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# **SOUTH WEST SCREEN**

## **Final Report: Exploring the Computer Game Sector in the South West of the UK.**

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## I. Introduction

The purpose of this proposed project is to map the computer game sector in the South West and outline a clear regional development strategy that will align with sector and regional requirements. The project will include a review of existing strategies within the South West, analysis of strategies in other UK regions and an analysis of the computer game sector as a whole within the UK.

This report outlines a range of key recommendations, best practices and projected impacts for public intervention within the region's computer game sector and identifies a critical path to ensure sustainable future growth. This will enable a clear regional development strategy that will align with sector and regional requirements.

## 2. Executive summary

The South West of England Regional Development Agency (SWRDA) has already identified digital media as a key priority for the growth of the Creative Industries within the region and the potential of partnerships with publishers and universities. In addition, South West Screen is developing a vibrant media future in the South West, currently working with a range of public and private partners to ensure appropriate and effective interventions are delivered to the media sector as a whole.

SWRDA's interest and current activity in the digital media sector (which includes computer games) within the region, highlights the need for South West Screen to develop a strategy for a focused programme of support to maximise the opportunity currently presented and ensure regional growth.

In the broad context of South West Screen's cultural and industry development work, this project is intended to scope the size of the computer game base in the South West, and a critical path for development and possible impacts. Key to the take up of any support measure will be the delivery mechanism. It is clear, however, that an address will have to be made to what the delivery options are for the interventions identified – from direct delivery by South West Screen to contracted suppliers delivering a range of activities.

This research has highlighted the hidden workforces who are connected to the digital media and games industry. This group of individuals and organisations freelance, outsource or are simply secondary developers who work within or with the industry. Very few can sustain working with one industry alone. Often moving to the region for personal rather than professional reasons this hidden industry does not need dedicated support rather recognition. Recognition and integration within current and future support provision.

## 3. The regional picture

### 3.1. Methodology

The work ran from March 2007 until the end of May 2007. The study has a specific focus on the South West region as a whole (as defined by the remit of SWRDA). Any sub-regional analysis which has been undertaken as part of this study is therefore necessarily very limited in its scale and scope.

The research has been divided into three main phases:

Stage I: Secondary research into the whole creative industries sector in the South West. This is based on statistical analysis of the government's most accurate data sources on the labour market and economic performance. The study has deployed definitions and methodologies outlined by the English RCCs/DCMS Regional Cultural Data Framework.

Stage II: Secondary research based on previous reports available from South West Screen.

Stage III: Primary research into the computer games four sub sectors in the South West region.

A bibliography of reports used is held in appendix 10.1.

## 4. About the computer games industry

From relatively humble origins in the 1980s as a niche activity serviced mainly by technology enthusiasts and consumed for the most part by young male adolescents in their bedrooms, computer games have now very much grown up to form a significant part of the UK's contemporary media landscape. Revenues from entertainment software sales are bigger than cinema box office receipts and DVD rentals and look set to continue to grow. From an economic standpoint, the games business in the UK has garnered substantial respect from both government and the private sector, however its cultural status is less secure, with games often perceived as being somewhat limited in genre and perhaps over-reliant on simulations of combat, gunplay or competitive sport.

The industry itself is keen to allay these perceptions, and is working hard to broaden both its audience and its output, with some notable recent successes, for example, education projects with schools using console games (Future Lab's EA-commissioned 'Teaching with Games' report), video games becoming the 'third arm' of membership industry body BAFTA and the rise in 'casual' gaming among older women. But for the most part, ambitions to widen audience demographics and to create titles of cultural and even artistic merit must be balanced with the games industry's need to serve its core customers, and until recently moving beyond these realms was seen as taking on significant financial risk.

In fact, today's computer games industry is surprisingly diverse. Ranging from the almost film quality visual realism of some 'AAA' releases on the latest consoles with state of the art 3D graphics and sound capabilities, right through to the much simpler but increasingly popular 'casual' titles available as PC downloads or on mobile platforms. 'Massively Multiplayer Online' games (MMOs) allow millions of people across the world to connect, play and socialise in shared virtual environments, while so-called 'Serious Games' use entertainment software technology and techniques to educate, train, promote and inform. With computer games now being made in all shapes and sizes, it is clear that the industry can only become bigger and more diverse, and education course providers hoping to furnish new entrants with the right knowledge and skills need to stay aware of the evolving possibilities.

In terms of positioning, computer games can be regarded as a major subset of the broader interactive media sector, but for the purposes of this report we have dealt with the two areas separately because the industries tend to be structured differently and have very different value chains. That said, an increasing inter-merging of skills is predicted as more and more games are distributed or played online, as the importance of user generated content in both arenas expands, and as the technologies and platforms used by both sets of formats become increasingly convergent.

According to media analysts Screen Digest, over 22,000 people were employed in some capacity by the UK games industry in 2006<sup>1</sup>, although only approximately 6000 were reported to work directly for development studios - the companies who actually produce the games. Skillset's 2006 industry survey reported that 8,850 people worked in either games development or games publishing. It also reported that only 8% of these were freelance, 3.9% were ethnic minorities and only 12% were female. This represents a slight decrease in the overall size of the industry since 2004 of 6% as a result of a number of studio mergers and closures.

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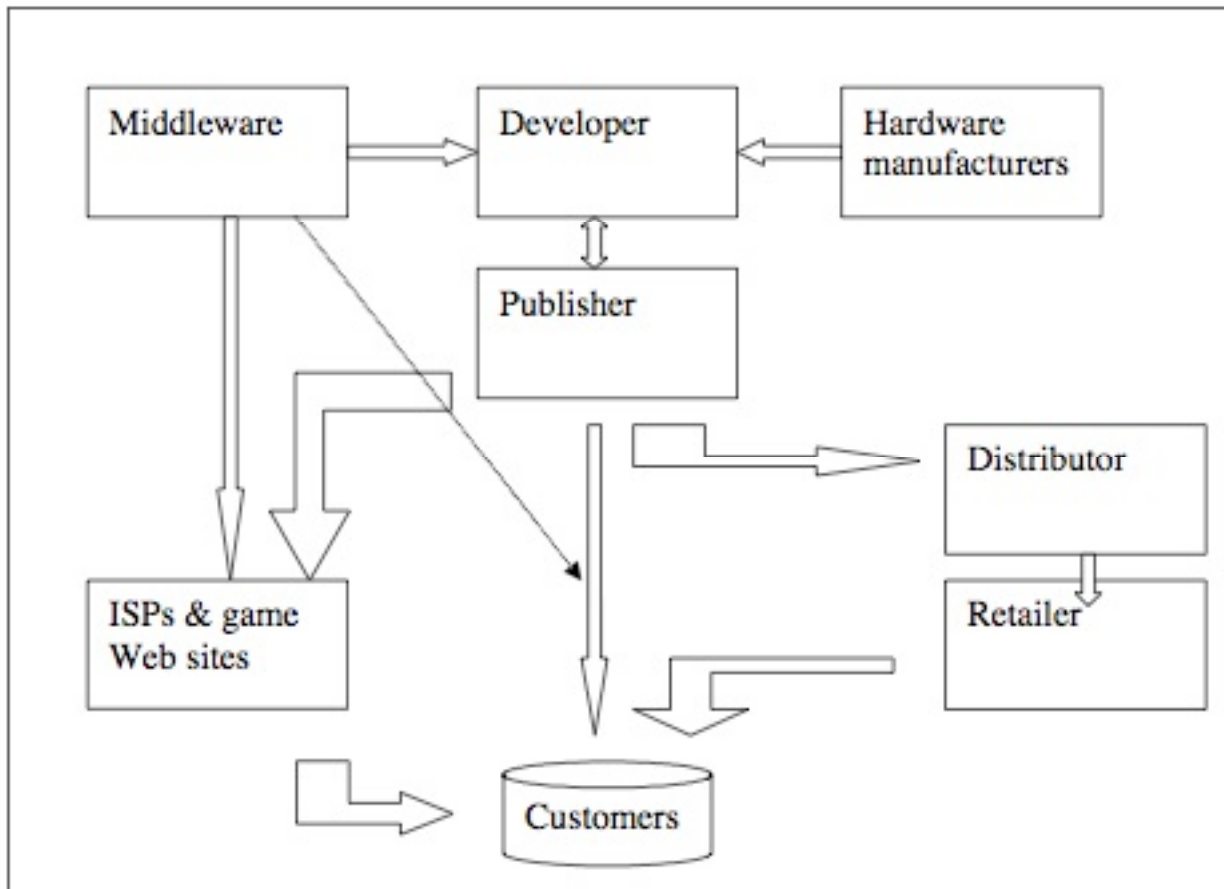
<sup>1</sup> See <http://www.screendigest.com/reports/eig05/EBAN-6ALLKS/pressRelease.pdf>

<sup>3</sup> Screendigest 2007 Next generation console analysis

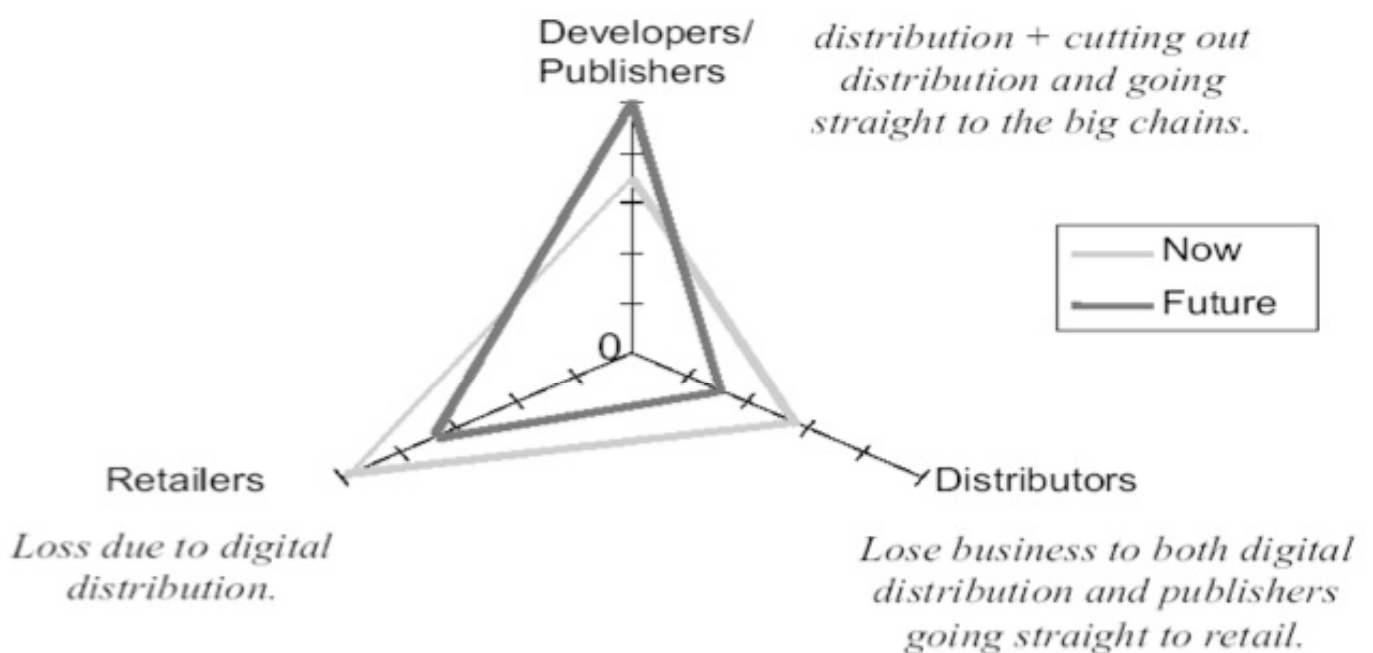
As with other media industries, development/production is only one part of the 'value chain' which brings games products from their inception to the consumer. The different elements of the industry which all play a part can be summarised as follows:

- **Developers.** Production studios which create and develop the games titles, varying in size from over 100 employees and freelancers to under 5. Can be independent or publisher-owned.
- **Publishers.** Responsible for promoting, marketing, distributing and, usually, financing games titles. Mostly international companies with a UK base, with some notable home-grown exceptions.
- **First Party Publishers / Console Manufacturers.** Companies that make games consoles or have 'first access' to games hardware platforms. This mainly refers to Sony, Microsoft and Nintendo but with the emergence of mobile phonebased platforms companies such as Nokia are now included, as are the major operators and network providers.
- **Distribution and Retail.** Distributors sell in to retailers, and provide logistics to move product from the 'warehouse' to the high street store. Equally important these days are online distributors and portals which allow players to download product direct to PCs. All current generation consoles have significant digital distribution capabilities, in each case distribution is controlled by the First Party Publishers.
- **Outsourcers.** Providers of specialist art, animation, programming, design, audio, localisation and other services. These services are increasingly delivered from overseas developing territories such as China, India, Russia and Eastern Europe.
- **Middleware and Technology Providers.** An increasingly important sector, with some large and successful companies involved providing rendering engines, game physics tools, AI (artificial intelligence) and audio packages for incorporation into a studio's own programming resources.
- **Press and Media.** Provides reviews, analysis and commentary for both trade and consumer in magazines, websites, broadcast television and elsewhere.

## Games Industry Value Chain.



## Changing roles with Value Chain



Source: KPMG for the Danish Ministry of Culture (2002).

## 4.1. The current industry state of play

In the cyclical games console industry, the end of 2006 marked the middle of the transition phase between the previous generation consoles — Sony PlayStation 2, Microsoft Xbox and Nintendo GameCube — and the next generation: PlayStation 3 (which launched towards the end of November 2006 in US and Japan, March 2007 in Europe), Xbox 360 (launched late 2005) and Nintendo Wii (Nov/Dec 2006).

Revenues are at a relative low point, with spending on previous generation console hardware declining steeply and software sales also falling — global spending on software for home consoles fell from a \$12.9bn peak in 2004 to a \$9.6bn low in 2006 — as consumers look towards the new generation. Software revenues will not peak again until 2009 when they are forecast to reach \$13.9bn<sup>3</sup>.

Games publishers face development costs up to 50 per cent higher due to the step change in processing power and graphics capabilities of the new consoles - this applies in particular to Xbox 360 and PlayStation 3. PS3 games are expected to cost an average \$20m to develop over a 25 month period, with Xbox 360 titles averaging \$15m and 21 months — according to Screen Digest research<sup>4</sup>.

Nintendo is gambling on a different strategy with its Wii console: avoiding complex graphics and focusing instead on gameplay innovations with a new controller.

Analysis of next-generation game development costs and likely retail sales reveals a tough environment for publishers. Average titles will need to sell between 700,000 and 800,000 units for publishers to break even. In the US market, the top-100 games in 2004 (at the peak of the last cycle) averaged sales volumes of 767,000 units.

Games publishers will use numerous strategies to reduce the risks and costs involved. These include more than doubling the use of outsourcing (to \$2.5bn by 2010), producing more multi-platform games, and sequels and fully exploiting valuable IP such as established games properties and IP licensed from movies and sports such as Harry Potter and FIFA.

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<sup>4</sup> Screendigest 2007 Next generation console analysis

## 4.2. Raising the bar – the escalating cost of developing computer games

The cost of console game development has been rising for years and the leap to the next generation of console hardware will continue this trend, in particular for PlayStation 3 and Xbox 360 games. Xbox 360 and PlayStation 3 offers developers unprecedented levels of console processing power, which have in part been driven by the requirement to process media suitable for high definition TVs with a significant increase in possible screen resolutions. Hence, one of the principle ways in which this quantum leap in horsepower is being exploited is in the deployment of greater volumes of richer, more complex graphical assets and effects.

Additional complexity, and hence additional pressure, on costs arises from the move from single processors (as used in all last generation game consoles) to multiple processors (the Xbox 360 has three processing cores while the PlayStation 3 has eight processing cores). A fundamental shift in the design philosophy of computing is occurring with the shift from 'single core' to 'multi-core' processor architecture. While all developers learn the rudiments of programming with a single processing core, there is not yet a comparable volume of personnel adept at coding for multiple processing cores. In addition, developer tools have not yet matured sufficiently to exploit multi-core consoles to the full extent of their potential.

Nintendo has avowedly stepped aside from the graphical 'arms race' with the Wii, and is primarily focused instead on gameplay innovations made possible by the technology within the console's new controller. This is able to detect its position in three-dimensional space allowing for freehand gamer input. This opens up a range of gameplay possibilities not possible with conventional console controllers. The player can physically swing the controller as if it were a real sword or tennis racket. This is a major gamble by Nintendo: one of the key drivers for game sales, especially on new hardware, has been improved graphics over the previous generation. Although Wii graphics represent an incremental improvement on predecessor Gamecube, it lacks both cutting edge graphical effects and the dramatic leap in quality between the last generation and the next demonstrated by its two competitors.

Naturally, long-term upward pressure on game development costs has forced publishers to develop strategies to mitigate cost increases. The most significant of these strategies is outsourcing. The cost of producing next generation game assets in-house far outweighs the cost of outsourcing to a specialist provider. Game studios control costs by outsourcing labour-intensive processes, such as creating detailed graphics and effects, to third-party teams. These are often located in territories with low labor costs, allowing publishers to focus their remaining staff on higher value work.

## 4.3. Education, skills and training

The games industry has evolved rapidly in a comparatively short period of time, growing from 'coding geeks' – typical young men - working in back-bedrooms and converted rural barns - to a multi-billion pound industry with a greater GVA in the UK than the film industry. A number of UK companies now each employ several hundred staff plus freelancers and outsourcing companies. Many of these significant employers are run by CEOs who set up the company and have a lack of commercial business acumen at senior management level (acquisitions, mergers, change management) and effective business development, project management and personnel skills at middle management level.

Sustainable growth of skills has been problematic, and both hard and soft skills have not developed rapidly enough within the industry or education system to stem the gaps from both the rapid expansion of the sector and technology developments. Both technology and skills threat from overseas are real, yet the boom and bust nature of the industry and inconsistent production cycles has made investment in skills a low priority. There has been reluctance, until recent years, for employers to engage with competitors in alliance with the public sector and education providers to understand and tackle bridging the skills gaps – or even to acknowledge that skills are a serious issue facing the long-term prosperity of the sector.

Skillset has noted that poorly equipped graduates, management, business development and leadership skills are weak – although these issues are generic to many sectors in the knowledge, cultural and creative industries. Specifically, there are gaps in drawing, diagramming and creative art, and creative and technical writing with significant skills shortages in programming.

As the industry has become more sophisticated, there are needs for people with increasingly specialised rather than generalist skills, which intensifies the likelihood of further skills gaps in the future. Some larger employers are more willing to pay short term dividends to hire someone from other parts of the UK or overseas with the specific knowledge of a particular software who can 'hit the ground running' to complete a project rather than up-skilling someone with similar skills acquired from another sector of digital media or longer term investment in training new entrants.

Many niche games degree courses are perceived as underperforming in delivering work-ready graduates. Continuing Professional Development (CPD) is a necessity, particularly because of the reliance on changing technology. A lack of awareness of the right courses, lack of local provision, actual or perceived prohibitive costs, lack of employer investment and difficulties taking time away from the workplace are all barriers to take-up.

## 4.2.1 Working in computer games

Today's computer games workforce is highly educated. Most current practitioners are qualified to at least degree level with many holding postgraduate qualifications. Computer Science remains high on the agenda for many of the technical specialisms, but in addition, a broad range of subject backgrounds inform the other disciplines, particularly within the core activity of game development. Generally however, employers tend to be less concerned with formal qualifications than with relevant experience, portfolios and knowledge of specific software tools.

In the early days of the industry, most of the development work was carried out by small teams of programmers who took on all the creative and technical aspects of the project. These days, game development consists of a set of reasonably well defined specialist disciplines and the work tends to fall within one of the following areas:

### 4.2.1.1 Game design

Designers working in games development are the people who decide what a game consists of and how it plays. For large projects, there may well be more than one Game Designer on the team, each of whom would take primary responsibility for a section of the game or a set of game levels, while also collaborating on the overall design of the game. In these situations, game designers work under the direction of a Creative Director, a position sometimes referred to as the Lead Designer.

### 4.2.1.2 Art and animation

Game artists create all the objects, buildings, landscapes and characters which make up the game world, animators define and create their movement.

The majority of computer games are now developed using realtime 3D graphics and animation. Artists and animators working in computer games development are therefore usually trained or experienced in one of the major 3D modelling and animation packages such as 3DStudioMax or Maya.

Game artists work at many different levels in a games development studio. The job roles are often combined, and include concept artists, environment modellers, object and vehicle modellers, character modellers, animators and texture artists. Artists and animators usually work under the direction of an Art Director, a position sometimes referred to as the Lead Artist.

## 4.2.1.3 Programming

From the outside, this can seem the most mysterious of all the game development areas. However it is also at the heart of the process, as the programming team is responsible for creating the code which makes the game actually work. There are numerous sub-disciplines within the programming department including artificial intelligence or AI, physics, graphics rendering engine development, character control, gameplay programming, middleware tools development and so on. All these are usually overseen by a Lead Programmer who would also be responsible for the technical specification of the game and for strategically managing the code development process.

## 4.2.1.4 Production management and publishing

Production management within games development is normally the joint responsibility of both developer and publisher. The Producer or Project Manager sits within the games development team, whereas the External (sometimes Executive) Producer is employed by the games publisher and is more involved in marketing considerations and ensuring the project stays true to its original commissioned intentions. Creative input of each role may vary from project to project, but both are responsible for budgets, schedules, milestones and reports.

## 4.2.1.5 Audio

Sound design and audio engineering are increasingly important areas within the games development process. The audio department typically consists of one or two people who would be responsible for creating and producing music, sound effects and recording dialogue and often supervising voice performance.

## 4.2.1.6 Other

There are a number of other roles within games development, but perhaps the most important is Quality Assurance or QA. This discipline includes the role of Tester, which is one of the most common entry points into the games industry for first-time job seekers. Testing is a highly disciplined role as it involves identifying and describing bugs and faults in game 'builds' (cumulatively improved versions of the game as the bugs are ironed out) and communicating these in a clear and unambiguous way.

## 4.2.2. Skills gaps and shortages

A skills gap implies an area where individuals within the existing workforce have lower skills levels than are necessary to meet business or industry objectives, or where new entrants lack some of the skills they need to perform effectively. A skills shortage is where there is a lack of adequately skilled individuals in the labour market.

The computer games industry has enjoyed steady growth since the early 1990s, punctuated by leaps forward in PC and console technologies which take place approximately every five years. With each hardware cycle the industry goes through something of an uncomfortable consolidation: production budgets increase dramatically and development techniques have to be substantially overhauled, with the inevitable fallout affecting skills requirements and job opportunities. The latest generation consoles require substantially larger development teams and increasingly specialist technical skills to get the most out of the hardware. At the same time, games platforms have diversified to include smaller mobile devices and web-based media and these platforms continue to make use of 'previous generation' development techniques. There is therefore an increasing diversity of opportunity and skills needs in the games industry today.

Skills gaps in computer games are identifiable on a discipline by discipline basis, but employers report particular gaps in the following generic competencies in new entrant applicants:

- Personal and communication skills
- Team-working
- Business awareness
- Commercial processes and games industry knowledge
- Writing and documentation

In game design, the following gaps have been identified:

- Creative and technical writing skills
- Visualisation
- Project and production management
- Problem solving and ideas development

In art and animation the following gaps have been identified:

- Traditional art, illustration, drawing and visualisation
- Understanding of technology and programming principles
- Data file management and version control
- Advanced lighting and materials, particularly for latest generation platforms

Programmers represent more of a skills shortage than a skills gap, as companies report that there are genuinely not enough quality applicants of sufficient calibre even though there are more applicants per vacancy than ever before.

In production management and publishing the following skills gaps are reported:

- General business awareness and company development
- Project and production management techniques
- Negotiation skills and inter-company relationship management
- Meeting, presentation and pitching skills
- Sales and marketing
- Commercial awareness and entrepreneurial attitude
- Risk assessment and contingency planning
- Understanding of intellectual property
- High-level awareness of brands and marketing

## 4.2.3 Education and training

Although most people working in computer games are salaried, there is also a growing freelance contingent which recent estimates suggest stands at approximately 11-15%. Most job vacancies are relatively specialist and tend to be offered to experienced practitioners, and even they usually require a period of familiarisation with the studio's particular methods and toolsets. For artists and animators, there are core 3D animation packages which are widely used such as 3DSMax and Maya, but new developments in console technologies open up new opportunities for specific advanced techniques and it is usually down to the individual practitioner to keep their skills up-to-date. The picture is similar for programmers. Core languages such as C++ are almost ubiquitous for PC and console development but coders must also keep pace with new techniques that use the latest graphics, AI, physics, networking and other new hardware capabilities. Designers and producers need to be familiar with all the latest developments in both art and technology, as well as new opportunities in distribution, audience demographics and changing business models.

There are a range of short training courses in specific packages and some training is available in various programming languages, but these vary in quality and efficacy.

Depending on their area of specialism, new entrants to the industry tend to be university or art school graduates. Programmers are normally recruited from core computer science courses, as well as from engineering and traditional science disciplines. Artists and animators have for the most part undertaken a course in computer animation or digital art, although traditional artists who have equipped themselves with the relevant software skills through additional courses are often looked on favourably. Designers and producers come from a variety of backgrounds in science, humanities and the arts, and often bring with them specialist knowledge and/or experience gained in another industry.

Although there is now a large volume of further and higher education courses relating more specifically to computer games, only a few have gained favour with employers, as there is a perception within the industry that many of these courses do not generally teach to a sufficiently high level. Skillset is actively working with both industry and the HE sector to help promote and reward industry focused courses which consistently achieve a high standard through its computer games industry accreditation scheme<sup>5</sup>, and in 2006 four degree courses were selected for accreditation in the scheme's initial rollout.

Postgraduate provision is a different story. There are a number of well-regarded masters courses in subjects related to computer games, and some of these are well received by industry – particularly when the candidates have been academically successful in more traditional subjects at undergraduate level.

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<sup>5</sup> The computer games degree accreditation guidelines are included in the appendix of this document and also available at [http://www.skillset.org/games/accreditation/apply/article\\_5493\\_1.asp](http://www.skillset.org/games/accreditation/apply/article_5493_1.asp)

## 5. Mapping analysis

Due to the shortfalls of Standard Industrial Classification and Standard Occupational Classification data relating to the games industry, a mapping study was carried out through telephone and web based research and using the existing regional media cluster groups to identify companies that would not necessarily be classified typical as 'games companies' by standard definitions. Their work including creation of games or games related content, post-production or outsourcing services to the games industry, and education, finance and specialist business support services which could be utilised by the games industry (capacity builders for skills and business growth). 104 organisations were identified, with a diverse and scattered spread of type and geographic area. The provision of programmes supporting creative technology – many stemming from Watershed Media Centre – is far in advance of the needs of the pure-play games industry in the region, but proves that there is both the expertise and capacity in the region to grow and support more games producers, particularly those working in emerging disciplines such as mobile gaming, pervasive media and serious games.

### 5.1. Diagram of South West games cluster

Figure 1:

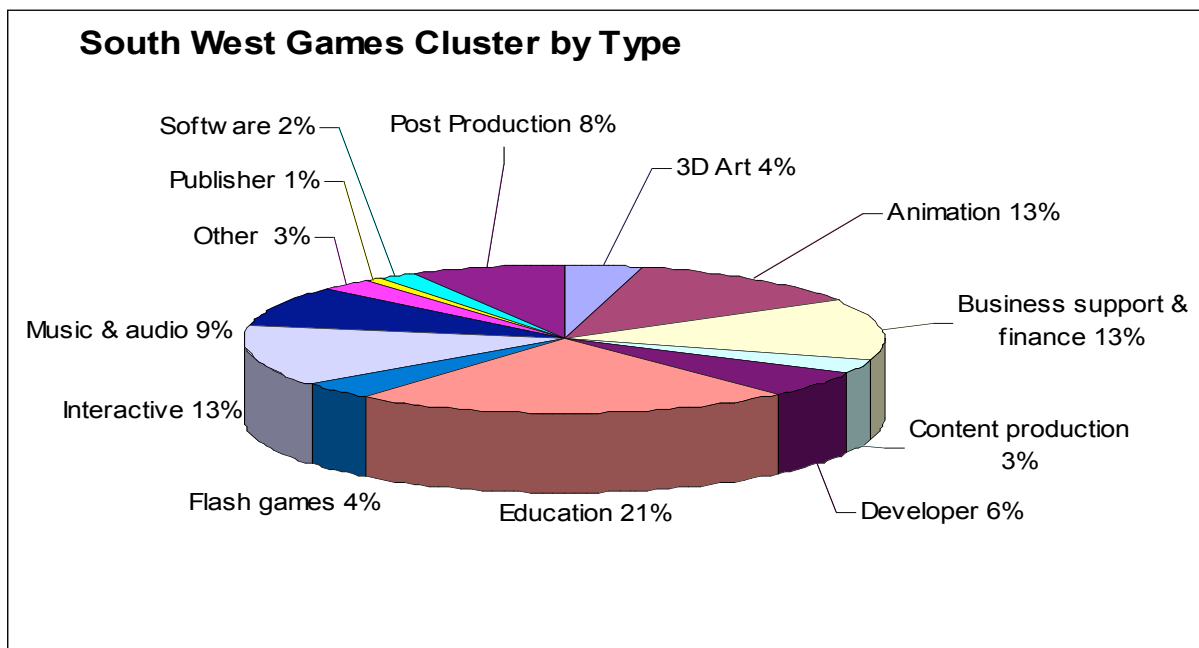
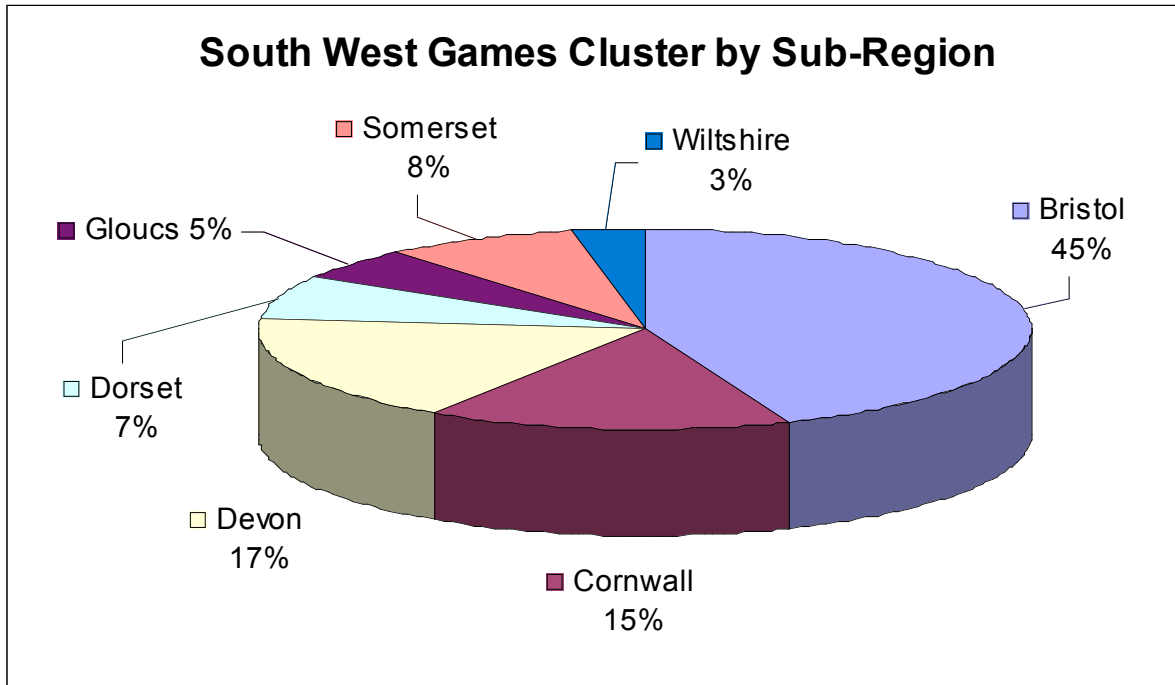


Figure 2:



## 5.2 – Sub-sectors

In the South West, the games industry appears to be well-hidden: a first pass revealed virtually no companies in the region and arguably there is not enough of a critical mass of sizeable games companies in the region to create a games ‘cluster’ as such. However, on further investigation, a number of service-based media companies are working within games in particular offering animation, CGI, 3D art, audio production, post production and interactive media services – particularly in flash and mobile games. The region’s vibrant animation and independent TV production sector, particularly in Bristol, is likely to stimulate outsourcing services which both indigenous and external games studios can utilise.

The South West’s games cluster has a relatively small amount of dedicated games publishers and developers (11% including flash games) but a well distributed mix of related disciplines, with significant expertise in animation (13%), education (21%), interactive media (13%) and post-production (8%) which are all supporting the games industry.

## 5.3 Sub-regions

The largest grouping of games cluster organisations, with nearly half (45%), is in Bristol, the city-region for the South West. The other major conurbations of Plymouth (in Devon) had 11 organisations, Bournemouth and Poole 6, Cheltenham supporting 4 and Exeter 2 organisations. Bath which had the main games company (Pivotal Games) employing 70 people, and also home to media publishers Future Publishing, had only 3 games-related organisations, suggesting that there is little 'spin-out' or clustering originating from the presence of Pivotal Studios. Wiltshire also had limited games presence with only 3 organisations, despite being home to the only developer (Lexicon). Cornwall had a high number of companies proportional to its population, including 2 developers.

## 5.4 Factors affecting the establishment of a South West Games Cluster

Significant factors affecting the successful development of Creative Industries in the region include lack of transport links and perceptions of London being where quality content for market is produced. These factors are less significant for the online-based interactive industry, and have a negligible impact on global, digital and retailed distributed games products. This presents an opportunity for future growth of the games industry in the region.

The South West is known as a region people move to for high standards of living and lifestyle – thus the predominance of numerous micro-sized casual games producers (interactive media producers, mobile games and 3D art) is more significant in the games landscape than a smaller number of major studios from which supply chains and outsourcing companies gravitate towards or spin-out from.

With a total of 23 institutes or education providers in the region - including Plymouth College of Art and Design's games course, University of West of England Games Technology degree, University of Bristol's Computer Science degree and the National Centre for Computer Animation in Bournemouth - there is a rich range of design and computing students in the region, but there are not the employment opportunities in the games industry for students regionally. This can lead to a 'brain drain' of potential industry talent moving to other regions to pursue a career in games, or pursuing opportunities in other sub-sectors, particularly animation, digital media and ICT.

It is interesting to note that in other regions, for example Yorkshire and the West Midlands, a common model is for new media technology businesses (e.g. animation and digital media) to spawn out of the comparably more established games sector – whereas in the South West, 'mirroring' of successful companies like Aardman Animations has caused a cluster of complementary and like-minded companies with little obvious relationship to the mainstream games industry.

## 5.5 Existing Regional projects supporting the games industry

### 5.5.1 South West Regional Development Agency

There is a perceived lack of support solely targeted at technology-side media production in the region from many of the public programmes (although many do recognise that projects often have a encompassing and varied focus). The primary focus of SWRDA's public investment to date has been to target the full gamut of Creative Industries concentrating on stimulating business growth and support networks (the formation of 5 sub-regional media clusters and a plethora of design, arts and music forum) and basic level skills support (i.e. for visual and performing artists Arts Matrix).

Public sector support for innovation – from central government and SWRDA – is a high priority. SWRDA's Regional Innovation Strategy aims to “put innovation, creativity and technology at the heart of the region's businesses and organisations”. However, interventions have focused on traditional science and technology sector, with the exception of the Design Council programme ‘Profit Through Design’ to enable all businesses to exploit opportunities from better design. The Investor Readiness programme delivering proof of concept, investment readiness and linkages to Angels and Venture Capital funding could enable creative technology entrepreneurs to access development finance. The only action in the proposed 2007 Innovation Strategy in relation to Creative Industries is to ‘monitor the emergence of significant clusters in the newer industries’ and to encourage collaboration and cross-sector partnerships.

SWRDA's £6 million investment in Watershed in 2007, a venue with a focus on creating a live test-bed for developing creative technology, to create an ongoing endowment fund for Creative Industries in Bristol, and their recognition of the significance and scale of the wider digital media industries in the region is likely to create future opportunities for catalysing activity in games and interactive media.

## 5.5.2 3C Research

In general, support for creative technology has been stimulated by the private and education sector. 3C Research, a spin-out of University of Bristol supports collaborative research in digital media and communications. In summer 2007, with Watershed, they will together launch the Creative Technology Network to encourage cross-sector collaboration with science, arts, media and technology. 3C's research to date involving the games industry includes Rendering On Demand project and Motion Ripper – motion capture software development.

## 5.5.2 Watershed Media Centre

Watershed, the UK's first media centre opened in 1982, a high-profile centre which offers cinema, facilities, training and support and an appreciation of not just film but all forms of media and arts. In the 1990s, Watershed shifted its focus from photography to the emerging form of 'new media', exploring creative technologies with traditional visual artists and facilitating showcasing and development of new digital artists and multi-disciplinary collaborations – its role often more as enabler or facilitator than controller. In 1999, Watershed were part of a consortium, the Bristol Creative Technology Network, that enabled a high speed dark fibre (MAN, later Bristol Media Exchange) internet network to be delivered to consortium members in the city. High speed broadband has subsequently enabled a healthy market for broadband consumption for both businesses and consumers.

Showcasing of games content is enabled through Watershed's D-Shed online platform, including Cherry Orchard – therapy through participatory arts including games, 90 Second Challenge for producing media, and most significantly the 2007 project Meigeist, an Alternative Reality Game (ARG) blending fiction with real life media placing players as detectives who solve cryptic clues (both on and offline). Created by Bristol-based Licorice Films, the project was initially funded by public agencies, including South West Screen. Blending online media with film making and netcasts of live events in Bristol, the game gained international audiences and critical acclaim.

## 5.5.2 Watershed and HP Labs Collaborations

Watershed and HP Labs enjoy an open-ended flexible collaboration and partnership which has developed and evolved over an eight year period, not just on a one-off project basis. HP Labs interest in industry collaborations, service-based technologies and disruptive technologies made Watershed an ideal partner, despite the differences in objectives and scale between the international corporation and local publicly-funded media centre.

HP Labs/Watershed collaborations from 2003–7 encompassed exploring wireless technologies, pervasive location technologies and 3D rendering. Knowledge transfer, both to HP Labs in user-testing their technology, Watershed in producing creative technology programmes and the up-skilling of beneficiaries is a key outcome of all programmes.

The 2004/5 SE3D project used the latest HP Labs technology to allow 12 animators access to the latest Maya rendering technologies using HP Utility Data Centre technology. The HP Labs technology investment brought in creative investment from public funders (Arts Council England, South West Screen) into the creative animation product and high-level industry support (Aardman, Dreamworks, Alias) to enable creative animation product to be commissioned and reach market – gaining exposure at Cannes and other international film festivals.

## 5.5.3 Mobile Bristol and Pervasive Media

Through the DTI-funded Mobile Bristol project, of which University of Bristol and HP Labs are founding members, significant investment has been made in developing pervasive and mobile technologies which allow visitors and residents to interact in urban and public spaces. A freely downloadable toolkit has been devised which enables producers to create consumer and community focused applications. Watershed becomes the 'living lab' for user-testing these applications. The Clarke Digital Bursary, facilitated by Watershed, awards around £17K award to an individual to enable creative developments in digital media.

Coupled with a strong academic research base in the city and the presence of international technology players in the region including Orange and HP Labs, Bristol has been able to develop a world-leading edge in the new discipline of pervasive media technologies. University of West of England (UWE) and University of Bristol have been in discussions with Watershed, SWRDA and others on the establishment of a Pervasive Media College.

## 6. Supporting a 'Cluster' in the South West

### 6.1 Clusters

Alain Tascan (Vice President and Studio General Manager, Electronic Arts, Montreal), presented a theory of global hot spots at Game Developer's Conference Europe in London in September 2005. This is a set of prerequisites necessary for a cluster of game developers to be internationally successful in the coming 5-10 years. Based on a study of regions that have previously spawned several global hit developers, Tascan states that they all qualify for these criteria:

1. Good education institutions
2. Highly developed IT-infrastructure
3. Cultural diversity
4. Competitive living costs
5. Culturally active region
6. Proactive support from public and government authorities
7. Entrepreneurial culture within population and business

These points of development are as relevant at a local or regional level as they are at a national level.

Figure 1 (below) indicates which regions are expected to meet Tascan's criteria in 2005-2015.

Bangalore and Shanghai have been disregarded based on an analysis that these clusters will mainly cater to their large home markets during this period.



Over the last 10 years, growing importance has been attached to the role of business clusters in building and sustaining high performance economies. Increasingly, clusters are seen as by-words for collaboration, specialisms and innovation, offering the potential for dynamic and competitive economies with high levels of employment in well-paid jobs. Experience elsewhere in the UK (for example in Oxford and Scotland) and also internationally shows the positive impacts that clustering can have on local economies.

Discussions about clusters are often shrouded in a basic ambiguity as to where the object of interest is essentially a noun (and often a place) or a verb (typically the form of business behaviour). The 'Cambridge high tech cluster' says something about the businesses with Cambridge and something about Cambridge which is over and above the business community. Equally a comment about Silicon Valley implicates both the place and the business within it; one is not reducible to the second, but nor are they functionally autonomous.

A cluster is defined by Scottish Enterprise as:

*“A grouping of companies and organisations that have economic links because they either buy and sell from each other or use the same skills and infrastructure in an area”*

Key to this concept is the positive ‘spill over’ effects companies confer on others when they operate in an area, leading to the view that clustering leads to industry competitiveness and economic growth within a locality.

There are three dimensions to clustering which are important to understand:

- Critical mass – what have we got to work with?
- Clustering behaviour – is it joining or linking?
- Cluster entities – is the infrastructure in place to support optimum clustering behaviour within a density of time?

## 6.1. Critical mass

Clusters contain densities of firms, which reap scaleable economies in relation to the common services and support infrastructures they draw upon. The more widely spread these firms are geographically, or the smaller the number of firms, the less significant the effect of these scaleable economies.

It is well established that there is a ‘critical mass’ element associated with clusters. What is less clear is the precise definition of what makes for critical mass, and the route by which it is obtained. It is a general observation that by the time you can observe a well-functioning cluster, like a cultural ‘scene’, it is past its best. It is thus hard to define the point at which a density of firms becomes ‘critical’ to enable cluster formation. This will clearly vary between sectors.

From the research it is clear that a ‘cluster’ does not in fact exist in the South West. This is curious as of Tascan’s theory for a games cluster, the only ‘gap’ is a lack of public sector intervention in growing the industry. However, from a limited base of industry activity, and in increasing times of consolidation within the games industry, it is unlikely that without extensive cost and intervention an indigenous mainstream games industry can be stimulated to grow.

## 6.1.1 South West cluster opportunities

The region's talent base offers opportunities for greater interactivity with the UK's games industry, particularly in delivering high quality outsourced services in interactive media, post-production, audio, video production, 3D art and animation services. This work is often delivered through individual freelancers and micro-companies.

Bristol has developed a significant mass of expertise and a media cluster with a world-class reputation in new media, especially digital media, animation, and CGI selling globally, particularly to the USA (e.g. Aardman Animations have a tie with Steven Spielberg's Dreamworks). The digital media cluster benefits from close links with the European headquarters of HP Labs in Bristol, working on e-services and digital imaging.

New developments in utility computing (software as services) offer significant opportunities for the South West digital and wider media community particularly in terms of proof of concept content production.

Development and growth of broadband in the region offers opportunities for digital content producers in games, e.g. flash games, virals, online games and multi-media production. The audience and community for web-based entertainment is similar to that for games – both casual and MMOs gamers play online, with some overlap of online communities based around console products.

The presence in Bristol of NESTA spin-out Future Lab, who develop content production and research for e-learning and education, couple with a strong regional HE sector and an emphasis on collaborative working, presents opportunities for the region to develop e-learning.

## 6.2. Definition of the 'Digital Media and Games Sector'

Many organisations do not have a precise definition of the companies that make up the digital media cluster. Though there is a general understanding of which companies should be included and which not in descriptive terms, the lack of a clear delineation of operational clustering is sometimes an impediment in clear communication with other agencies.

The digital media industry is made up of a range of poorly defined organisations from pure web design companies, to usability experts, to full service advertising agencies, to viral PR companies, to interactive storytellers, to broadcasters - and many in between. The games sector is made up of large scale developers, multinationals, small micro-business, freelancers, and everything in between.

The digital media cluster is 'officially' a formation of an ICT cluster and thus could well be developed within the more 'traditional' confines of ICT development. However speaking to the founders, and employees of the companies that work in the 'digital media sector' ICT is seen as a related sector but not one that they wish to be engulfed by.

More traditional media industries such as advertising, marketing, TV production, broadcast technologies, and film production also have a great number of similarities especially with large console game development (film) and web site development (advertising) but the digital media sector still desires to maintain itself as an independent entity. However many digital media companies do see that there are important lessons to be learnt from their predecessor clusters and this is in all probability the key to developing successful supporting strategies.

It is clear from national experience<sup>6</sup> that focusing on the small but ever developing grouping of companies known as the digital media sector is key to delivering the volume and quality of outputs and outcomes the South West Regional Development Agency and South West Screen projects will hope to achieve.

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<sup>6</sup> Codeworks annual report 2005

This is true also at a micro level within the 'digital media sector' itself. It is clear the games industry expects and often demands to be treated autonomously to the more general 'interactive' industries, or digital media industries. This definition is reflected most clearly in their value chains. The 'interactive sector' is a service-driven economy based on clients, idea development and production. The 'games sector' is largely based on IP creation in both content and technology.

This issue of definition is also key when looking for national support strategies. In terms of government policy and action, computer games form a 'joint portfolio' between the DTI and the DCMS. In reality this has meant that the DTI can only offer one full time employee to manage the whole sector, and the DCMS are constantly catching up and attempting to understand the industry. The industry at a national level is often overshadowed by the more traditional and better understood industries such as TV and film. Without bodies like the Film Council, Pact or even the BBC, the industry constantly is left to fend for itself as its own trade bodies, TIGA for independent games producers and ELSPA for publishers, lack the membership, influence or profile to affect change at government policy level.

Regional activity (detailed in 7.1 Regional projects) has been sporadic, often having little communication between bodies and can seem disjointed to the industry.

*"For an industry for which the major challenge is globalisation and consolidation, the process of regional devolution of business support does not make sense. In November 2005 the DTI hosted a day long discussion attended by both DTI and DCMS Ministers to try to tackle the confusion in the regions dealing with the games industry. The attendance of representatives was as uneven as the policies adopted regionally or not adopted by the regions. There needs to be a determination to carry this strategy through and bring some sense to this great duplication and wastage of efforts. Issues include:*

*Members of TIGA are unable to understand why one region is supported and not another ... The lack of an agreed action plan and strategy for the sector means that measures are applied unevenly. "<sup>7</sup>*

Similar issues plague TIGA. As independent member numbers are drying up, the trade body has had to resort to allowing membership to be offered to publisher owned studios, somewhat contradicting its original focus of supporting *independent* UK games development.

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<sup>7</sup> The Department for Culture, Media and Sport (DCMS) - Creative Economy Programme

A response from TIGA - the trade association for the UK games development sector, representing independent and publisher owned studios - 30 June 2006

## 6.1. Purpose of support

The bewildering array of support for Digital Media and games companies causes some confusion among companies as to what is available and how it can meet their needs. Many companies claim that what is available does not meet their needs, or, if it is directed toward the right purposes, does not work effectively for them as organisations.

Factors affecting take up of support:

- Many companies have not accessed support and would not think of doing so, assuming it is too bureaucratic, and is in fact counter to the real work they have to do.
- Companies are mostly completely dismissive or unaware of the availability of non sector-specific support measures that derive from national/international bodies.
- There is the assumption that non sector-specific support cannot meet their needs.
- There is a perception by many that sector-specific support measures are provided in an un-transparent fashion and therefore accessed only by a few companies.

For this report it is unclear whether economic goals regarding the sector are directed toward SME development or to the more general aim of increased employment and industrial output. If it is the latter, then attention could be as well directed to attracting substantial companies into the region as to developing those companies that exist.

## 6.2. Impact of support

The following table is an attempt to analyse the overall availability and impact of support strategies aimed at the digital media and games sector, classified by the nature of the sector need such strategies are intended to address.

|                         | Information                                       | Skills   | Strategy  | Funding  | Infrastructure          |
|-------------------------|---|--|---|--|-------------------------|
| Availability of Support | High  | Medium   | Low   | Low  | Medium                  |
| Effectiveness           | Low   | Medium   | High  | High   | Medium                  |
| Role for Delivery body  | 'Curatorial' role to deliver support where needed | 'Curatorial' role and engagement with and implementation of national skills strategy | Signposting role to regional business support organisations | Innovative projects – working with companies and national bodies | More effective networks |

## 6.2.1.Information

There are numerous sources of information – online and offline – intended to meet the informational needs of digital media and games companies. However, this information is often difficult to find and not tailored to the precise situation of companies desiring to be informed. Therefore, there is a need for some organisation or body to 'curate' or interpret existing information and explain its applicability to the situations of specific companies.

Clearly networks are important ways of meeting informational skills. There are numerous networks in the region. However, their existence and roles is not as widely understood as might be expected.

## 6.2.2.Skills

National bodies like Skillset and regional bodies like the local higher education bodies have numerous skills programmes. Rather than a delivery role for SW Screen, there is a role of interpreting existing provision, and linking with providers of these other programmes. This can be with partners or tendered directly with sector specific delivery bodies.

If there is a demonstrable demand and lack of supply, SW Screen should look to commission specific courses aimed directly at the games industry. Generic courses aimed at ‘digital businesses’ or the ‘interactive sector’ for example often fail to garner interest as unless the courses are explicitly focused, many companies often feel these courses “will not understand their unique business” needs.

There appears to be an impression in the sector that high-end skills as well as certain specialist skills can rarely be developed through external training. While university courses related to digital media tend to be acknowledged as an accepted path into the industry, companies rely heavily on methods of self-teaching and peer-support in developing the skills of their employees. Although there is a significant need for continuous skills development in all areas of the sector, due to the heavy reliance on continuously changing software, formal training seems often to be regarded as valuable only if it is tailored to the particular skill gaps in an organisation and provided in-house. Moreover, digital media professionals seem to be wary of formal and theoretical approaches to learning and informal methods of knowledge transfer seem to deliver the best results. Web sites, for example, are used by many professionals for solving technical issues and for learning about new software tools. The latest thinking in new technologies, business models and industry trends can often best be developed at industry conferences, e.g. Develop in Brighton or Leipzig Games Conference – with the added benefit of networking opportunities.

## 6.2.3.Strategy

Finding new ways of accessing markets and reaching potential clients is recognised by companies as one of their most urgent needs. Not so recognised, but just as important, is assisting these companies address crucial strategic issues in the growth and development of their companies. There are few resources – nationally or regionally – directed to this crucial need.

For many the hope seems to be that support bodies will provide them with new routes to market. For some support bodies, direct involvement in this process is a new focus liaising between markets and companies<sup>8</sup>. However, such direct action needs to be considered with caution. In the long run, an enabling role rather than an intermediary role will most likely be a more sustainable approach. Establishing an institutional support structure between clients and the industry will not allow companies to operate flexibly, stifling competition and therefore harming the entire industry. Support bodies need to direct their efforts to enabling companies to be more effective, rather than taking on corporate roles for them.

Moreover there is a further set of ‘top level’ strategic issues rarely addressed by companies in their day-to-day business affairs.<sup>9</sup> In this context, it should be pointed out that the South West, like all the nations and regions, has too many small companies that struggle to survive from project to project. Existing networks help companies share resources and experiences and, from time to time, bid for projects together. But competitiveness of companies and the sector overall requires consolidation. Enabling companies to reach this decision themselves, and find ways of realising greater stability, is a strong and unmet need.

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<sup>8</sup> Advantage West Midlands is driving games companies to diversify in to the ‘serious games’ market by promoting the area as a potential answer to the ebb and flow of the more mainstream games development cycle.

<sup>9</sup> The story is well known that if one gives a man a fish he will eat for a day, but if one teaches him a fish he will eat for much longer. Add to this that if one assists him with a strategic thought processes to analyse the opportunities for eating, he will chose the best method himself. Therefore, if the river runs dry, he will be able to decide where best to access food – whether it be through moving to a new river or developing farming skills for example.

## 6.2.4.Funding

Companies always need funding – for projects and for company development. And there is a wide range of potential sources, although often ignored for direct customer interactions.<sup>10</sup>

Clearly, these issues are national rather than regional ones. Accordingly, a key role for any delivery body is in engaging with national bodies directed to these aims. This includes both a ‘curatorial’ role in linking between companies and existing funding of innovation, and some selective provision where there are evident gaps.

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<sup>10</sup> <http://www.catapult-vm.co.uk>

## 7. Current Industry Support Provision

As part of this project Pixel-Lab have examined a number of regional, national and international computer games support strategies. This report will draw out some of the most relevant impacts these strategies have been able to produce and the lessons to be learnt for the South West.

### 7.1. Regional projects

#### 7.1.1. Yorkshire Forward – Game Republic

Game Republic is one of the UK's most prominent support programme. Its success lies in the ecology of the Yorkshire region; it is home to a great many small companies, many focusing on outsourcing, handheld development and mobile delivery.

Game Republic was established in 2003 after initial investigation by Yorkshire Forward discovered a large base of small developers with little or no support mechanisms. Based around an industrial committee the organisation has grown, established itself as a limited company which subsequently reformed as a semi-autonomous function of Screen Yorkshire (Regional Screen Agency for Yorkshire).

The project is currently focusing on three main areas:

- Education and industrial engagement
  - A number of projects are currently being developed to showcase the region's computer game courses, provide bursaries to masters course, and offer supported placements to regional students
- Investment
  - Game Republic itself does not give any form of financial support to members, though it does direct applicants to Screen Yorkshire's interactive fund. These efforts have a focus on helping developers to create more developer owned IP and aid in the retention of it. This fund was set up in November 2006 so there are no case studies or statistics. There is currently a call for submissions, which will be judged by an impartial panel of games practitioners from outside the region.

- There are two product investment 'pots' available to the regions developers:
  - New IP based product – A soft loan of under £50K is available through Screen Yorkshire
  - Prototype funding is available for new unsigned projects, typically £10K grants, and soft loans of up to £100k
- Additional developers can apply for 'business development support' and 'bursaries' to events such as GDC.
- Inward investment and showcasing
  - The focus of current activity is to constantly raise the profile of the games industry for the Yorkshire and Humber region.

Game Republic is funded via EU Objective Targeted Area I money, channelled to Screen Yorkshire through Yorkshire Forward but does receive some revenue from members. Subscriptions to Game Republic are variable in price, depending on studio size.

Since being founded with 8 member organisations, the membership of Game Republic has risen to 32. To date, 14 networking meetings have been held at various locations in the region, with an average attendance of 75 people at each.

Game Republic also cooperates closely with Game Horizon, up to and including the organisation of events. The next is Northern Exposure ([www.northexpo.co.uk](http://www.northexpo.co.uk)) a cross regional networking event at York Racecourse scheduled for the 10th of May 2007.

Anecdotally, Craig Albeck (Game Republic Coordinator) has observed a high willingness for Game Republic members to cooperate with each other on projects, and counts this as a great success. For example, Broken Sword, produced by Revolution Software, used subcontractors entirely from the Yorkshire and Humber region, with Revolution retaining the IP. Little Britain: The Video Game was produced by the collaboration of five UK based companies, with the voice acting, sound and music all recorded and produced by Barnsley based Pit Stop Productions.

In addition to Screen Yorkshire and Yorkshire Forward, Game Republic works closely with Business Link and the regional UKTI office. As a business networking hub for interactive media companies in the region, Game Republic acts as a strong point of contact for UKTI representatives and is in an ideal position to match up local games companies with opportunities for international business.

Previously, in addition to making connections in Japan through UKTI, Game Republic has commissioned reports into the interactive media sectors elsewhere, sending contractors to the Middle East, Russia and Ukraine.

Game development activity in the region is diverse, including 11 cross platform studios, 5 mobile developers, 1 interactive TV game developer, 4 video game publishers, 2 publishers of online/MMOG games, and 9 companies offering outsourcing services and studio work. Additionally, 3 other companies offer services ranging from e-learning applications to consultancy and representation.

## 7.1.2. North East - Game Horizon

In the North East there are 15 cross platform games development studios, 5 outsourcing companies, 1 middleware company, and 3 universities offering games related courses.

Game Horizon serves the games industry in the North East and is a part of the CodeWorks Centre of Digital Excellence. Other parts of CodeWorks include Connect, the trade association for digital businesses in the North East. Game Horizon has one full time employee, Nina Cliff. Additionally, Carri Cunliffe of CodeWorks is tasked to spend part of her working week on Game Horizon.

The objectives of Game Horizon are to increase the size of the regional games industry, not necessarily in terms of the number of studios or employees, but in profit. Game Horizon works with start-ups and established businesses of all sizes with networking as the primary focus.

It is 90% funded by EU Objective Targeted Area I money, which comes through One NorthEast through CodeWorks. The other 10% is funded through membership fees and sponsorship, so as to reduce reliance on public money.

Like its parent organisation CodeWorks, Game Horizon is not a grant-giving organisation but they do direct companies to appropriate benefactors. For instance, NStar provides up to £60,000 in early venture finance per applicant. Game Horizon also spends time encouraging Venture Capitalists and Angel Investors to back businesses in the region. Support is not targeted to any specific size or type of interactive media company, however they do have a range of services most useful to start ups, such as getting them work outsourcing for larger developers and creating links for mentoring and feedback from established businesses. In addition to these services, Game Horizon also stages regular events for networking, knowledge transfer and business opportunities. These usually take the form of one day conferences or evening seminars, but there have also been publisher visits and pitching events where members can get feedback from more established industry professionals.

Trade mission support is somewhat limited though flexible. Shared stands at events and associated marketing literature can be arranged, but trade missions are not a main focus of effort. In addition to business development services, a comprehensive PR and promotion service is also offered. This includes PR activities for individual members, with a streamlined PR pipeline that passes from Game Horizon through CodeWorks to established press contacts. The Game Horizon website showcases member companies, and there is also a standardised portfolio that is taken to trade shows and similar events, allowing delegates to browse all the interactive media companies of the region.

Student placements are also run according to two programmes, 3 – 12 month placements and 10 week summer placements. The salary for the student is subsidised and all Game Horizon members are entitled to participate in the schemes. All Game Horizon members automatically receive TIGA membership; compared to the rates for that, Game Horizon subscriptions represent a substantial saving for members. An additional service is to provide free hot desks in London for all members. This is a low overhead, and projected to continue.

Since inception in September 2004, Game Horizon has achieved 100% membership of the game development community within the region. It has also consistently run 6 events per year, 2 of which follow a conference format and 4 of which are evening seminars. All have ample time included for informal networking. Recently, prestigious speakers have been engaged from companies such as SCEE and Introversion.

In the unfortunate event of studio closure, Game Horizon have been instrumental in keeping talent in the region, helping developers to find new employment with other Game Horizon member companies.

## 7.1.3. North West – The Game Alliance Ltd.

Superseding the former M62 Games Network established in 2000, The Game Alliance Ltd was set up in March 2005 to respond to the growing demands of the game development industry to provide formal networking opportunities and to assist with international promotional activities for the growing business opportunities available across the digital entertainment sectors in the North West. With public sector support the group have produced over the years a number of networking events, a small number of promotional publications and have worked with a range of agencies.

The group currently meets once a quarter to respond to immediate needs, but due to a lack of leadership and perceived support lacks any major project work.

## 7.1.4. East Midlands

In 2004 the regional screen agency EM Media began a concerted effort to court games developers in the region. Offering a range of support to the industry the screen agency was keen to develop beyond its traditional TV and film roots:

- Investment
  - Originally using RDA funds, and now European funding, any 'digital media' including computer games companies could apply for product investment for a content project. The amount could range up to £250,000 as per European State Aid rules, as was successful in developing 2 PC games to market, securing a MMO development in the region, and aiding in the publishing of a number of small independent mobile products.
- Skills development
  - Working with regional universities, developers and Skillset the screen agency developed a range of courses for new starts to aid in student retention and bridge skills gaps in the media production fields. The programme went on to win a National Skills Award.
- Business development
  - The agency uses a number of industry experts to offer free specialist consultancy, information and advice.

The project has seen slow take up of its support, and a distinct lack of engagement with the industry. This has been linked with issues of identity; the computer games industry often feels it would rather not be “*lumped in with traditional media (film, and TV) for their own purposes*”. Many computer games companies do want to engage with more traditional media companies to learn, network and start to share resources but feel support should be tailored to their needs.

As the Screen Agency is partly funded and managed by the UK Film Council there have been internal difficulties attempting to match company needs to those of its funders. The UK Film Council Chief Executive has often been quoted saying the Screen Agencies should focus 100% effort on TV and film, leaving agencies in a difficult position in relation to other media.

## 7.1.5. West Midlands

The West Midlands has defined its strategy to reach a sub sector of the 'computer game sector', Aiming to develop and grow a yet untapped part of the industry it hopes to drive demand, as well as supply. The West Midlands is the most well defined 'serious games' region in the UK. With support of over £4m and encouragement from the RDA (Advantage West Midlands) over the past four years the West Midlands video game industry has embraced serious games and intends to focus on serious games as a differentiator within the UK.

With a number of successful and high-profile games developers, the region has gained recognition within the leisure games market and is fast becoming known for its Serious Games development, particularly within the education sector.

In 2006 the region hosted the International Serious Games Event, attended by organisations from around the world that included speakers from both public and private organisations that have benefited from the use of serious games, such as BP, Microsoft, NCR, Telefonica and Nokia.

### 7.1.5.1. West Midlands (UK) support infrastructure

The West Midlands Regional Development Agency has recognised the value of the emerging Serious Games industry. Indeed over £4 million investment has already been injected into supporting the growth of the Serious Games sector.

## 7.1.5.2. Digital Central

Digital Central is a delivery project for Advantage West Midlands' Screen, Image and Sound Business Cluster. From November 2005 until March 2008 this project is expected to develop an enterprise culture for cluster businesses that will help accelerate economic growth and increase employment through the promotion of innovative new ideas, the development of new market opportunities and the nurturing of a new generation of cluster entrepreneurs.

Digital Central is a consortium project led by the University of Central England (UCE) with a mix of private and public sector partners. It is hosted by UCE at its Screen Media Lab premises in the Eastside regeneration area of Birmingham. The project consortium comprises: UCE Birmingham (Technology Innovation Centre and Screen Media Lab), Screen West Midlands (the Regional Screen Agency), Coventry University, Keele University, Contact Knowledge Exchange, Maverick Television, Hi8us Midlands and Channel 4 Ideas Factory West Midlands.

Digital Central is tasked with delivering against all of the cluster's key strategic themes and to do so are organising activity into three strands: networking, showcasing and innovation. Digital Central have a particular focus on developing the music & radio industries and interactive media industries.

## 7.1.5.3. Serious Games Institute

Perhaps the most significant and flagship project in the West Midlands is the new Serious Games Institute (SGI) located at Coventry University. The SGI is a partnership with the Regional Development Agency and is designed to combine:

- Business support for SMEs in the Serious Games sector including a usability laboratory and development service
- User-led research into Serious Games applicable to business needs
- The delivery of educational and training courses in Serious Games
- Serious Games incubation facilities

The SGI represents a novel approach to the integration of technology transfer, applied research, and teaching/professional development. Some 80% of the activity in the Institute could be conceptualised as SME support and applied research, the remaining 20% will incorporate a mix of teaching and training.

## 7.1.6.Serious Games Initiatives

The 2007/8 project (Interactive Digital Media IDM), commissioned and funded by the Regional Development Agency and delivered by a consortium of public and private partners led by UCE Birmingham, aims to stimulate development of Serious Games further in the region by enlarging the supply chains of the sector to encourage participation from all media producers, commissioning near-market research, developing regional ‘champions’ and providing seed-corn funding for developing collaborative pilot prototypes. “Diversify the Games Industry” is another Regional Development Agency funded project led by Coventry University Enterprises. The project incorporates both the showcasing of the West Midlands game industry with the regard to the creation of non-entertainment applications and also aims to broker new business opportunities directly with commissioning clients in the field of Serious Games through direct marketing, one to one meetings, exhibitions and events.

## 7.2. International Models

There are in fact a number of models already developed by support bodies, governments or regional development groups from across the globe that have produced favourable results and are worth reviewing here.

### 7.2.1. Canada

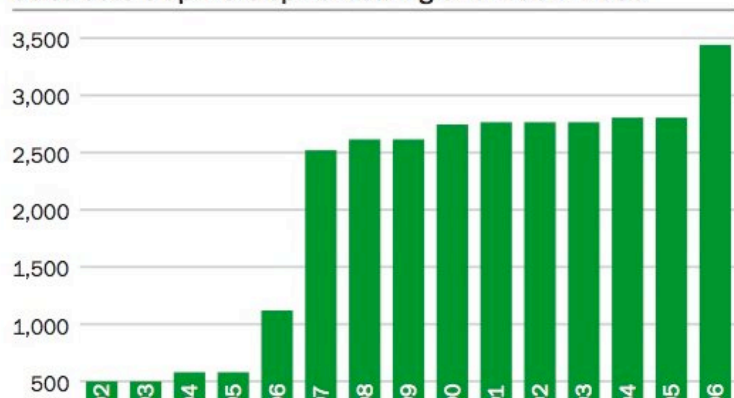
The most obvious example of success has come from Canada's continued support of the games industry. Recent headlines in the industry press have all highlighted the power of intervention in the computer games industry and the risks associated with the countries who will not or cannot keep up. In Canada support systems vary between territories, but in general Canadian territorial government have been successful in stimulating the game industry resulting in strong clusters in Edmonton, Vancouver, Toronto and Montreal. Leading publishers like Electronic Arts, Vivendi Universal Games, Take2, and Ubisoft all have first party studios in Canada. Montreal is the most famous example, having attracted large parts of the once-flourishing French game industry. Ubisoft employs more than 2000 people in one facility (Montreal) – roughly the size of the whole Nordic developer community.

The Canadian success story is largely due to active government support in the shape of tax credits (deductions made on corporate tax returns), on the scale that they are not just decreased tax expense but actually net income for the company. 65% of R&D cost can be covered through this system. As an added benefit, the tax credits can be paid in advance. In Quebec, additional tax credits (7.5%) are available to companies that employ French-speaking staff.

The Canada New Media Fund – run by Telefilm Canada – supports (among other things) games and has a budget of €5.6M/year.

The scale required and the risk inherent in console game development have effectively raised the barrier to entry in this industry to unprecedented levels. One of the publishers most active in current and next generation console publishing, Ubisoft based in Canada,

Ubisoft scale up: Development staff growth 1992 - 2006



has grown development staff numbers consistently since 1996, and will enter the next generation with in excess of 3,000 development staff.

These incentives have devastated France's specialist workforce with around 50% relocating to Canada over the last 6 years. UK producer Eidos recently announced it is to open a 300 person studio development in Montreal, not least encouraged by the financial incentives.

*“Indeed territories such as Canada and South Korea are challenging the UK for the third spot in production stakes. South Korea has put a huge effort into developing its games sector with a target for the sector employing 38,000 by 2010-11. Canada has a menu of relocation, employment and R&D tax credits unmatched anywhere in the world that has already had a major impact in the European industry (1000 relocated to Quebec from France in the last 6 months of 2005).”<sup>11</sup>*

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<sup>11</sup> The Department for Culture, Media and Sport (DCMS) - Creative Economy Programme

## 7.2.2. Nordic Prototype Fund

PILOT is a scheme designed to help Scandinavian game development studios not only to change the roles of Scandinavian developers in the value chain, but to put the Scandinavian developers in a better negotiating position in the predominant business model. There is also a policy not to make anybody's business more complicated – the so-called “no strings-policy” – which means that the terms of the PILOT should be adapted to the business models currently in use, easily adjustable to the specific projects, and with no demand for participants to make special arrangements or changes to their regular business models and project management. It is important that commercial rather than political processes determine which games get published; therefore PILOT supports only game projects with publisher funding.

The Nordic region enjoys a strong position as supplier of video games to the global (western) market. However, generous tax credit systems exist and emerge in several of the main competing regions. This situation makes it more expensive to develop games in Norway than in these regions, in spite of lower Nordic salaries. PILOT investigates how this disadvantage for Nordic game developers can be avoided.

In addition, PILOT aims to improve the competitive position for Swedish and/or Nordic game developers and help the industry reach its potential as an important driving force in the economy as well as a cultural counterweight to North America and as a source of knowledge and technology transfer to the surrounding industry and society in fields like artificial intelligence, computer-generated images, human-computer interaction, virtual physics, online connectivity, etc.

This pre-study proposes a program which publishers and developers can join in order to become eligible for prototype subsidies in the form of matching funds (50-50 towards publisher investment). The prototype phase is defined as the first ten per cent of the project's budget and the maximum subsidy is US\$ 500K. Publishers pay a US\$ 100K entry fee as a commitment to the program, this fee is repaid in full when the publisher makes its first milestone payment to the developer. Developers pay 2% of the project budget to the program as a participation fee and 10% of any royalties received from subsidised titles.

However, these fees shall never be higher than the subsidy received. This money pays for program administration and any surplus is saved in a fund for future prototype programs. PILOT is not open to publisher-owned developers.

Projects eligible for subsidy are: original IP-projects, license products, format porting assignments and other development projects where a prototype phase can be identified. Minimum development budget is US\$ 1.5 million.

Subsidies are given on strictly commercial principle; the only evaluation of a game project is carried out by the participating publishers. If a participating publisher invests in a project with a participating developer, the program will match its investment regardless of genre, release territory, content, language, target audience, or other factors.

PILOT is proposed as a three-year program, with a review phase after the second year and a potential sequel program being put in place immediately after the first program's expiry. Financial need is estimated to US\$ 2 million per year, or circa four prototypes per year.

## 8. Options for support for the South West games sector

The lack of a significant games industry in the region is a major inhibitor to developing a joined-up approach to support. External pressures, such as the DTI's Business Support Simplification Programme (nationally reducing 3000 support offering to under 100) – with the focus on a reduced number of bigger, wider impact programmes - and the launch of new regional Business Links (the Northern Arc and Southern Arc in the South West) meaning setting up a new dedicated business support offering, particularly for what is currently a limited number of beneficiaries, and acquiring the associated additional funding is unlikely to be well supported.

However, it is clear from the range of projects that a number of activities have relevance to the aims of this study.

### 8.1. Delivery options

#### 8.1.1. Signposting

As previously stated in this report there is a distinct need for a delivery partner to highlight and signpost relevant information to the games industry. Potentially a simple task but highly effective. This 'translator' or 'intermediary' can work in two ways: highlighting the needs and demands of the industry to educationalists and public policy, as well as signposting companies to opportunities, support and potential collaborators.

This function works with the government and regions current strategy of simplifying business support and the function of the Chambers of Commerce and Business Links. This is not about duplicating current provision for business support, but highlighting current provision, and identifying gaps in current provision. There could be a key role to play from existing agencies like South West Screen and the South West Creative Enterprise Gateway (managed by Business Link West as a one year pilot).



## 8.1.2. Networking support

As an industry often criticized for being 'xenophobic' to other industries, secretive and often "paranoid", there is also a demand to collaborate, network, and learn from others. As development cycles and budgets grow as does the similarity with other large scale creative software and content projects like film and software development. This increase in the development cycle often leads to a wide range of firms specialising in certain areas and linking when work dictates. We already see a growing industry in on-shoring, off-shoring, and out-sourcing for services such as asset creation, music, voice acting, and network support, but reporters have highlighted the potential for growth in all areas, including AI programming.

## 8.1.3. Inward investment

For most Regional Development Agencies, inward investment is a key component to their regional economic strategies, and with an increasing value put on the Creative Industries accelerator factor, there is a demand for a major effort put on inward investment specifically for the regional games industry. Many US and Japanese publishers are currently looking at UK developers to acquire, and many are looking to set up new European studios based somewhere in the UK to take advantage of the skill and educational function as well as a European take on global content. Although this can and should be supported by the UKTI (national and regional) and non sector specific regional inward investment specialists there needs to be a channel to spot and highlight opportunities specifically for and with the games industry.

These opportunities may be discovered at industry events, such as GDC, Leipzig, London Games Festival, from conversations with the regions developers, or discussions with publishers across the country.

Regions which have specialist support tend to gain most advantage from these opportunities as can be seen with Sega creating a studio in the West Midlands and new studios in Yorkshire.

Due to the lack of an existing industry of significant mass, inward investment is unlikely to happen easily, but closer working with those delivering enquiries i.e. UKTI and SWRDA to promote the overall benefit of creative technology and highlighting the achievements of digital media in the region (particularly Bristol) will be favourable to growing the games industry in a wider context.

## 8.1.4. Product investment and business support

Investment in the games sector from external sources is extremely limited. Most developers will look to publishers to fund their content development. There has been a rapidly increasing amount of debate in the IP and advertising fields about the potential of branded utility and branded content, and with the enormous success of Blitz Games and Burger King<sup>12</sup> many are looking beyond traditional publisher models:

*“Financing schemes and potential investors such as those that invest in the film and TV industries see no benefit in doing so when the risk is less for other media and tax credits available. Finance from outside the industry is unlikely to come to the independent development sector in any form or guise unless the developer can address the double imperative of acquiring funds for R&D for new IP and the cost of producing prototypes.*

*The government should consider action through measures available to other industries such as production tax credits, R&D tax credits, and adaptation and prioritisation of regional venture capital trusts.”*

*Fred Hasson, TIGA*

There is a need and focus for looking at product, IP and R&D investment from SWRDA but how this model is created is still unclear. Many regions investment pots fail to be spent, lack any returns, or lack the returns needed to satisfy European or Government funders.

We would suggest further work needs to be completed to produce a number of prototype models that are tested against the industry, regionally and nationally, before agreeing to support any models in the South West. Initiatives such as Media Production funds utilising European ERDF funds for investment in feature film, games and other media products developed by Screen Yorkshire and EM Media have so far heavily favoured feature film production and encouraged little new inward investment by new games companies relocating or setting up second offices in the regions.

South West Screen’s Creative Alliances, supporting both innovation and production alliances, has achieved success with Ammonite and Big Squid securing a £600K BBC commission after a seed-corn investment of £8,000. Seed-corn prototype funding for cross-media and cross-discipline projects such as Creative Alliances and Watershed’s SE3D programme support the content producer at the heart of a creative technology innovation and are a cost-effective and powerful means of catalysing further activity in games.

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<sup>12</sup> [www.pixel-lab.co.uk/blitzgames](http://www.pixel-lab.co.uk/blitzgames)

If the Innovation Alliances scheme is repeated or developed, models to encourage partnerships with games developers (potentially outside of the region) could be developed. South Yorkshire's MELT programme provides a model; the programme encourages collaborative R&D for first stage digital media innovation, where one partner – who receives the financial award – is based in the South Yorkshire region. Partnering with similar Agencies and programmes in other regions could encourage leverage from other regional partners who are actively supporting the games industry (e.g. South Yorkshire's MELT, West Midlands' Interactive Digital Media or Regional Screen Agency funding).

## 8.2. Creating the infrastructure to develop a games industry

The region's strengths – animation, film and TV production, education technologies (NESTA spin-out Future Lab is based in Bristol), mobile and pervasive media – are all appealing sub-sectors for working with emerging opportunities for games producers (focusing on online gaming, wireless and mobile as oppose to traditional PC and console markets) and stimulating new business and job creation in the region.

Improving knowledge, expanding networks and collaboration is essential to ensuring the range of media producers South West Screen are already working with understand the market opportunities for them within the games industry. Bringing speakers and businesses from the games industry into the five existing media clusters in the region and inclusion of games sessions within convergence or creative technology workshops or courses is recommended. Signposting can also highlight opportunities in other regions, particularly given Bristol's proximity to the West Midlands, and there are natural synergies between Bristol's media strengths and the opportunities being developed by the West Midlands Serious Games cluster which could be explored through South West Screen brokering linkages with the Creative Technology Network or Bristol Media Cluster.

South West Screen, through its National Lottery funding could also encourage skills development and showcasing within broader digital media and games, for example offering easy-access bursaries for digital media producers to attend or exhibit at crossover games and digital media industry events such as Edinburgh International Interactive Festival, b.TWEEN Interactive Forum, Game City or London Games Week.

On the issues of 'brain drain' of potential games talent from the universities (particularly University of Bristol's well-regarded Computer Science course), the national Dare To Be Digital scheme could be considered.

Developed by University of Abertay as an intensive talent developed scheme for university students to develop game prototypes with industry mentoring, it is highly regarded as a recruitment tool by industry and is seeking BAFTA award status. However, the scheme is costly for regions or universities to support and there is little guarantee of the best students securing work in the South West.

There are specific opportunities for the region which South West Screen are in a favourable position to develop:

- Digital and animation freelancers

Connecting with regional freelancers in the region, understanding their strengths and skills and connecting them with opportunities within the local and national games industry via partner games organisations who are already connecting directly to the coal-face of the sector e.g. Yorkshire's Game Republic or North East's Game Horizon. Freelance and micro company animators in the region have the potential to provide outsource character, 3D design and visualisation services to the games industry. This could take the form of extending the work the agency is already doing with its inward investment service and Production Guide database of production crew.

- Interactive agencies

There are a number of significant interactive and online marketing agencies in the region, e.g. Team Rubber and E3 Media, who are working on marketing campaigns with international clients like Orange and Toni and Guy. They could potential work with games developers to use their games engines to develop more sophisticated branded and viral products than the typical flash e-games they have developed in-house to date. There are some developers in the region where connections could be brokered, but also linkages with developers from outside the region can benefit the interactive agencies in exploiting higher value contracts and more value-added propositions for their clients.

The conditions for growth in games product in the region are highly favourable – particularly for mobile, casual, pervasive, and multimedia gaming and with this will come a sustained growth in numbers of businesses (generally of micro to small scale) and job creation. However, an 'industry' per se is unlikely to grow to any kind of critical mass unless it is developed as an essential part of a digital media growth strategy, working hand-in-hand with the existing regional strengths – particularly animation, digital media and the emerging sector of pervasive media.

South West Screen are in a position to make and influence small-scale and immediate interventions – particularly in seed-corn funding, access to training and skills and forging wider networks and connections – particularly to enable new businesses to start-up with the potential to develop and flourish in this field.

With such a diverse and dispersed sector any specific support may appear heavy handed, and a more efficient and favourable approach is to build links between the region and games industry, to ‘knowledge build’ content into existing delivery activities. Although the games industry are not in the region to act as exemplars for graduates and new-start businesses, there needs to be a great recognition of the role supply-chain (or cluster) businesses can provide to this high-value industry. We recommend a number of more blanket approaches:

- Skills development, and the support of the extensive work conducted in higher education
  - This may be more complex than training courses and course development. Many companies felt that skills development as well as learning on the job comes from collaboration with projects, client, outsourcers, partners, sharing experiences, and learning new approaches from other industries is the key to growing new markets, as well as developing their own production processes.
  - Companies feel they need support to connect to these other industries like TV production or community developers. Some form of gatekeeper, introducer or middleman needs to be in place to ensure relevance as well as open doors.
  - Building knowledge of games into existing or future skills programmes e.g. a ‘module’ or workshop as part of a convergent or digital media course (e.g. intro to the games industry, freelancing in the games industry, casual gaming, virtual worlds), and bringing high-level inspirational speakers to the region who are not only significant in the games industry but have connections to other types of media and can ‘speak their language’.
  - The tutors delivering games courses at Plymouth College of Art & Design and University of West of England and the Creative Technology Network (3C Research and University of Bristol) could prove good linkages for knowledge transfer activities.

- Promoting the region to the world as a great place to set up a business
  - The South West is particular good at promoting its region as a place to make a home and a business, from natural beauty to connections to London. This potential could well be tapped when looking to establish a base for freelancers and outsourcing companies. South West Screen have already had significant successes in attracting inward investment from large-scale media companies, despite not being able to offer the subvention finances of other regions, e.g. Endemol West and RDF setting up TV production hubs in Bristol. Using this experience, more focus to promote internal investment from the digital media sector – including games – could pay dividends in job and business creation, by promoting the rich talent pool of technical and creative expertise, new talent and production services on offer. This would fit under South West Screen’s existing priority of marketing and promoting the regional media industry.
- Business development and support
  - Starting a new business in the games industry is as hard if not harder than other Creative Industries, but with EDI (electronic data interchange), the casual games explosion and potential new media and web markets opening up, now is a great time to start. Supporting this growth through traditional business support structured for the industry is an easy win for support agencies.
  - Providing access to events such as Game Connection, the TIGA content market and other publisher-developer relationship building events.
  - Encouraging companies to diversify into new markets through research and highlighting previous unseen opportunities.
  - Acknowledging the games industry in wider business development practises e.g. new Business Link service, Creative Enterprise Gateway.
  - Identifying digital media freelancers and outsourcer services and presenting them with a compelling offer to engage e.g. training bursaries, events or training relevant to their identified needs.

- Collaboration and networking
  - Whether this is developing the current established base of development or opening and growing the market this is an area of increasing importance to the industry.
  - Collaboration, not just along vertical value chains, but also across similar horizontal chains such as TV production and web development.
  - Networking coherently proves difficult given the disparity of the sub-sectors and the vast geographic spread of the region – so utilising existing media networks and making use of virtual networking (e.g. online forums and websites), and opportunities to collaborate out of region together (e.g. UKTI trade mission, a joint-pavilion at trade fairs or regional presence at industry events) is recommended.

All these activities will not only grow the region's current production output in both value and quantity, but if successful create new demand for new products and services created from a diverse industrial base. The tiering of the support will also allow different groups of companies to grow at their own pace.

## 9. Delivery

One of the largest challenges for any support in this industry is in the delivery mechanisms of the support.

To date the games industry has often been described as immature, xenophobic and unstructured, but it is an industry used to high levels of rapid change and one that is developing at a phenomenal rate. Support needs to be tailored and filtered to individual companies' needs, and more blanket support to be translated and highlighted in such a way that the region's industry feels comfortable working with it.

A global industry the size of the games industry is already looking beyond current understanding. SCEE have begun to work with the Cranfield Business School for process and leadership discussions, EA will continue to work with Computer Science Centres of Excellence, for example Imperial College, Hull and Manchester University. When games studios look for script writers they are looking at Hollywood not Brookside. In terms of production practise, however, independent TV companies are seen by many as an area that needs more investigation, collaboration and discussion.

We would suggest developing a project that is managed or championed by South West Screen and is part of a larger digital media industry project. This allows collaboration with the similar industries in animation, design, interactive media and art and should focus on networking, business support provision, freelance support and collaboration.

This is a cost effective and low cost project that would benefit the region in terms of both outputs and image. Employing no more than one or two full time dedicated people, the project would provide the following services:

- Signposting
  - Providing access to a range of opportunities
    - investment
    - business development
    - financial support
- Networking
  - Both within the digital media and games industry but also making connections with the local advertising, interactive, film and TV industries and encouraging inclusion of games industry, both indigenous and external, to become involved with existing networks.
- Research
  - Providing access and sharing research to the network from commercial research to academic work, from best practise to business opportunities.
  - Keeping a track of the regional players and impacts.
- Access to finance
  - Linkages to regional and national sources of investment finance, grants and bursaries.

## 10. Appendixes

### 10.1. Bibliography

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- [Gamesindustry.biz](#)
- [Southwestscreen.co.uk](#) – online resources
- [Watershed.co.uk](#)
- Arts and Humanities Research Council
- TIGA – Games Developers' Association
- Entertainment & Leisure Software Publishers Association

To compile this research, interviews were conducted with:

Regional educators, Watershed Arts Centre, Arts and Humanities Research Council, regional developers, TIGA, ELSPA, recruiters and journalists.

Thank you to all who spoke, or contacted us.