,000 digital companies, with a less conservative figure of 471,000.

Ireland’s Internet Economy in 2014 was valued at €8.4bn, or 5% of GDP. Ireland hosts approximately 5,000 ICT companies and employs an estimated 68,280 people across the sector, although excluding hardware companies just over 10,000 work in software. As home to the European headquarters of Apple, Microsoft, Oracle, Symantec and IBM the Irish software economy has long been massive, with some 60% of software sold in Europe coming from Ireland. The same report, by Irish telecommunications provider, UPC, however, estimated that up to 47,000 Irish SMEs do not have a website and estimated a potential 150,000 ‘jobs dividend’ from a greater effort in Ireland’s digital economy. The Digital Marketing Institute also found shortfalls in digital skills, suggesting marketing professionals’ digital proficiency was 34% lower than the global average.

“London is leading in fintech and ecommerce; Bristol is leading the way in robotics and media tech is flourishing in Manchester; Edinburgh is succeeding in Artificial Intelligence, as is Newcastle in gaming; and Cambridge continues to be a beacon for bioscience and hardware.

– Tech City UK

UK’s 10 most active digital economy areas

Location	No. of companies
London	64,630
Manchester	7,324
Guildford & Aldershot	6,158
Luton & Watford	5,147
Wycombe & Slough	4,979
Birmingham	4,695
Reading & Bracknell	4,914
Bristol	4,714
Crawley	3,867
Brighton	3,730

Source: NIESR

In Britain some 1.46m people – 7.5% of the workforce – work in the digital industries. London dominates less than other sectors, with 74% of digital companies outside of London and a strong clustering of high-tech companies around specific areas, listed in the table to the left.

There are anomalies in terms of ranking between areas with the most digital business, those with the highest digital employment and those with the highest digital turnover. Edinburgh has the fourth highest concentration of digital companies compared to the national average while Belfast has the second highest cluster of digital companies ranked by growth in turnover of new companies formed since 2010 – second only to Manchester with an average growth of 73%. Leeds, for instance, doesn’t feature in the top 10 for most companies, but is fifth highest for employment levels, with 44,951 employed in digital companies. Overall employment is buoyant – and most companies report struggling to find skilled

workers – with over a million digital jobs advertised in the UK in 2014, up 28% on 2013.

Northern Ireland's Science Park has the fastest fibre link to the US in Europe, and Northern Ireland employees 32,000 people in total. Tech City UK's 2015 report identified games development, software development and data management/analytics as the country's most active sectors, with strong capabilities in artificial intelligence, payments infrastructure and mobile/tablet development. Groups such as Digital Circle provide support and networking to companies in the region, while Momentum is the membership body for the sector.

The Scottish ICT and digital sector delivers £3bn to the Scottish economy a year, employing 73,000 professionals. With around 17,000 employed in Edinburgh, it is identified as a tech city with advanced expertise in artificial intelligence (AI), machine learning, data science, financial-tech (fin-tech), and ed-tech. Native start-ups include Skyscanner and Freeagent. Growth for ICT in Scotland in the coming years is estimated by the government to be at 1.9% a year.

There is a sense that some new markets are reaching maturity: e-books grew very quickly at first, yet in 2013 e-book revenue in the US flattened, with an 0.7% decline in earnings over the previous year. However, this stood against a 10.1% rise in the volume of sales to 512.7m – in other words, prices are falling. Globally e-books are valued at between \$11bn and \$14.5bn a year, and, the sector is dominated by micro- and self-publishers with estimates of up to 25% of e-books being self-published.

The market's development varies by territory (and language) – while e-books are estimated to make 1.1% of the total book market in France, in the US it's 13% and in the UK 11.5%. This figure rises to 25% in the UK for trade publishing and as high as 40% in certain genres. Amazon has a 79% share of the market which in turn impacts on pricing – in the UK Amazon takes a 30% royalty on e-books under £9.99/€9.99 and 65% on books over that (Google Play and Apple Books take a fixed 30% fee). Other areas such as web design continue to drive significant revenues – worth \$20.1bn in the US in 2012 alone.

Surveyed companies

- ✦ 15 Eleven Communications, produce web, social media and communications.
- ✦ Artomatix produces a tool for the computer graphics industry to automate digital art creation.
- ✦ BFK Brand over 20 years has helped companies create brands and identities with a number of blue chip clients.
- ✦ Bonfire is a cross-media communications agency with a growing expertise in online advertising and web virals.
- ✦ Brandbank Ireland creates, manages and distributes images and product information for e-commerce, catalogues and point-of-sale for some 250,000 products.
- ✦ Davitt Photography was founded in 2006 and supplies images to leading photographic stock agencies.
- ✦ Digidalo specialises in digital marketing and web development.
- ✦ Informa is a leading global publishing and events company with offices in 43 countries and around 6,500 employees.
- ✦ JB Writing Services is a copywriting company.
- ✦ Mashup Media produce digital content and video for companies with a marketing and social media focus.
- ✦ Mimram Media are social media experts, managing corporate and brand accounts.

- ✦ Nerve Centre is Derry's leading creative media arts centre offering events, courses and production facilities for 120,000 people a year.
- ✦ Parakite are an independent publisher creating cross-platform child-focussed interactive books across smart TVs and mobile devices.
- ✦ Simply Zesty offers digital and social media marketing and technology services.
- ✦ The Swarm is a multimedia agency delivering transmedia strategies, consultancy, games, websites and workshops.
- ✦ Zoo Creative is an ethical design and web company based in Derry.

Region focus

Of the 16 companies surveyed, three are in Northern Ireland, three in England and ten in Ireland.

Most agencies focussed primarily on their national market, with some crossover among the smallest companies with neighbouring countries. Unlike game development, with a strong international focus, only the biggest agencies considered the global market as important as the local one.

Sector focus

While this sector was dominated by companies working in brand, marketing and audience engagement, respondents focussed across many creative areas, in particular photography, design, short video and technical development. Other areas mentioned include content creation, VFX, film, training, research, business publishing, corporate events, consultancy, workshops, copywriting, social media analysis, channel management, blog writing and content curation.

Skill shortages

By far the biggest skills shortages are technical, with respondents specifying the following areas in particular: mobile app development (iOS and android), texture synthesis, machine learning and big data. Sales and managerial skills are also highly sought after, and a number of companies seek creative practitioners. Other skills required included project management, marketing, accounting, customer/user experience, games development, finance and research.

Use of technology

Artomatix have developed a tool to solve the rising costs of art development in the video game and animation industries through the application of machine learning and big data to art creation, allowing the computer take over many time-consuming aspects of creation.

The solution, developed at Trinity College Dublin and Columbia University, fully or partially automates digital art creation, supposedly allowing a single human artist to do the work of a team.

Music

Jeanie Finlay's documentary *The Great Hip Hop Hoax* (2013) tells the story of two Scottish rappers who, after failing to convince record bosses in London to sign them, pretend to be American and get signed to great (albeit short-lived) success. It illustrates the long-standing challenge for musicians and artists outside of London – home to the head offices of the three record majors (Sony Music, Warner Music and Universal Music) who control 89% of the world market. While Scotland, Ireland and English cities such as Manchester, Liverpool, Bristol and Sheffield have long had rich and vibrant indigenous music scenes, the collapse in music industry revenues worldwide has for now strengthened New York and London's dominance in controlling music investment.

This has happened against the consolidation of majors from 'the big six' before Universal bought Polygram in 1998, to the 'big five' until Sony and BMG merged in 2004 and the 'big three' after EMI was bought by Universal in 2012. Against these mergers, the share of the recorded music industry for independent labels fell to a new low in 2013 of 11.42% from 28.3% in 2004, according to the IFPI.

Nevertheless, the emergence of direct digital and self-distribution offers a small new hope of improvement amidst rising digital revenues. After almost two decades of decline, having shrunk every year since a peak of \$26.6bn in 1999, to \$14.97bn in 2014, the global music industry is believed to have finally flattened-out with a fall of just 0.4% over 2013. In 2014, physical sales fell by 8.1% to around \$6.89bn, while downloads declined by 8.0%. However growth in subscription and advertising supported revenues saw digital as a whole up 6.9% to take 46% of global revenues. Paying subscribers of music services hit 41 million, up from 8 million in 2010, with revenue from advertising supported services such as YouTube up 38% in the year as well. Although downloads continue to dominate, with 52% of record company digital revenues in 2014, subscription and ad-supported income now makes up 32% of the total, up from 27% in 2013. Global subscription streaming revenues were up 39% to \$1.57bn and ad-funded income was \$641m. And there are some other areas of growth. While physical sales are falling, vinyl records – responsible for just 2% of global revenues or approximately \$300m – have reversed the trend, growing by a huge 54% last year.

Amidst this generally gloomy picture, there has been an ongoing rise in the income from live music, festivals and touring. When media licensing, ticket fees, ancillary and merchandise are included the global live music industry is estimated to be worth around \$25bn – more than the recorded sector. In 2011 in the UK spending on live music overtook spending on recorded music, rising to £1.6bn according to PRS – up 15% on 2010.

Ireland, Northern Ireland, Scotland and the UK are all significant players in the global music industry.

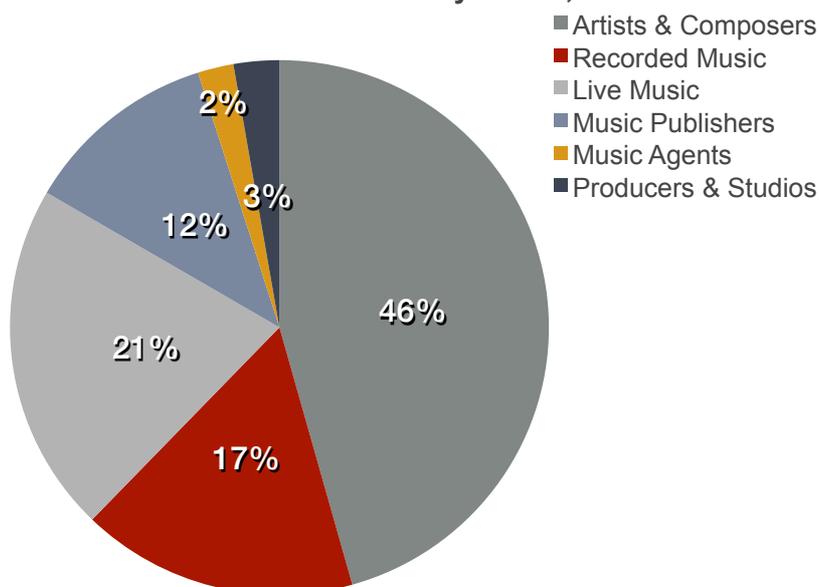
- ✦ The music industry in Ireland directly employs over 9,000 people – and another 2,480 indirectly, while contributing over €470m to the economy according to the Irish Music Rights Organisation (IMRO). As a whole, the Irish music sector bucked the European trend in 2014, growing 8.5% in 2014 but after steady declines – recorded music fell from €72m in 2008 to €33m a year in 2012. IMRO has proposed creating a music office and a music industry task force to further support the sector.
- ✦ In the UK the music industry made a Gross Value Added (GVA) of around £3.8bn to the UK economy in 2013, with £2.2bn in exports and supporting 110,000 jobs. The breakdown of this

“There are a lot of smart people at the music companies. The problem is they're not technology people... When the Internet came along, and Napster came along, they didn't know what to make of it. A lot of these folks didn't use computers - weren't on e-mail... They were pretty doggone slow to react. Matter of fact, they still haven't really reacted. So they're vulnerable to people telling them technical solutions will work – when they won't.”

Steve Jobs, Rolling Stone Magazine, 2003

across different sectors is illustrated in the chart to the right. The retail value of the music industry in the UK – fourth biggest in the world after the US, Japan and Germany – was down 2.8% in 2014 to \$1.335bn. Exports make almost 60% of GVA, with a healthy domestic market as well – in 2013, 51.9% of UK album sales were of UK artists (in 2014 all ten of the top ten albums were from British artists). America, Sweden and the UK are the only three net exporters of music in the world.

Music economic contribution by sector, UK



- ✦ The music sector in Northern Ireland was estimated to contribute £70m in GVA to the economy in 2011, employing around 3,000 people. A music industry development strategy was created in 2011 to boost earnings and jobs, with the Generator NI Programme supporting the sector with development, training, mentoring and network support for artists, managers, labels and publishers.
- ✦ In their 2014 sector review for music Creative Scotland, the government body who oversees music policy and funding, found over 10,000 people employed by the music sector across 400 businesses in Scotland. Scotland accounts for 11% of the UK's live music revenue, having grown by 25% since 2008, faster than the rest of the UK. Annual consumer spend is also higher in Scotland – at £53.75 in 2011 compared with £45.32 in the UK as a whole. While very little Scottish specific data is collated, Creative Scotland estimated in 2013 that Scottish artists turned over £50m. The industry is represented by the Scottish Music Industry Association (SMIA).

Surveyed companies

Three companies were surveyed in the audio services sector:

- ✦ I Like Music is a music magazine and music library with a catalogue of 3 million tracks, supported by the music industry.
- ✦ Jimmy Eadie is an award-winning sound engineer and designer.
- ✦ Windmill Lane Recording Studios has been at the heart of the Irish recording industry since 1978 and is able to accommodate an 80-piece orchestra.

Two companies surveyed are based in Dublin and the other in the south of England, with focuses from recording to publishing. Technical expertise and sales were mentioned as the most needed skills.

Andrew Charles Hill, the CEO of I Like Music, has developed a parallel company operating in four countries: the Virtual Jukebox service, which provides a web and mobile controllable jukebox for pubs and venues with both a hardware and software aspect.

Conclusions

1. Digital distribution supports stronger regional and local economies

- ✦ The shift to digital has challenged traditional creative sectors, especially music and film, which in turn has led to industry consolidation and cutbacks as major studios seek to reduce their costs. This in the short term strengthened traditional media industry centres such as London.
- ✦ Running contrary to this, however, the networked economy and direct digital distribution empowers more cost-effective regional centres, as it reduces the importance of distributors and publishers traditionally headquartered in major cities. In other words, digital distribution is location-agnostic; be it in the sale of books for Kindle, apps and games through the App Store and Google Play or music through iTunes, Spotify and film on Netflix and Vimeo.

2. The importance of tax incentives & government investment

- ✦ From the incentives that attracted the Sullivan-Bluth studio to Ireland in the eighties through to *Game of Thrones*' impact on tourism and the Belfast economy – production tax incentives are a key driver of creative economic activity.
- ✦ The UK government's expansion of film and TV tax credits to video games, children's content and orchestras, has led to calls in Ireland's video games and music sector for similar support – and in both countries for a widening and simplification of the incentives to support smaller businesses, who make up a majority of the sector and have more limited administrative resources.

3. The value of regional clustering & support networks

- ✦ Networks such as the Irish Animation network, Digital Circle in Northern Ireland and the Scottish Game Developers Network offer the potential for greater mutual support, collaboration, knowledge-sharing, joint-tendering, resource-pooling and skills-exchanges.
- ✦ Such networks are vital to the success of the creative economy across the UK and Ireland, especially outside of the main cities. They seem particularly effective when they are industry- rather than government-led – provided there is sufficient financial support to sustain them.
- ✦ Further key factors to support regional and rural success are better high-speed broadband provision, better and more integrated public transport, and investment in skills, which are discussed in more depth in the conclusion to part two.

4. We're probably still nearer the start of the digital revolution than the end

- ✦ The last two decades have been characterized by a near-constant digital disruption, as bedroom & garage start-ups have rewritten the rules of countless industries, from auctions and music, to newspapers and taxis.
- ✦ The current and emergent phase focuses on the potentially greater consequences of an exponentially larger number of participants in the digital network, as more of the developing world joins – through smart phones, better translation and improved broadband access.

“Around 400 million people in the last year got a smartphone. If you think that's a big deal, imagine the impact on that person in the developing world.”

– Eric Schmidt, Chairman of Google, Davos 2015