CLWSTWR PROGRAMME REPORT

GAMES SURVEY WALES 2021

MAPPING THE WELSH VIDEO GAMES INDUSTRY

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April 2022

ABOUT THE REPORT

This report is part of the Clwstwr programme, a five-year project that aims to put innovation at the core of media production in South Wales. Clwstwr wants to build on South Wales' success in making creative content by putting research and development (R&D) at the core of production.

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ISBN: 978-1-909838-59-8

EXECUTIVE SUMMARY

The aim of this report is to produce a detailed systematic mapping of the video games sector in Wales. It highlights the skills challenges and training needs of the industry across Wales. It also explores the support that the video games industry receives in Wales, the UK, Europe and rest of the world. This report provides informed insights into a sector that is currently under-developed and less well understood than the film and TV sectors in the Cardiff Capital Region, and Wales more broadly.

The growth potential for the video games industry in Wales that was identified in Nesta's 2014 report *A Map of the UK Games Industry*[1] has not been realised. However, there remains significant potential within Wales and especially the Cardiff Capital Region, and perhaps the potential is now even greater, given that there are more players than ever before (2.9 billion in 2021), and the global games market is expected to reach $200 billion by 2023[2].

Our research identified 69 active video games companies in Wales, with clusters in north and south Wales. Most of these companies are micro (10 employees or less) and have been trading for less than six years. The scale and number of projects that companies are able to undertake is therefore small. There is still work to be done on establishing the full impact and needs of the freelance workforce.

Video games companies in Wales produce a wide range of content for multiple platforms, most commonly PC and mobile. There is a significant appetite to work on novel IP projects, with all survey respondents indicating they are working on their own IP, but 34% had to supplement their income with work-for-hire.

Video game production is a business with significant cultural value. For example, it has significant potential to support the uptake of Welsh language, helping to fulfil the Welsh Government's aim of reaching 1 million speakers of Welsh by 2050.

[1] www.nesta.org.uk/documents/375/map_uk_games_industry_wv.pdf

[2] newzoo.com/insights/articles/global-games-market-to-generate-175-8-billion-in-2021-despite-a-slight-decline-the-market-is-on-track-to-surpass-200-billion-in-2023/

30% of Welsh video games companies are producing Welsh-language video games content. With targeted support, this could be increased, allowing for the creation of content capable of engaging a broad audience.

There is a substantial opportunity for video games producers to contribute to development in crossover areas. Games technology sits in the centre of a melting pot of technological and creative innovation, with significant influence from the computing and film industries.

Virtual Production (VP) - using real-time games technology as part of a film and TV pipeline - is particularly pertinent and evolving quickly. Technology-driven innovation in other areas such as metaverse and blockchain cannot be ignored. The creative industries in Wales are waking up to this, as demonstrated by *Clwstwr* funding 30 projects in these crossover areas since 2018. Continued support through *Media.Cymru*[3] is essential.

The training needs for film and TV identified in both *Screen Work 2020* and *Screen Survey Wales 2021* reports highlight the requirements for Virtual Production. Given the growth and quality of film and TV industry production in Wales, there are clear benefits in developing capacity and skills for Virtual Production. The increasing convergence of screen sectors must be considered when developing future Welsh skills programmes across the creative industries.

Incentives offered in Wales and the UK are broadly similar to many other nations. However, most video games companies in Wales have not effectively leveraged public funding support. Further outreach work is needed to ensure that games producers are aware of, and able to access, appropriate support and incentives to allow them to boost growth and sustain development.

While there is some infrastructure in place, helping to connect developers across Wales, this needs to be improved if Wales is to work towards a critical mass of industry knowledge. Improved leadership and support have the potential to create opportunities to make more of Welsh culture and language with the development of novel content IP by Welsh video games makers for export to a significant global market.

With the right support and training in place the future looks bright.

[3] www.cardiff.ac.uk/creative-economy/media-cymru

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FINDINGS

Size and Shape

Finding 1.

The number of video games companies in Wales has nearly doubled since 2014. This research identified 69 registered-active companies in Wales. There are two significant clusters, in southeast (concentrated in the Cardiff City Region) and northeast Wales, with a third smaller cluster around Swansea.

Finding 2.

Our research has identified that video games companies in Wales are predominantly micro-businesses, with fewer than ten employees; almost half had fewer than three employees. This limits the capacity for undertaking multiple projects and also has an impact of the type of support and incentives that they can access to encourage growth.

Finding 3.

Our research shows that video games companies in Wales are very young, with an average company age of six years and seven months. Companies that have been dissolved tended to do so within the first five years.

Workforce

Finding 4.

Informal recruitment practices remain dominant in the sector, with 80% of companies recruiting by word of mouth, and 47% recruiting via social media. The size of these companies (see above), and their limited resources, pose significant barriers to building a sustainable talent base across Wales. The lack of advertised roles is impacting on the number of "available jobs". Consequently, the games sector looks less active, with fewer job opportunities, than is the case.

Finding 5.

The number of video games companies in Wales working remotely accelerated due to the COVID pandemic, with some companies permanently moving to a hybrid working model. Many have indicated that a hybrid mode of work is likely to continue in the longer term. For freelancers, this has also impacted opportunities for networking and finding employment.

Content Development

Finding 6.

Video games companies in Wales predominantly produce content for PC and mobile platforms. However, most have released fewer than 5 titles. There is a significant appetite to work on novel IP projects, with all our survey respondents indicating they are working on their own IP, although 34% had to supplement their income with work-for-hire to support this.

Finding 7.

Welsh culture and language are being incorporated into games by video games developers, but opportunities for novel IP creation seem to be missed. There is intrinsic value in using games content to support the Welsh Government's aim of reaching 1 million Welsh speakers by 2050, which is something that the policy documents do not currently explore.

Skills, Education and Training

Finding 8.

The video games sector in Wales currently places little emphasis on active skills development and continuing professional development (CPD). There is some engagement with educational providers, but there are no training providers for games specific CPD, and there is a lack of in-house training. It is notable, however, that there is a close correlation between the geographical locations of educational providers and games companies, and the possibility to provide this training is apparent.

Finding 9.

A wide range of skills are required to support growth in the sector including, creative, technical, and business (including finance and marketing). Building closer links between educational providers and industry partners is key to changing this.

Finding 10.

There are many opportunities to make the most of interchangeable skill sets in organisations that work across similar disciplines including, film, TV and animation, and also more broadly in digital agencies, architecture, engineering, healthcare, education, mobile development, software development and eSports.

Incentives and Support

Finding 11.

There is poor take-up of public funding from the Welsh games sector. For example, of the video games companies identified in this report, only 8.7% had successfully leveraged funding support via Creative Wales Development Fund in 2021. Incentives offered in Wales and the UK are broadly similar to many other nations, but most video games companies in Wales have not effectively leveraged funding support in the past.

Maid of Sker ©Wales Interactive

RECOMMENDATIONS

Provide Tailored Support

Recommendation 1.

Three areas of support and incentives are needed, aligning to the needs in different parts of the sector:

1. **Bespoke talent development for recent graduates.** Ensuring appropriate follow-on initiatives are in place to support start-ups. Barriers-to-access should be as low as possible, with "light touch" application processes and favourable terms for funding support.
2. **Small and nascent companies require structured mentorship** and business development support (including financial and legal advice), potentially through an incubation programme. This could be aided by leveraging Welsh diaspora talent to bring valuable experience and knowledge back into Wales.
3. **Targeted growth support for established companies** with an attractive package of development, investment and production funding. Ensuring the development of novel IP for export to global markets.

Recommendation 2.

If we are to see a significant increase in sector growth, we need a plan to drive improvement in the sector's uptake of business support. This includes ensuring that information is available in a user-friendly way and championed within the sector's community. The available support should be reviewed regularly by all stakeholders to ensure it is fit for purpose.

Skills, Education and Training

Recommendation 3.

Industry and public sector organisations need to invest in better skills provision to support a sustainable Welsh video games sector and to capitalise on the rapidly growing demand for games skills across the whole of the screen sector (e.g., in areas such as Virtual Production). Considerations should also be given to how best to support freelancers in accessing training.

Recommendation 4.

Targeted grassroots support is needed to enable Further Education, Higher Education, and industry to build accessible progression routes into sustainable careers in the region.

Recommendation 5.

There are no Higher or Degree Apprenticeships for games development or games art offered in Wales. Sgil Cymru's Criw[4] is currently in place to deliver apprenticeships for film and TV, but there are no games options currently in place. A similar scheme for games would clearly be beneficial.

Recommendation 6.

Little consideration appears to have been given to how video games can be integrated into broader education and skills strategy in Wales. There is significant potential not only in supporting the *Digital 2030: A strategic framework for post-16 digital learning in Wales*[5], but also the *Curriculum for Wales*[6] *and Digital Competence Framework*[7].

Content Development

Recommendation 7.

Video games provide an excellent medium for reaching a broad audience with engaging content. Welsh Government needs to assess the benefit of using videos games as part of its *Cymraeg 2050 Welsh Language Strategy*[8]. Welsh culture, mythology, history and language present significant opportunities for the development of new content IP, not only to local consumers but also to a global export market. Consideration needs to be given towards providing additional funding to encourage the development of content suitable for supporting *Cymraeg 2050 Welsh Language Strategy*.

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[4] www.sgilcymru.com/en/criw/

[5] gov.wales/sites/default/files/publications/2019-06/digital-2030-a-strategic-framework-for-post-16-digital-learning-in-wales.pdf

[6] hwb.gov.wales/curriculum-for-wales

[7] hwb.gov.wales/curriculum-for-wales-2008/digital-competence-framework-curriculum-for-wales-2008-version/framework/

[8] gov.wales/sites/default/files/publications/2018-12/cymraeg-2050-welsh-language-strategy.pdf

Barriers to Growth Potential

Recommendation 8.

An effective business and skills support plan is required to enable the sector to grow faster than it is currently. This requires a deeper understanding of barriers to growth and the reasons why some of Wales' video games companies have failed.

Recommendation 9.

The contribution of freelancers to the video games sector in Wales needs to be better appreciated and should frame discussions on skills and training requirements. This should build upon the work of the Cultural Freelancers Wales report, but with a closer focus on digital freelancers.

Community and Networks

Recommendation 10.

Industrial advocacy matters. Sector leadership is needed to ensure that communication and support for the sector is collectively owned and better disseminated. Informal community connections are meaningful and appropriate but what is not currently visible is a professional network driving the industry forward.

Games Wales should become an anchor point to support the existing video game developer community and new company start-ups, whilst ensuring that there is a safe and vibrant space for workforce networking.

Recommendation 11.

Games Wales needs to facilitate ongoing research in order to maintain an understanding of needs in this fast-changing industry. As a forum it is ideal to publicise available jobs in Wales through a job site and social media, as well as delivering structure communications publicising the support and incentives available to Welsh video games companies and freelancers.

Recommendation 12.

A dedicated role to support the administration of Games Wales is needed, allowing for the effective organisation and delivery of activities to support the games industry in Wales. This role would include maintaining up-to-date industry information and jobs opportunities, the promotion of game releases, and as a liaison for tailored support opportunities.

Recommendation 13.

The *Wales Screen Database*[9] needs to be widened further to include criteria suitable for video games freelancers, or the creation a similar database specifically for video games. A combined database would be particularly relevant for crossover areas such as Virtual Production, Animation and VFX. A promotional campaign is also needed to ensure that freelancers and organisations recruiting know about the database.

Recommendation 14.

In conjunction with Creative Wales there is a need to develop a mentoring network of Welsh diaspora talent to support current video games companies in Wales.

Workplace and Infrastructure

Recommendation 15.

To facilitate content development support for hybrid and remote working, continued improvement of broadband speeds and access across the whole of Wales are needed. An improved digital infrastructure will help the Welsh video games industry and its freelancers to work smoothy across Wales and with international partners.

Lunafon © Ddraig House

[9] database.walesscreen.com/productionguide/?sid=wa&searchid=all&lang=en

INTRODUCTION

This report contributes an innovative mapping of the video games sector across Wales identifing the composition and characteristics of the sector in Wales. Exploring the type of work undertaken, and the impediments and requirements for growth. It details the available industry relevant, vocational provision, skills challenges, and training needs within the industry.

The report also identifies available support and talent initiatives with Wales and the UK, as well as making comparison to the schemes available in Europe and the rest of the world.

The *Games Survey Wales 2021* builds on Clwstwr's previous *Screen Work 2020*[10] report that gave insight into Wales' screen sector in the Cardiff Capital Region (CCR)[11]. This research was conducted alongside the recently published *Screen Survey Wales 2021*[12] report.

The need for mapping of the video games sector in Wales was identified in Hargreve's 2009 report *The Heart of Digital Wales: A review of creative industries for the Welsh Assembly Government*[13], based on conversations with industry stakeholders.

Research Aims

1. Map the video games creators in Wales
2. Map training and post-16 education provision for video games in Wales
3. Identify major talent initiatives aimed at developing games in Wales and across the UK
4. Identify relevant funding streams that support innovation in video games in Wales and across the UK
5. Synthesise key lessons Wales could learn from these initiatives and potentially from other parts of the UK/Europe/the rest of the world
6. Identify the main challenges for the games industry in Wales in terms of,
    a. skills/talent from entry to business leaders,
    b. capability and capacity for innovation in games in Wales.

[10] clwstwr.org.uk/sites/default/files/2021-01/Screen_Work_2020_ENG_0.pdf
[11] The Cardiff Capital Region (CCR) includes the 10 local authority areas in southeast Wales – Blaenau Gwent; Bridgend; Caerphilly; Cardiff; Merthyr Tydfil; Monmouthshire; Rhondda Cynon Taf; Torfaen and Vale of Glamorgan. www.cardiffcapitalregion.wales
[12] research2.southwales.ac.uk/documents/4121/ScreenSurveyWales.pdf
[13] www.cardiff.ac.uk/__data/assets/pdf_file/0006/113586/HeartofDigitalWales.pdf

A Brief History of the Welsh Video Games Industry

From initial beginnings in the early 1980's in Dyfed, Abersoft Ltd created games for the ZX Spectrum, which evolved into Broadsword Interactive in the late 1990's. It was responsible for creating multi-platform releases such as Soccer Manager, later Dance:UK and Dance Party games.

Initial Welsh Government support came broadly from the Creative IP Fund established as a result of the 2004 Creative Industries Strategy. The fund ran from 2005 providing equity investment, however the focus leaned towards film, with only a single video games project funded (out of a total of 22 projects).

The earliest video games company identified in our research (that is currently active) was registered in 2003. Until 2010 the overall number of companies remained relatively low, then a spurt in growth occurred between 2010 and 2014, with the overall number increasing steadily. During this period, many of the current familiar faces in the Welsh video games industry appeared including, Llamasoft, Sugar Creative, Dakko Dakko, Wales Interactive, Goldborough Studio, Rant Media, Quantum Soup and Thud Media.

Undergraduate degree courses in video games were established in Wales early in comparison with other areas of the UK. The University of Wales Newport's BA Computer Games Design course in 2004 and BSc Computer Games Development course in 2005 (both now at University of South Wales).

Master Reboot ©Wales Interactive

There was support from the European Commission via the Creative Europe Desk UK Wales and MEDIA. Although the BFI's report *The Impact of Creative Europe in Wales*[14] shows that between 2007 and 2020, only a single video games company received support.

There was continued support for video games by Welsh Government through the Digital Development Fund between 2012 and 2016, with up to £50,000 match funding for projects. It also provided companies opportunities to showcase their games and services at international events like the Games Developer Conference in San Francisco, and Gamescom in Cologne.

In 2015 Welsh Government partnered with Microsoft to pilot the Greenshoots programme. Unfortunately, the programme did not make it out of the pilot phase after initially funding three projects.

GamesLab Wales ran from 2010 to 2012 at the University of Glamorgan (now University of South Wales). It was a research and innovation group that aimed to kick-start the Welsh video games industry giving graduates work-based learning opportunities. It helped create a significant sustainable video games industry presence in south Wales and birthed the Wales Games Development Show which ran from 2013 to 2016.

Toot's Race ©Thud Media

[14] core-cms.bfi.org.uk/media/9835/download

BAFTA Cymru has provided support and exposure for video games through an annual award between 2012 and 2019.

Games Wales (originally GamesDev South Wales and GamesDev North Wales) started as a series of informal developer meetups in 2012. Later with a team of volunteers it went on to support regular developer meetups, guest speakers, game jams. In 2014 it took on the running of the Wales Games Development Show (supported by Welsh Government). Its general aim is to support and promote video games developers in Wales.

Nesta's 2014 *A Map of the UK Games Industry*[15] report identified Cardiff as one of twelve games hubs in the UK, with an entrepreneurial cluster type (largely micro or small video games companies). The report identified 38 companies active in Wales in 2014 (2% of UK video games companies).

There has been periodic interest from the press, one of the more recent examples from BBC News, *Video games development: 'Wales can be global player'*[16].

Yani ©Goldborough Studio

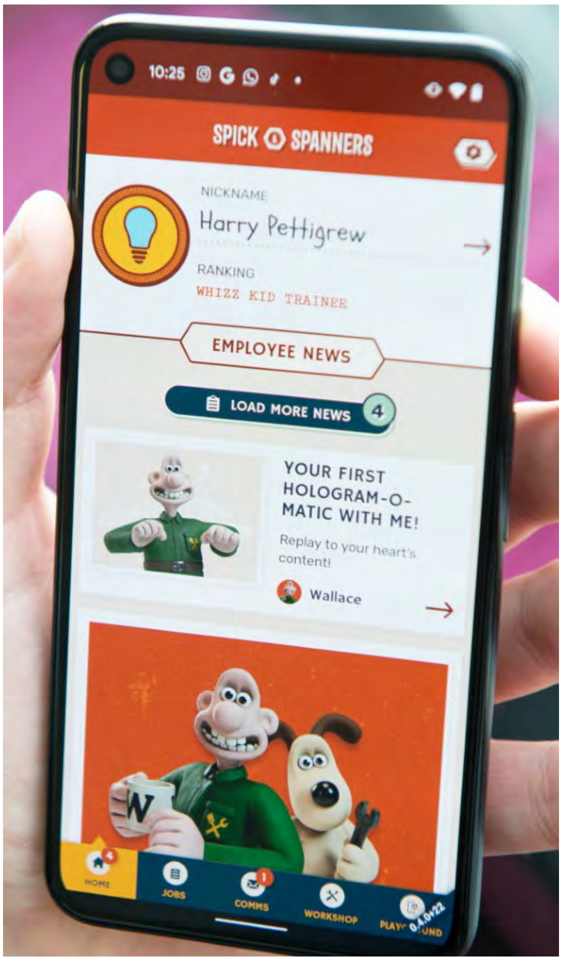
There have been a few bumps along the way, most notably the collapse of Oysterworld in 2016, which was at the time the largest employer in the Welsh video games industry. However new video games companies have continued to be set up, including Deceptive Games, Talespinners, Tiny Rebel Games, Runwild Entertainment, Pill Bug Interactive, Small Island Games and Ddraig House.

[15] www.nesta.org.uk/documents/375/map_uk_games_industry_wv.pdf

[16] www.bbc.co.uk/news/uk-wales-49114757

Clwstwr[17] is part of Creative Industries Clusters Programme, which is funded by the Industrial Strategy Challenge Fund and delivered by the Arts and Humanities Research Council on behalf of UK Research and Innovation. It has funded R&D in screen from 2018 until 2023. Supporting a range of innovations including: five video games projects, 19 projects where games technology is in some way crossing over with film and TV production (for example, virtual production, and pre-vis tools), and six Virtual Reality (VR)/Augmented Reality (AR)/Extended Reality (XR) technology projects.

More recently the formation of Creative Wales has given a new impetus to the digital sector, with a new raft of support packages, most recently the Emergency Digital Development (COVID relief) and the new Creative Wales Development Fund 2021, which has supported nine video games companies. There is also continued support for trade missions and international trade showcases. The sector is represented on the Creative Wales non-executive board by Dr David Banner MBE of Wales Interactive.



The Big Fix Up Mobile AR experience created by Fictioneers © University of South Wales

Recent success of Welsh video games companies has been highlighted by a Welsh-led consortium who won one of four UKRI Audience of the Future demonstrator awards (totalling £2.4 million). The Fictioneers, a collaboration between Tiny Rebel Games, Sugar Creative, Potato, the University of South Wales and partnering with Aardman, to produce a multi award-winning augmented story. The story brings Wallace & Gromit to life in an entirely new way, while creating a new cutting-edge digital platform for storytelling.

Other highlights have included Wales Interactive's Maid of Sker reaching 1 million downloads and winning a TIGA award for Heritage in Games.

[17] clwstwr.org.uk

Wales in the Context of the UK Video Games Industry

UKIE's January 2020 report *Think Global, Create Local - the regional economic impact of the UK games industry*[18] calculates that Welsh video games businesses contributed £1.4 million of GVA to the UK economy in 2016 (in total UK games companies contributed £1.4 billion to the UK economy). Based on the 2016 data used in UKIE's report, the Welsh video games industry represents 2.6% of the companies in the UK. Wales' video games GVA contribution is somewhat underperforming compared to other areas of the UK. This in part may be due to the lack of medium and large sized games companies in Wales.

When using more recent research from UKIE[19], we can see that since 2016 the position has improved further still, with three more companies and a slightly improved proportion of the UK sector, increasing to 2.9%.

Region	Company Numbers 2016 (UKIE) [20]		Company Numbers 2021 (GamesMap.UK)[21]	
Wales	**54**	2.6%	**66**	2.9%
Scotland	**113**	5.4%	**133**	5.8%
Northern Ireland	**35**	1.7%	**42**	1.8%
North East	**52**	2.5%	**62**	2.7%
North West	**174**	8.3%	**196**	8.6%
Yorkshire & the Humber	**149**	7.1%	**149**	6.5%
West Midlands	**134**	6.4%	**138**	6.0%
East Midlands	**95**	4.5%	**88**	3.8%
East of England	**166**	8.0%	**178**	7.8%
South West	**152**	7.3%	**196**	8.6%
South East	**376**	18.0%	**405**	17.7%
London	**588**	28.2%	**636**	27.8%

Table 1: Comparison of regional video games company numbers

[18] ukie.org.uk/download/4828842jn4qnt5b2pe01nx9zd6/0
[19] gamesmap.uk/#/map
[20] ukie.org.uk/download/4828842jn4qnt5b2pe01nx9zd6/0
[21] gamesmap.uk/#/map

The most recent Department of Culture, Media and Sport (DCMS) data[22] on Creative Industries jobs also shows that the distribution of creative industries jobs around the UK largely correlates with the distribution of companies in the video games industry. However, the proportion of jobs in video games in Wales lags behind that of jobs in the broader Creative Industries.

Region	**Creative Industries Jobs 2020** (DCMS)[23]	**Games Industry Jobs 2016** (UKIE)[24]
Wales	2.7%	1.1%
Scotland	5.8%	7.2%
Northern Ireland	1.4%	0.5%
North East	2.7%	3.2%
North West	7.5%	8.2%
Yorkshire & the Humber	5.8%	4.8%
West Midlands	4.4%	7.5%
East Midlands	5.6%	5.6%
East of England	8.0%	7.5%
South West	7.3%	2.6%
South East	16.0%	20.3%
London	33.0%	31.7%

Table 2: Comparison of regional creative industries jobs with video games jobs

[22] www.thecreativeindustries.co.uk/facts-figures/resources-infographics
[23] www.thecreativeindustries.co.uk/facts-figures/resources-infographics
[24] ukie.org.uk/download/4828842jn4qnt5b2pe01nx9zd6/0

METHODOLOGY

A mixed methods approach was adopted using desk research to identify companies, individuals and education providers, along with an industry focused online survey to gain deeper insights.

Desk research was also used to identify post-16 educational providers and the courses available, as well as funding and support available across the UK, Europe and internationally.

Data Sets and Terms

Defining Active Video Games Companies, Organisations and Freelancers

While the term ‘games sector’ has a broad definition, the focus of this research was video game development. The criteria for inclusion were companies, organisations or freelancers that:

1. are active and producing video games content for public consumption (publishers and developers)
2. provide services (e.g., writing, audio, motion capture, voice acting etc.) for video games productions
3. have an operational base in Wales

Companies were excluded where their main output is gambling/gaming, board games, eSport, PR, Communications, marketing, brand promotion of a product or service and influencer type online content development.

Fame Data Set

The initial data set was created Using the Bureau Van Dijk’s Fame[25] database to extract UK company information for cognate (Standard Industrial Classification) SIC categories. This data was accessed on 29th April 2021.

[25] www.bvdinfo.com/en-gb/our-products/data/national/fame

Other Data Sets

GamesMap.UK[26] created by UKIE and Nesta, was used to identify companies based in Wales. 66 companies and individuals appear in this data set. This data was accessed on 26th February 2021.

The Games Wales Map/Directory[27] a community tool was also used. 56 companies and individuals appear in this data set. This data was accessed on 26th February 2021.

Both of these data sets used company information which has not been updated regularly, this has proved useful to establish a historical viewpoint and company closures.

Games Industry Wales 2021 Survey Data

A short online survey was used to help us gain a deeper understanding of video games developers in Wales, particularly in relation to the kind of games they are making, how they find work and how they engage with education/training and government organisations for support.

The online survey was open from 29th June 2021 to 19th July 2021. There were a total of 26 complete responses.

Company Information Data Process

Data was combined from the three data sets (Fame, GamesMap.uk and Games Wales Map). The data was then sifted and verified, adding additional company information to those from the other data sets, where it was not already included in the FAME data.

The first pass of the data identified the likely SIC codes used by companies in the video games sector and companies with inappropriate codes were removed. As a result, there was a significant reduction in the size of the data set.

The second pass of the data checked location information for the registered postcode, to classify companies as inside or outside of the Cardiff Capital Region (CCR)[28].

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[26] gamesmap.uk/#/map

[27] gameswales.org/organisations

[28] There is a quirk of company records with the Cardiff post code CF14 8LH. Companies that have provided incorrect address details to Companies House are atomically reassigned to a default PO Box Companies House address in CF14 8LH, so there were many companies that appear to be registered in Cardiff, but are not. These companies were removed from the data set.

The third pass of the data checked for company activity. This was judged by examining the activity of the company or individual, through publicly available websites, social media and trade websites. If websites and social media was missing or had been inactive it was judged that the company was no longer active.

There are a number of gambling/gaming companies listed in the data set, which were removed as they did not meet our criteria for inclusion. These companies produce arcade equipment and online gambling, even though some of the expertise and skills involved are similar to the video games industry.

Deathtrap Dungeon ©Wales Interactive and Good Gate Media

Post-16 Educational Providers Data

For Higher Education (HE) (level 4 and above) courses the data set was obtained from UCAS[29], for courses running in the 2021/2022 academic year.

For Further Education (FE) (level 2 & 3) courses the data set was obtained directly from the individual college websites, for courses running in the 2021/2022 academic year.

Support and Talent Initiatives Data

Extensive desk research was carried out to identify video games support and talent initiatives around the world, in order to provide a comparative context for our industry in Wales. The examples provided are not intended to be exhaustive. They include highlights of key initiatives in counties with a well-established video games industries and notable initiatives for countries with smaller industry presence.

[29] www.ucas.com

THE CURRENT STATE OF PLAY

This research has identified a total of **80 organisations and individuals** (freelancers) actively working in the video games sector in Wales.

69 registered companies were identified, with an additional **11 individuals** that had no company registration, indicating that they were working as a sole trader on a freelance basis.

The registered companies were identified using Standard Industrial Classification (SIC) codes. There are two codes which are specifically relevant to video games making and publishing, these are unsurprisingly the two predominant codes used by video games developers based in Wales.

- 62011 Ready-made interactive leisure and entertainment software development (31, 44.9%)
- 58210 Publishing of computer games (23, 33.3%)

There are several other SIC codes used by companies in our data set:

- 62090 Other information technology service activities (6, 8.7%)
- 62012 Business and domestic software development (4, 5.8%)
- 90030 Artistic creation (2, 2.9%)
- 73110 Advertising agencies (1, 1.4%)
- 58290 Other software publishing (1, 1.4%)
- 96090 Other service activities N.E.C. (1, 1.4%)

There are some well noted issues regarding the use of SIC codes for capturing new industries. Many video games companies are using incorrect/ inappropriate codes. There is particular comment in Nesta's 2014 *A Map of the UK games Industry*[30] report, detailing well established UK video games companies that do not use the correct SIC codes for games. The trade body UKIE ran a campaign in 2018 and provided advice on their website[31] highlighting the issues and giving guidance on how to change SIC codes.

[30] www.nesta.org.uk/documents/375/map_uk_games_industry_wv.pdf
[31] ukie.org.uk/resources/how-to-change-your-standard-industrial-classification-sic-code

Geographic Distribution

Company distribution is split, with noticeable clusters in the northeast around Wrexham and Deeside, and in the southeast around Swansea and Cardiff, with the largest cluster of companies is in the CCR and is particularly condensed in Cardiff.

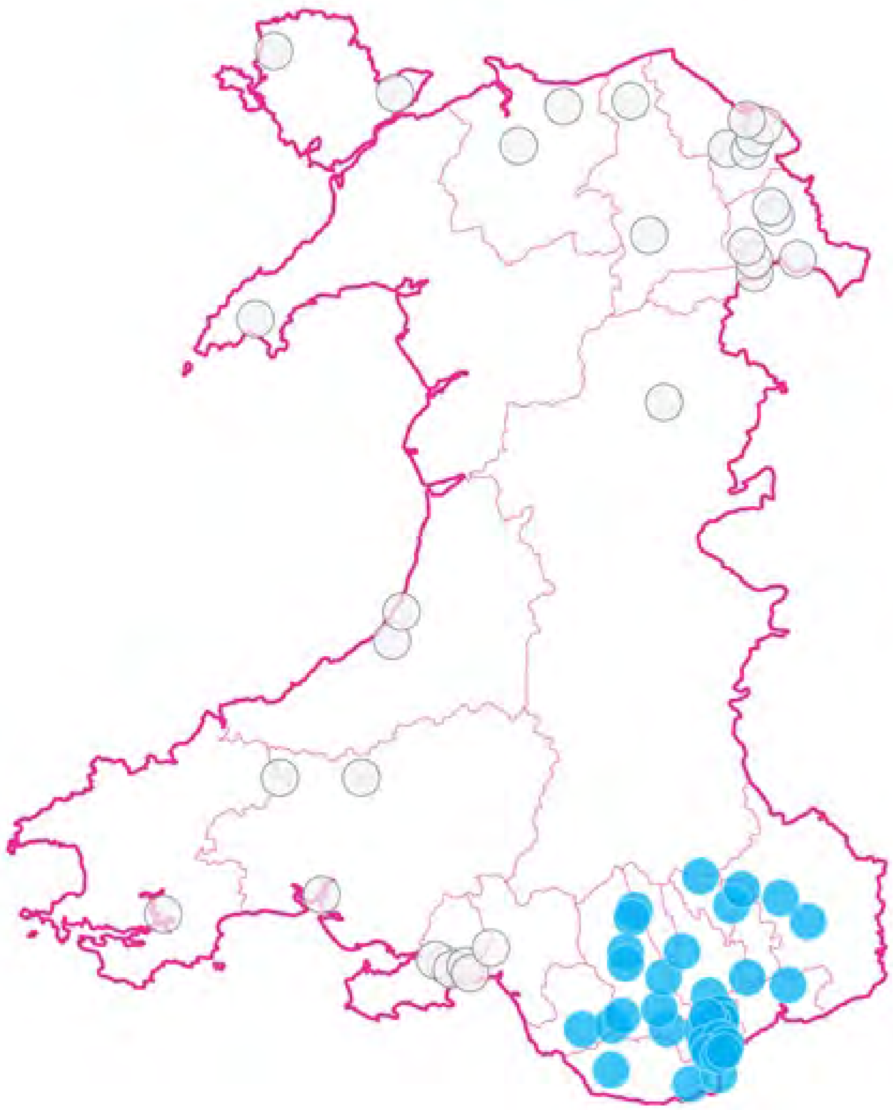


Figure 1: Active Video Games Companies in Wales. Companies inside CCR (Blue)

A significant number of video games companies are based inside the Cardiff Capital Region (CCR).

- **38** (55%) are Inside the CCR
- **31** (45%) are outside the CCR

There was no location information for 11 organisations in our data set. These were freelancers or organisations that were not registered at Companies House.

Figure 2: Close-up map of video games companies, organisations and freelancers based inside the Cardiff Capital Region

Company Lifespan

Between 2016 and 2020 video games companies in Wales have been registered at an average rate of eight per year, however during the same period there have also been closures at an average rate of five per year.

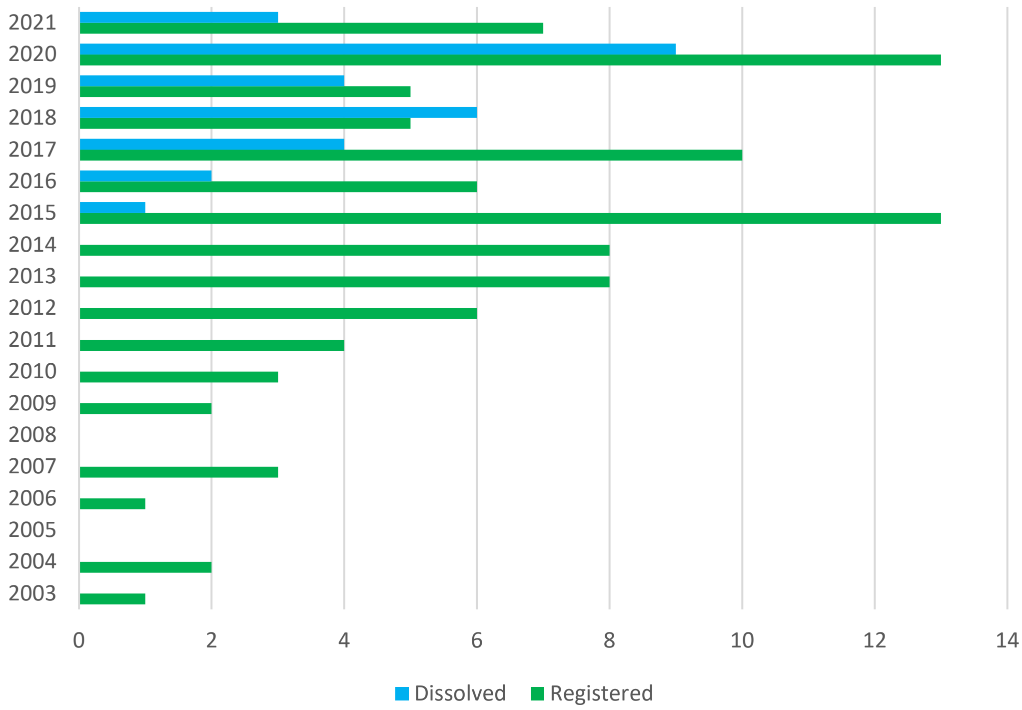


Figure 3: Annual Company Registrations and Dissolutions by year
Please note: 2021 data up-to May 2021 only.

For the companies that are currently trading, the average trading duration of **6 years 7 months**, with the shortest trading duration of **4 months** and the longest trading duration of **18 years**.

Our research has identified that **29** registered video games companies in Wales have ceased trading, since 2015[32], however the overall number of companies is growing. Between 2016 and 2020 the average **growth rate is 5% per year**.

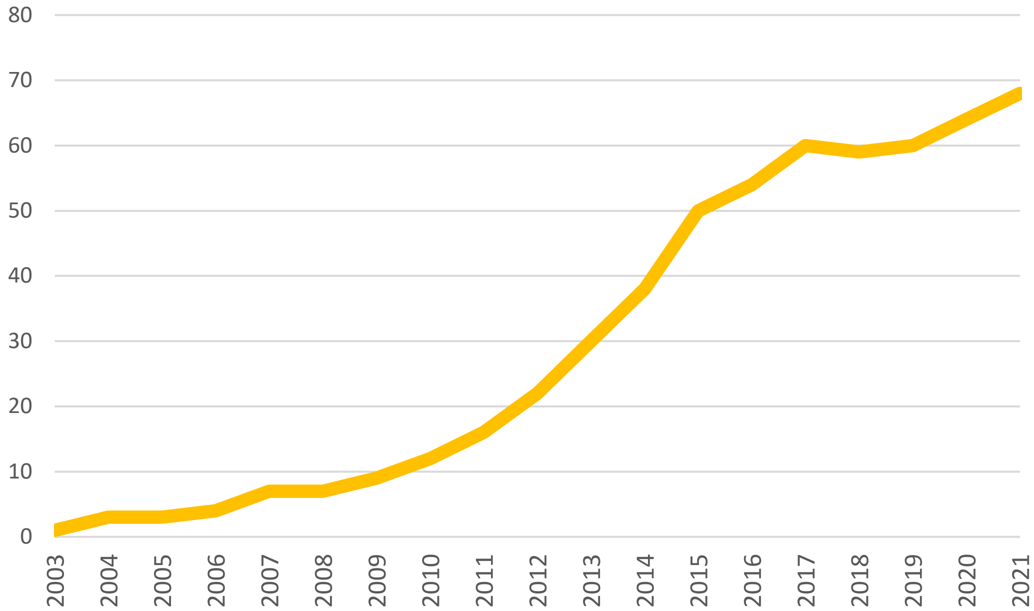


Figure 4: Cumulative video games company count from 2003 to 2021
Please note: 2021 data up-to May 2021 only.

The average trading duration for companies that have ceased to trade was **4 years 11 months**, with the shortest trading duration of **1 year 2 months** and the longest trading duration of **11 years 11 months**.

[32] Our research was unable to access data prior to 2015.

Cognate Organisations

18 organisations were identified that fall into cognate categories with links to video game development or tools. These cognate companies have not been included in the statistical data.

These are mostly made up of companies that support the making of video games, but it is not their core business focus. They include including animation, digital agencies, writing, audio, entertainment arcade R&D, and film and TV production. SIC codes are a somewhat blunt tool for the classification here and the nuance of the actual work undertaken by organisations is lost.

This is becoming even more blurred as Virtual Production in film and TV increases in prevalence, incorporating technology and skills from the games and computing industries. This is highlighted in StoryFutures' 2021 *Virtual Production* report[33]. The coming together of technical skills in video games development and Film & TV is a particularly potent mix. The large video games engine makers Epic Games[34] and Unity Technologies[35] are putting significant resources into developing tools and supporting virtual production workflows.

More comprehensive research that focuses on companies in the film and TV production sector has been carried out in the Screen Skills 2021[36] report.

[33] www.storyfutures.com/uploads/docs/VP_Skills_Report_202121.pdf
[34] www.unrealengine.com/en-US/virtual-production
[35] unity.com/madewith/virtual-cinematography
[36] research2.southwales.ac.uk/documents/4121/ScreenSurveyWales.pdf

SURVEY FINDINGS

The survey collected responses from 29th June 2021 to 19th July 2021. It was provided in Welsh and English language versions. There were a total of 26 complete response to the online survey.

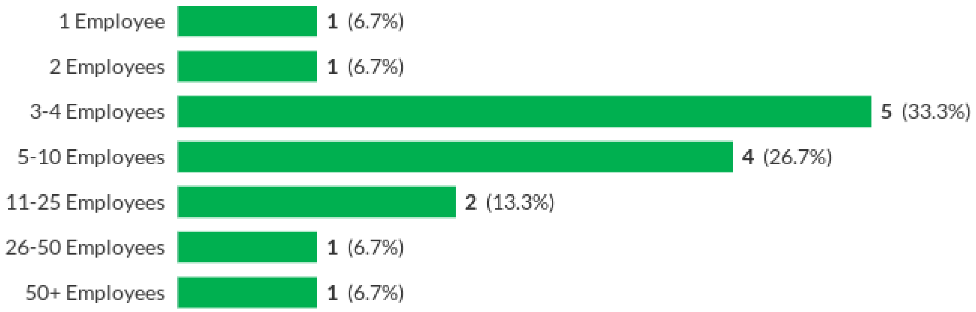
We acknowledge that the sample size and number of responses for this survey is small, it does however represent 33% of the companies in our collated data set and provides deeper insight into the characteristics of the video games sector.

Company Demographics

Of the 26 respondents to the online survey **15** were registered companies and **11** were sole traders/freelancers.

For the registered companies 10 were located inside the CCR and 5 pan Wales. For sole traders/freelancers 8 were located inside the CCR and 3 pan Wales.

14 of the registered companies/organisations surveyed are small (less than 50 employees) or micro (less than 10 employees) sized companies.



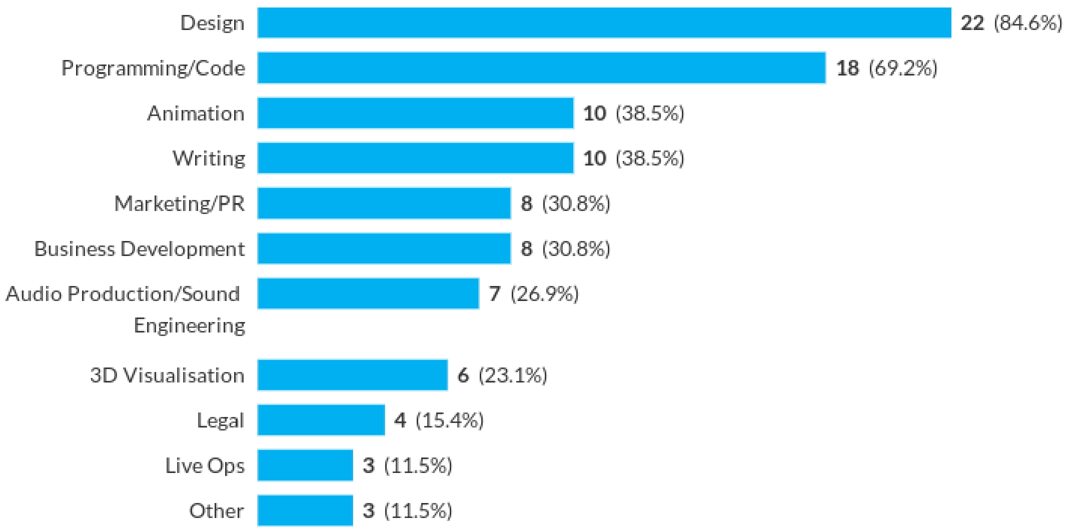
To put this in perspective with the rest of the UK, UKIE has identified that 99.5% of UK video games companies are classified as SMEs[37], the Welsh video games industry aligns with the UK trend.

[37] ukie.org.uk/download/4828842jn4qnt5b2pe01nx9zd6/0

Content and Platforms

Type of Work

A broad range of specialisms have been indicated in the responses, with design, programming, animation and writing appearing as favourites.



Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)

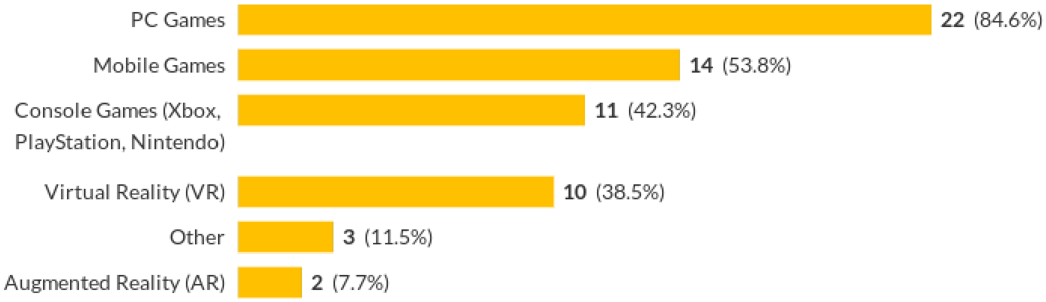
Additional responses for *Other* included; Virtual Reality, Funding and Publishing.

Lemon Ribbon ©Thud Media

The Platforms

A large proportion of video games developers in Wales are making games for well-established platform, PC being the most popular with 85% of respondents. Newer less well-established platforms, Virtual Reality (VR) and Augmented Reality (AR) have much lower uptake 39% and 8% respectively.

There are a few possible contributing factors. The complexity of development for these new platforms (and therefore cost), also the user based and therefore market size is smaller. It is also possible that the AR and VR development work is being carried out in cognate companies that have the technological skills but are not developing video games.



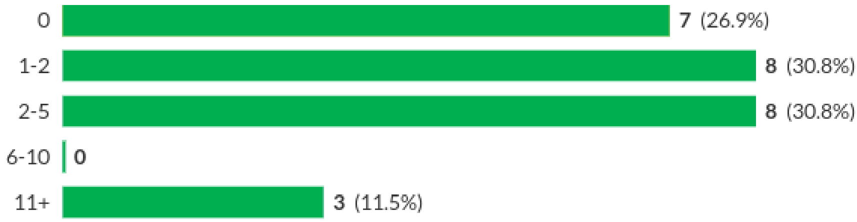
Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)

Additional responses for *Other* included; Web (x2) and Arcade.

Number of Video Games Released

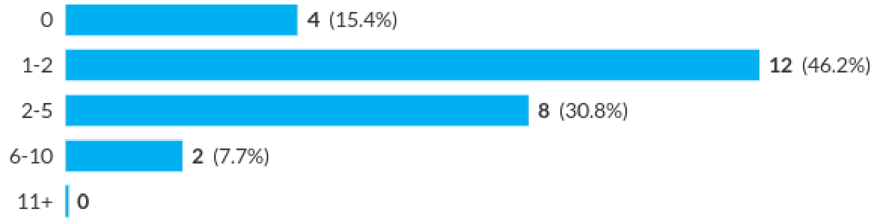
27% of the respondents had not yet completed development and released a game. This is most likely due to the young nature of a lot of games companies in Wales, as outlined in the Company Lifespan section.

The low numbers of released video games highlights the youthful nature of the video games sector in Wales. With 58% of respondents releasing fewer than three games.



Active Projects

The micro and small nature of most companies in Wales generally means that the capacity to undertake multiple projects at the same time is limited. Most companies and freelancers have two or fewer active projects.



Mabinogi © Thud Media

Work for Hire and Intellectual Property Ownership

61.5% of respondents are working either fully or partly on a work-for hire/ commission basis, with 38.5% working solely on their own project/IP.

64% of respondents are working their own IP, and 36% are working with both their own and licensed IP.

Welsh-Language Content

8 (30%) respondents to our survey produce Welsh-language video games content.

There are very few mainstream video games that have Welsh-language audio included or are localised[38] in Welsh. Yn Chwarae[39] has been working with games companies to localise content into the Welsh language, including Dicey Dungeons/Dwnsiwn y Dis by Terry Cavanagh, Destructivator 2 and Alien Death Mob by Pug Fugly Games, and Moo Moo Move by Mochi Mode.

There is more a subtle approach is being taken by Welsh video games companies, with several respondents mentioning that their games have Welsh/Celtic cultural, historic and mythological elements as core themes.

A good example of this with over one million downloads is the award-winning *Maid of Sker*[40] developed by Wales Interactive, with the support of Creative Europe MEDIA programme. The game is inspired by Welsh folklore and includes Welsh hymns Calon Lân, Suo-Gân and Ar Hyd Y Nos.

Maid of Sker © Wales Interactive

[38] Localisation is the process of translating a game or app for a foreign market, not only translating the text and speech but also including cultural adaptation for in game items.
[39] twitter.com/YnChwarae
[40] www.walesinteractive.com/maidofsker

Welsh culture, history and mythology provide a rich vein of potential for new intellectual property (IP) development, video games and other media content. Literature Wales' *Land of Legends*[41] highlights the rich landscape of opportunities that few have taken advantage of.

There are some systemic issues for distribution of Welsh-language video games content, for example, Steam[42] one of the biggest digital store/distribution platforms for video games, does not list Welsh as an official language for content. Concerted pressure on platform holders by Welsh Government may be needed in order to change the current situation.

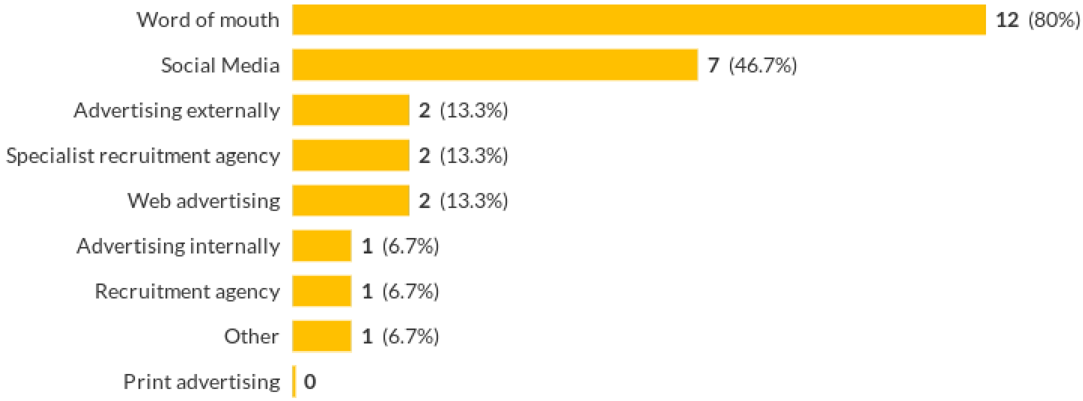
Video games have been overlooked by the Welsh Government's *Cymraeg 2050 Welsh Language Strategy*[43]. Alongside other cultural and media forms they could prove to be an excellent medium for reaching a broad audience with engaging content. A fantastic example is the work being done by Menter Iaith Caerffili who run Twitch and YouTube streaming channels under the banner of Yn Chwarae[44,45], Gemau Fideo[46] and Gemau Retro[47].

Drago Caffi ©Ddraig House

[41] www.landoflegends.wales
[42] store.steampowered.com
[43] gov.wales/sites/default/files/publications/2018-12/cymraeg-2050-welsh-language-strategy.pdf
[44] www.youtube.com/c/ynchwarae
[45] www.twitch.tv/ynchwarae
[46] www.youtube.com/c/GemauFideo
[47] www.youtube.com/channel/UC30sMbmamqKRFbtySoqVMPA

Recruitment

80% of respondents used word of mouth to recruit new team members, and 47% of respondents used social media to recruit new team members.



Multi answer: Percentage of respondents who selected each answer option (e.g. 100% would represent that all this question's respondents chose that option)

Games Job Live[48] has been tracking job listings for the videos games industry across the UK since August 2021. Wales has had fewer job listings than other areas of the UK in every month from September 2021 to January 2022. In January 2022 of 2,554 available roles in the UK, only 4 were based in Wales[49]. The reliance of Wales video games companies on word of mouth to recruit may also be a factor in the low numbers.

Research from April 2020[50] show that the UK video games workforce headcount is 16,836 (an increase of 12.2% from 2019) and is continuing to expand year-on-year. TIGA's 2021 *Business Opinion Survey*[51] shows that 68% of respondents were planning to grow their workforce within the next 12 months. This is not currently reflected in Wales, most probably because roles are primarily being recruited by word of mouth.

[48] www.gamesjobs.live
[49] gamesjobs.live/wp-content/uploads/2022/01/Games-Jobs-Live-Report-January-2022.pdf
[50] tiga.org/news/tiga-research-reveals-uk-video-games-industry-has-been-expanding-at-fastest-rate-ever-recorded
[51] tiga.org/news/tiga-research-shows-uk-video-games-industry-on-track-for-growth-in-2022

Recruitment Challenges for Companies

The majority of the respondents are involved in organisations so small that recruitment is challenging for several reasons, but usually lack of funds is a factor. Several organisations had not recruited any staff.

> *"Finance primarily. We also need more experienced staff in order to make hiring juniors cost-effective. When the mix is 50-50 seniors to juniors the mentoring demands on seniors are too high."* - Respondent One

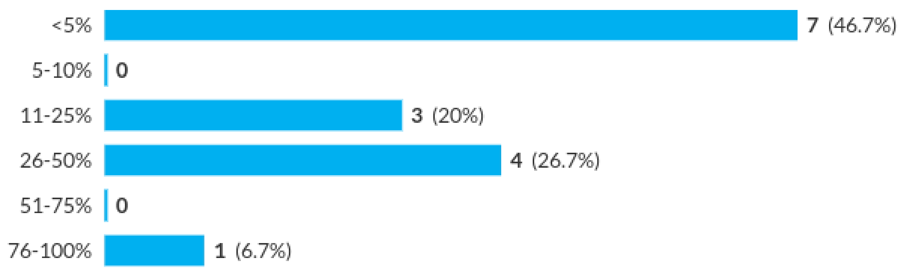
For those that are recruiting, finding appropriate staff appears to be difficult, skills and experience can be hard to locate. There also seems to be a lack of recruiting experience in the sector, with companies falling back on existing networks and work of mouth to recruit.

Technical skills especially software development appear to be the most challenging roles to fill. This is backed up by the *Annual ScreenSkills Assessment 2019*[52], which shows further difficulties in recruiting for technical roles.

> *"Actually finding them. The type of staff we were looking for needed to have really niche skills (such as traditional frame-by-frame animation, or a very specific painting style), so recruiting them involved a lot of time searching on places like ArtStation, Twitter and relying on recommendations from industry professionals."* - Respondent Two

Use of freelancers

The *Annual ScreenSkills Assessment 2019*[53] show that freelancers/sole-traders comprise of 28% of the screen industries workforce across the UK – this highlights that our research is likely to be missing a significant data set from the freelance community working in video games in Wales.



[52] www.screenskills.com/media/2853/2019-08-16-annual-screenskills-assessment.pdf
[53] www.screenskills.com/media/2853/2019-08-16-annual-screenskills-assessment.pdf

Asking what proportion of individuals have been employed on a short term or freelance basis the companies' responses show that the numbers are low, which may suggest that freelancers are working remotely for companies outside Wales.

The recently published *Cultural Freelancers Wales 2022*[54] report goes some way to establishing the needs of cultural freelancers, however the specific needs of the digital sector do not fall within the remit of the Cultural Freelancers Wales report.

As our data gathering has only identified limited numbers of freelancers and the other broader data does not include details of the digital sector, a sector census is needed. This would establish a clearer picture of freelance community and more broadly the workforce (employees) as a whole, including those working remotely for video games companies outside Wales.

How are freelancers finding work and what barriers do they encounter?

The sole traders/freelancers are mainly using traditional and digital networks to find out about opportunities or relying upon existing clients. Only two respondents used recruiters to find work. These findings mirror the practices used by companies to find employees.

There are several barriers which freelancers found hard to overcome when entering the video games industry. Some are keen to work on their own IP which require funding for projects and prototypes. It was also mentioned that there is a lack of sharing of best practice.

> *"No funding opportunities for early concepts/prototyping. I have had to spend years building up capital. I've been stuck in a cycle of delivering commercial value, without commensurate return/equity."* - Respondent Three

> *"Finding opportunities to apply for project funding"* - Respondent Four

> *"Lack of knowledge sharing. Most best practices are established behind closed doors, and that information protected."* - Respondent Five

[54] cfw.wales/recovery

Changes to working habits because of COVID

Working patterns have changed for 15 respondents, but 11 said there was no change in working patterns. The changes largely involved a move to remote working, or a change to freelance work. Some companies have given up their office space permanently.

> *"Switching from office to work from home to hybrid"* - Respondent Six

> *"We are now a remote working studio whereas we were all in-house 18 months ago. We plan for a hybrid work set-up in the future."* - Respondent Seven

We can infer here that a significant portion of the games industry in Wales was already working remotely or hybrid, form close to home or home offices, with the technology and workflows in place to work effectively.

The changes identified here are mirrored the wider video games industry in the UK and globally, with large numbers of companies moving to hybrid and remote working practices.

UKIE's July 2020 report *Playing On: How the UK games sector reacted to the challenges presented by Covid 19*[55] covers possible options for returning to work. However, UKIE's report published during the first wave of the pandemic does not give the full picture.

More recent research undertaken in mid-2021 by games recruitment agency Amiqus and published by UKIE[56] show that "*82% of respondents said that their productivity levels have remained the same – or increased – while working from home*". The Amiqus research shows that there has been a change preference towards the option for remote working within the workforce, with the 41% of the respondents stating that they would not considers jobs that did not allow remote work as an option.

[55] ukie.org.uk/download/4ehr0ncd3g2ngsw80b9dsjtkdj/0

[56] ukie.org.uk/news/new-amiqus-research-indicates-flexible-working-is-key-to-retaining-employees-in-the-games-industry

EDUCATION AND SKILLS

Post-16 Video Games Education in Wales

This section focuses on post-16 (non-compulsory) education providers in Wales. A course search was undertaken for any courses with "game" in the course title. In addition, courses with "creative media" or "creative technology" were also included if there was a significant focus on games. Courses with only "eSport" in the title have not been included.

The *UK Games Industry Census 2020*[57] shows that 81% of the games workforce is educated to Bachelor's degree level or higher, indicating the need to robust post-16 education provision. Strong Higher Education (HE) and Further Education (FE) is important for the prosperity of the sector.

Students in one of the University of South Wales' Games labs.
©University of South Wales

[57] ukie.org.uk/download/4gm3vwmart6z8473fa6vsz0hnk

Geographic Distribution

There are **44 courses** available from **13 educational providers** across Wales. These break down into six HE providers and seven FE providers, in 25 distinct locations. **24** (54%) courses are delivered inside the CCR and **20** (46%) outside the CCR.

The geographic distribution of FE courses is much wider than HE courses. This improves access for those studying at level 3 (HND, BTEC), although there are still large areas of Wales which have little or no provision. Level 3 courses tend to offer broader areas of study like Creative Media, Games Art & Design, or Computing with Games Development & Coding. FE providers are also partnering with HE providers to deliver Foundation Degrees.

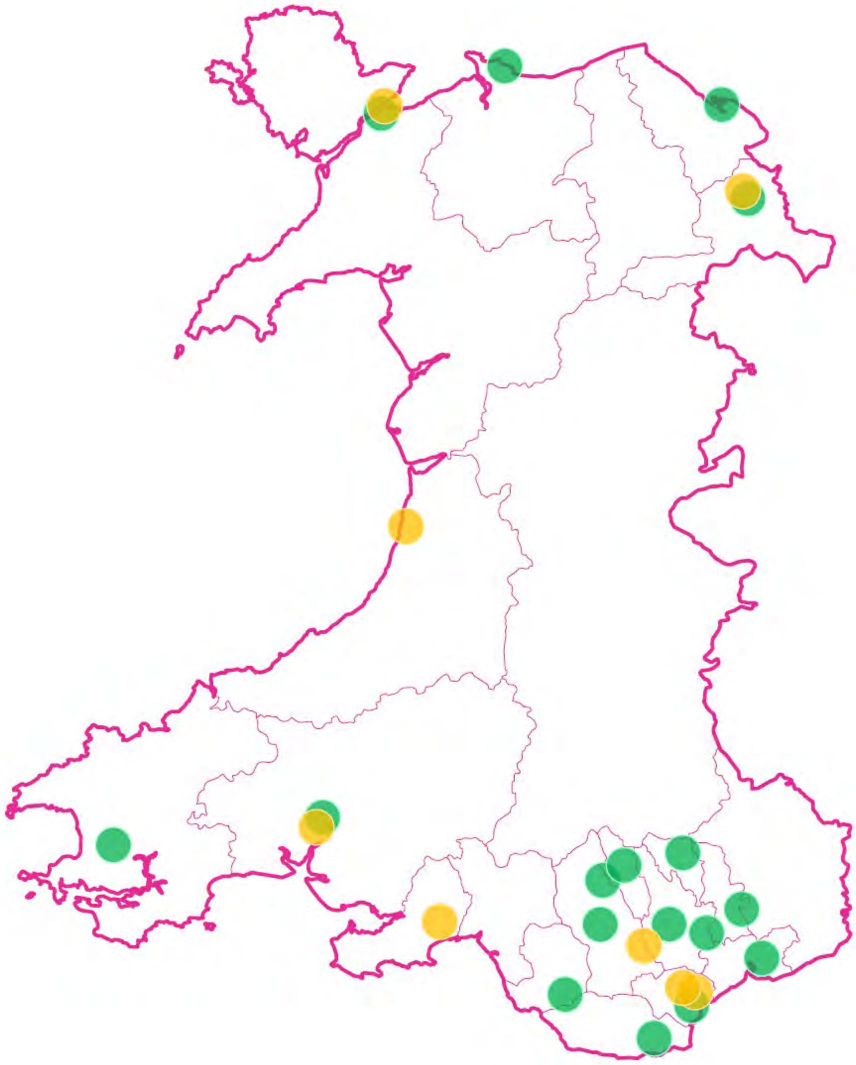


Figure 5: Map of educational provider
HE providers (Yellow) and FE providers (Green)

Correlation with Company Location

Clusters of companies are frequently seen in close proximity to the education providers, this is particularly prominent in Cardiff, Swansea, Deeside and Wrexham.

This was also observed more broadly across the UK in Nesta's 2014 report[58]. However, what is unclear is if the presence of games courses is driving company growth or if companies are driving the demand for courses. Our research (in the Training & Skills section of the survey) has highlighted the lack of engagement between video games companies in Wales with training providers and educational establishments. Establishing stronger links between education providers and companies will be important in ensuring that the talent pipeline is fit for purpose in a fast-moving industry.

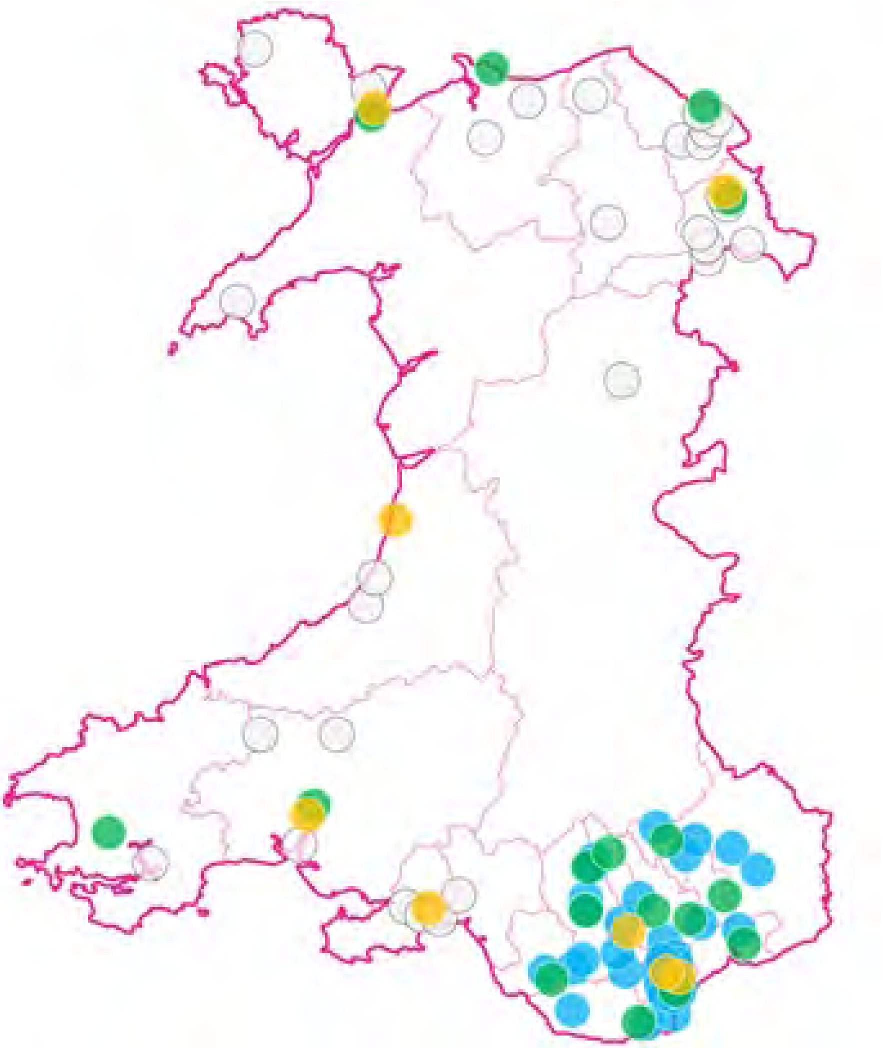


Figure 6: Geographical correlation of education providers and companies. Companies outside CCR (Grey), Companies inside CCR (Blue), HE providers (Yellow), FE providers (Green)

[58] media.nesta.org.uk/documents/map_uk_games_industry_wv.pdf

Types of courses

There are many types of video games courses, which are largely dependent upon the institution and department they sit within, usually either computing/ engineering or creative. In HE this usually dictates if the course is a Bachelor of Science (BSc) or Bachelor of Arts (BA) degree.

Video games courses often sit alongside more technical courses at one end of the spectrum (computer science and software engineering) and more artistic courses (animation, illustration and fine art) at the other. This allows for specialisation of curriculum, broadly aligned with industry job roles[59], which include, production, design, art, animation, audio, programming and testing.

The most common course titles are Computer Games Design, Computer Games Development and Game Art, but there is some variety and nuance in the full list of titles which can be seen below.

Computer Graphics, Vison and Games	Game Development and IT
Computer Science with Game Design	Games Art, Design and Animation
Creative Technologies	Computer Games Development
Creative Media	Game Art
Games Development and IT	Computer Game Design and Enterprise
Computing with Games Development & Coding	3D Animation and Games Development
Games Art & Design	3D Design and Virtual reality
Computer Games Design and Development	Digital Design Skills for Web, Games & Media
Computing with Creative Design	Creative Computing and Games Design
Virtual and Augmented Reality	Computing and Digital Technology
Information and Creative Technology	Computer Games Design
eSports, Games & Multimedia Business Events	Computing (Games Development)
Creative Media Production & Technology	Games Enterprise
Creative Media Production & Games Development	

Figure 7: List of video games HE and FE course titles in Wales.

The breadth of courses available provide ample choices for would-be video games makers to learn the skills and theories required to succeed in the game industry. However, given the number of courses available, the number of graduates each year far outweighs the number of roles available in Wales. As a result, a lot of excellent young talent moves out of the region to follow job vacancies.

[59] www.screenskills.com/job-profiles/browse/games/

Cognate Areas of Skill

The courses listed above were chosen because they contained “game” within their title. This of course is a very narrow view to take as there are many courses in cognate areas for which video games development skills are transferable (and vice versa). Examples of this include, 3D Animation, VFX, Virtual Reality (VR), Augmented Reality (AR), Computer Science (AI, Vision, Security), and Audio production and engineering. More recently tangible crossovers have appeared with Film & TV, Media Production, and eSports courses.

Needless to say, business support functions including business development, finances and accounting, marketing, and law, also need to be supported in the context of education, but often these aspects are often seen to be a minor element within a creative or technical course. These were identified by the respondents to our survey as areas in which required additional support – a mixture of continuing professional development (CPD) provision and continued integration into creative and technical curriculums would be beneficial.

Developing Games Education

There is an opportunity with the introduction of the new *Curriculum for Wales*[60] to use video games as a focus point which explicitly covers at least two of the *Areas of Learning and Experience:* Expressive Arts (which includes digital media), and Science and Technology. Embedding video games making into the curriculum at an early stage will enable children to develop creative and technical digital skills through a medium that they are usually very comfortable engaging with.

The WJEC introduced a Digital Technology GSCE (Level 1)[61] in September 2021. Whilst this is broadly a technology qualification, there are elements of assessment that can include designing and making a game. However, the assessment structure does not leave enough time to fully explore the process of making a video game – even a very simple one.

Level 1, 2 and 3 courses in Art and Design, or Creative Media tend to be a better fit for video games as they allow a practical approach to skills development but are often broad and only partially dedicated to video games.

[60] hwb.gov.wales/curriculum-for-wales
[61] www.wjec.co.uk/qualifications/digital-technology-gcse/

Degree Apprenticeships for video games have been introduced in England[62], although the uptake is currently low. Research conducted by *Into Games*[63] in 2021 showed that "*only 35 active apprenticeships were found to be operating in a sector of over 20,000 staff.*"

Dr Jo Twist, CEO of UKIE "*Unlocking the value of apprenticeships across the games sector could play a valuable role in closing the talent gap, diversifying our workforce and delivering the economic benefits of our industry to all.*"

There are no Higher or Degree Apprenticeships for video games offered in Wales. Sgil Cymru's Criw[64] is in place to deliver apprenticeships for film and TV, but no games options are currently available.

Video games making skills fit neatly with several of the objectives outlined in Welsh Government's *Digital 2030: A strategic framework for post-16 digital learning in Wales*[65] and many elements of the *Digital Competence Framework*[66].

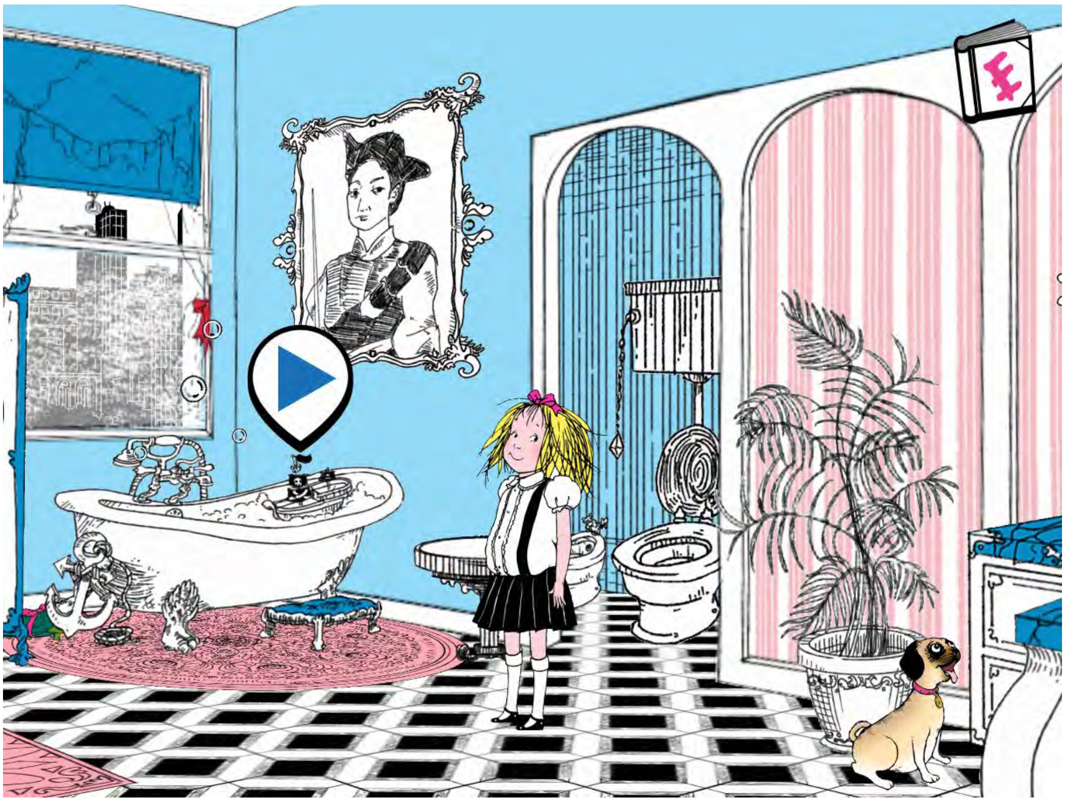
Esports and streaming are areas of overlap and are driven in part by the consumption of video games. The significant growth of eSports in the last few years alongside the obvious synergies with video games content development and distribution means that it cannot be ignored. There has been a corresponding growth in the education and training that is required to create an Esports course.

This in turn leads to excellent all-round graduate attributes including, business management, event management (live and online), digital media production, sports science and video games design. This again fits well with the *Digital 2030: A strategic framework for post-16 digital learning in Wales* and the *Digital Competence Framework*. Whilst this report has not covered esports or streamers in Wales, the general growth in this industry suggests that it would be wise to look at more closely and support the skills pathways in this area.

[62] www.instituteforapprenticeships.org/apprenticeship-standards/game-programmer-v1-0
[63] intogames.org/news/into-games-releases-the-uk-games-apprenticeship-2021
[64] www.sgilcymru.com/en/criw
[65] gov.wales/sites/default/files/publications/2019-06/digital-2030-a-strategic-framework-for-post-16-digital-learning-in-wales.pdf
[66] hwb.gov.wales/curriculum-for-wales-2008/digital-competence-framework-curriculum-for-wales-2008-version/framework

Survey Findings for Education and Skills

Skills Requirements



Eloise Hotel ©Thud Media

There were a wide range of responses to our survey, broadly covering many of the skills required for making videos games. The most frequent skills needed are 3D modelling, animation, software development/programming and business development.

The range of skill requirements stated by the respondents of the survey maybe indicative of the very small size of their companies, the skills they require could be very particular to their set up. It seems that in most cases companies are trying to plug a single skills gap in a small team, unlike in a larger company which may be able to recognise recruitment trends.

Amongst the freelancers there are several mentions of requirements for business support, including establishing better networks, publishing, marketing and financing.

The training needs identified for the next 12 months by respondents to our survey broadly mirror the *Skills Requirements* question responses, with a wide range of skills mentioned, from technical, design and creative to business, finance and marketing.

Engagement with Education, Training & Skills

None of the companies that responded collaborated with training providers for in-house training schemes, course provision through external partners, internships, mentoring schemes or work experience.

Only **3** of the 15 companies that responded to our survey are actively engaged with universities. There was no engagement indicated with Further Education providers or apprenticeships.

9 of the 11 sole traders/freelancers had not undertaken any training recently. There were two that had undertaken free online training sessions.

CPD Training and Skills Development

Unlike the film and TV sector, the video games sector in Wales has little access to professional training and skills development from training providers. There are no providers within Wales for bespoke video games development training (of anything other than at a basic introductory level).

Bectu Cymru have provided some courses on writing for video games, but these are intended for film and TV professionals.

As indicated in our survey results (in the Training & Skills section) there was little inclination to undertake training by freelancers, or desire by employers to offer training. This unfortunately is not an uncommon position for UK video games companies. Bectu's 2019 *Conditions in the Games Industry*[67] survey showed that 63% of respondents had not been offered training by their employer.

Those that indicated they had undertaken training had used online providers. There are many high-quality sources for online software training such as Pluralsight and Udemy. In addition, there is high-quality documentation and learning materials from the leading software providers like Unreal Engine, Unity 3D, Autodesk and Adobe, to support skills development for using their software products.

Business support functions including business development, accounting and finance, marketing and law, were identified by our survey respondents as areas that they required additional support in. This area may provide more

[67] members.bectu.org.uk/filegrab/games-survey-results-final-v3.pdf?ref=2677

opportunity for CPD development, especially where content can be adapted from film and TV specific CPD.

The *Screen Work 2020* and *Screen Survey Wales 2021* reports have both highlighted the increasing demand for new skill sets in film and TV, in particular for virtual production technologies and workflows. This cross-over area uses games technology to deliver elements of the filming process. Games skills are now required as part of pre-visualisation, filming using LED volumes and real-time green screen and post-production. There is a significant opportunity for games professionals to ply their trade directly or to be involved in delivering training.

Building Experience with Diaspora Support

Many of the experienced video games developers currently in Wales have returned to Wales after gaining industry experience in other locations in the UK and around the world. Improved connections with Welsh diaspora who are active in Video Games will be beneficial for the mentoring of a sector with many young companies.

This kind of support has been discussed more broadly as part of the National Assembly for Wales' External Affairs and Additional Legislation Committee's 2019 report *Wales' Future Relationship with Europe and the World*[68], noting how underdeveloped the diaspora network in Wales is (especially in comparison to Scotland and Ireland).

Developing partnerships with diaspora organisations such as *GlobalWelsh*[69], to explore opportunities for mentorship and the investment portal could be key to developing strong and lasting, beneficial relationships with experienced individuals who could provide insight and expertise to a young sector.

[68] senedd.wales/laid%20documents/cr-ld12214/cr-ld12214-e.pdf

[69] globalwelsh.com

SUPPORT AND TALENT INITIATIVES FOR THE VIDEO GAMES INDUSTRY

This section of the report identifies key support and talent initiative that have a specific focus on video games. Some of the schemes mentioned have recently closed or may have been announced but are not currently active. This is intended to broadly show the landscape in Wales, the UK and more broadly across Europe and the rest of the world.

Several themes have emerged, one of the most noticeable is that many video games initiatives are borne by film organisations. The countries where bespoke video games industry specific support and incentives is in place tend to have significant industry presence and vibrant ecosystems, for example France, Germany, Norway and Canada.

Tax relief schemes appear to be a popular mechanism, with Italy, Poland, Ireland and Australia all recently introducing or planning to introduce schemes. They are all similar to Video Games Tax Relief (VGTR) in the UK, although the schemes across Europe and the rest of the world vary in their scale, eligible costs and reimbursement limits. Germany has one of the most competitive schemes with up-to 50% reimbursement.

Making It Home ©Pill Bug Interactive

Within Wales

The Creative Wales Emergency Digital Development Fund provided emergency COVID support across the creative industries in 2020, of £560,000 to 26 digital content companies.

The Creative Wales Development Fund 2021[70] provided support to screen and digital content sectors which includes games. There was a total fund of £1.5 million, with individual project funding of up to £25,000. Nine (32%) digital/video games companies were funded from a total of 28 companies, with combined funding of £198,500 from an overall total of £650,000 awarded.

Clwstwr[71] which is part of the Creative Industries Clusters programme, has actively funded R&D in screen and news between 2018 and 2023. Supporting over 115 innovation projects[72] with £3.5 million of funding and targeted support delivered through user-centred design processes with academic and professional expertise. It has funded a broad range of screen companies (including video games companies) to develop new products, services and experiences.

Games Talent Wales showcasing projects at EGX 2019
©Games Talent Wales

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[70] businesswales.gov.wales/creative-wales-development-fund-cwdf
[71] clwstwr.org.uk
[72] clwstwr.org.uk/projects

Games Talent Wales[73] was set up in 2019 to support graduate talent development, a collaboration between Wrexham Glyndŵr University and the University of South Wales and in partnership with Welsh Government. The grassroots talent development programme provides industry mentoring along with development grants, with the goal of creating sustainable indie game studios. Supporting eight student/graduate teams to develop and showcase game prototypes at national trade events, and start-up a video games company.

Games Wales[74] is a voluntary organisation made up from people within the Welsh games industry. Championing Wales as a place to make games, connecting people, and representing and advocating for the industry's interests. With an industry board to provide steering, it organises regular developer meetups, talks and game jams. Games Wales organised the Games Wales Development Show from 2014 to 2016.

Cardiff is home to the *Arcade Vaults*[75] which offers city centre co-working space targeted at games developers called *The Community Rooms*. This sits alongside a retro games arcade and event space.

The Community Rooms at the Arcade Vaults. ©Arcade Vaults

[73] gamestalent.wales
[74] gameswales.org
[75] thearcadevaults.org.uk/community-rooms

Around the UK

The UK Government *Video Games Tax Relief (VGTR)*[76] scheme has been available from 2014, allowing companies to claim 25% tax relief on eligible expenditure. There is no cap on the claim size. Companies are required to pass a cultural test[77] in order to qualify for the tax relief. The BFI's *Screen Business 2021* report[78] show that VGTR support of video games development directly and contributed £568 million to the UK's GDP, in 2017. £585 million in 2018, and £559 million in 2019.

UK video games companies can also be eligible for R&D Tax Relief, the Seed Enterprise Investment Scheme (SEIS), and the Enterprise Investment Scheme (EIS) however these are not games specific incentives.

With the aim to boost UK's video games business and talent ecosystem, the *UK Games Fund*[79] has supported video games companies with eight rounds of funding since 2015, in total nearly 200 projects funded with grants of up to £25,000. From 2015 to 2021 there have been 67 applications (23 for the main UKGF fund and 44 for Tranzfuser) from Welsh companies/teams.

The UK Games Fund also runs a graduate talent development programme called *Tranzfuser*[80], which supports graduate teams with an initial grant of £5,000 and the possibility of up to £20,000 of additional funding. The University of South Wales (USW) and Wrexham Glyndŵr University both host graduate teams, and have won awards for best hub, Glyndŵr in 2018 and USW in 2019.

The UK Games Fund is funded directly by UK Government, with an original settlement of £4 million in 2015 and 2020 a further £1 million. The *Autumn Budget and Spending Review 2021*[81] announced the provision of £14 million in each year (until 2025), "to support our world-leading creative industries, including supporting SMEs to scale up and providing bespoke support for the UK's independent film and video game industries". In February 2022 DCMS announced[82] a further £8m for the UK Games Fund to help entrepreneurial, start-up video game developers from across the UK create new games.

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[76] www.gov.uk/guidance/claiming-video-games-tax-relief-for-corporation-tax

[77] www.bfi.org.uk/apply-british-certification-tax-relief/cultural-test-video-games

[78] core-cms.bfi.org.uk/media/15417/download

[79] ukgamesfund.com

[80] tranzfuser.com

[81] assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1043689/Budget_AB2021_Web_Accessible.pdf

[82] www.gov.uk/government/news/50-million-of-government-investment-announced-for-creative-businesses-across-the-uk

Almighty ©Runwild Entertainment

The *UK Global Screen Fund*[83] is administered by the BFI, with £7 million of UK Government funds to pilot the scheme, to support the screen sector, including film, TV, documentary, animation, and interactive narrative games content. In the latest funding round, games companies represented 20% of awards, with successful companies obtaining between £50,000 and £117,000 of funding (over a three-year period). Building upon the success of the pilot, the scheme has been extended until 2025 with an additional £21 million from DCMS.

Creative UK (the newly combined Creative England and the Creative Industries Federation) is running the *Games Scale Up*[84] programme in partnership with UKIE. The programme started in 2020 and is now working with the second cohort of companies. The programme provides support and advice (but not funding) to participants on how to plan to scale their businesses and get investment ready.

Northern Ireland Screen[85] provides several funding options for games companies including, project development funding of between £10,000 and £100,000 (covering 50% to 90% of the overall budget), production funding of up to £500,000 (covering up to 25% of the overall budget). *Platform at the Pixel Mill* is an accelerator programme that can provide up to £60,000 of funding, 12 months of office space and spaces at trade shows. Northern Ireland screen also acts as a hub for the UK Games Fund's Tranzfuser graduate talent development programme.

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[83] www.bfi.org.uk/get-funding-support/funding-support-international-activity/uk-global-screen-fund

[84] www.wearecreative.uk/support/creative-enterprise/scale/games-scale-up

[85] www.northernirelandscreen.co.uk/funding/games-development

InGame[86] is based in Scotland and funded by Innovate UK as part of the Creative Clusters programme. Several support schemes are available, including Innovation Vouchers, Pathfinders, Challenge Calls - Applied Games Catalyser, Challenge Calls - Cluster of the Future Demonstrator.

Story Futures[87] is based in London and funded by Innovate UK as part of the Creative Clusters programme. Provides support to organisations working on immersive projects through several subsidised knowledge exchange programmes, including On Demand R&D, Innovation Surgery, and Innovation Fellows. Funding is delivered through bespoke challenges and commissions, the most recent for archiving immersive film and TV experiences (with ten £50,000 commissions available).

Support is also provided through the *Story Futures Academy*, in the form of training labs and skills development workshops. Funding support is also available through development funding for Kickstarting project (up to £10,000 grant) and Production Booster funding (up to £20,000). All funding recipients also get access to lab facilities, research expertise and industry mentoring. Whilst the prime focus for Story Futures is immersive media, there is significant cross over with video games.

There are many video game developer meetups and groups around the UK[88]. Each of these is tailored to the specific needs of each area. Some are focused on particular technologies/platforms, whilst other have a much broader focus.

There are several video games development focused hubs/co-working spaces in the UK, the closest to Wales is the *Bristol Games Hub*[89]. Operating as a not-for-profit organisation, providing low-cost office space for indie studios and start-ups (currently twelve), which enables sharing of resources, expertise, experience and best practise. Hosting developer meetups, a local jobs board and a freelancer/company directory.

Tentacle Zone[90] founded by Payload Studios offers a range of community support, including managed workspaces in London, boasting nine resident games companies. A four-month virtual games incubator programme is also offered, focused on early-stage developers from underrepresented groups (with zero cost to participants).

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86 www.innovationforgames.com

87 www.storyfutures.com

88 ukiepedia.ukie.org.uk/index.php/List_of_UK_Game_Development_Meetups_%26_Groups

89 bristolgameshub.com

90 tentacle.zone

Trade Associations and Organisations

There are several trade associations and organisations representing the video games industry in the UK. Both UKIE[91] and TIGA[92] provides support for members and run initiatives to promote and lobby for the betterment of the industry.

The *British Games Institute (BGI)*[93] also champions the games industry with public awareness and education initiatives, including Games Careers Week. The BGI also runs the *National Video Games Museum (NVM)*[94].

The membership of the trade associations by Welsh companies is comparatively low. UKIE is the only association to publish a members list, only five Welsh companies that appear in our company list are UKIE members (627 members in total).

There is generally a lack of Wales-specific data from organisations representing the UK video games sector.

Yami ©Goldborough Studio

[91] ukie.org.uk
[92] tiga.org
[93] thebgi.uk
[94] thenvm.org

European and Scandinavian Comparison

This section focuses on government support available and national trade associations in European countries. The examples shown here are not exhaustive but illustrate the breadth and variety of government and industry association support available across various European nations.

This includes regional development programmes with the aim of boosting video games development in small nations that make for suggestive comparison with Wales. For example, the *Baltic Game Industry*[95] initiative that ran from 2017 to 2021 supporting games companies across north-eastern Europe. The core element of this development programme is the creation of "*durable game incubation structures, programmes and schemes that effectively support the emergence and viability of game start-ups*."

Favourable Framework Conditions	**Incubation Capacity Building**	**Virtual Reality in non-game sectors**
• Joint assessment report on framework conditions for the game industry • Communication map • Action plans and strategies for framework change • Update regulations strategies and schemes for game business promotion • Good practice catalogue on favourable framework and policies for game business development	• Joint assessment report • Strategy for game incubation in BSR • Model scheme and manual for game incubation programming and financing • Guidelines on a mentoring system for game incubation • Manual on international cooperation for game business development • Game incubation roadmap and operation	• Assessment report and good practice catalogue on VR applications • Requirements catalogue on hospital-specific framework conditions for VR in therapeutic use • Functional VE application for therapeutic use and implementation-guideline • VR Health Reference Model • Recommendations for VR apps in other industries

Figure 8: Baltic Game Industry proposed project outputs[96]

The outputs include extensive research into game incubation in the region[97,98]. Identifying and evaluating incubators in Denmark, Estonia, Finland, Germany, Lithuania, Latvia, Poland and Sweden. It concludes that incubation tailored to games is more effective, with generic technology-based incubation often resulting in unsuccessful experiences. Mentor selection also proved to be an important success factor, with gene and platform specificity as the key. This is

[95] baltic-games.eu/171/
[96] baltic-games.eu/171/outputs/
[97] baltic-games.eu/files/bgi_game_incubation_in_europe_2020.pdf
[98] baltic-games.eu/files/bgi_output_3.7.pdf

mirrored in any external investment activity. Traditional investors do not have a good understanding of games business models and growth risk factor.

The *Baltic Game Industry* incubation roadmap[99], provides significant insight into the creation and maintenance of an incubation system. It is grouped into four high-level categories, Ecosystem, Operation, Programme, and Coaching.

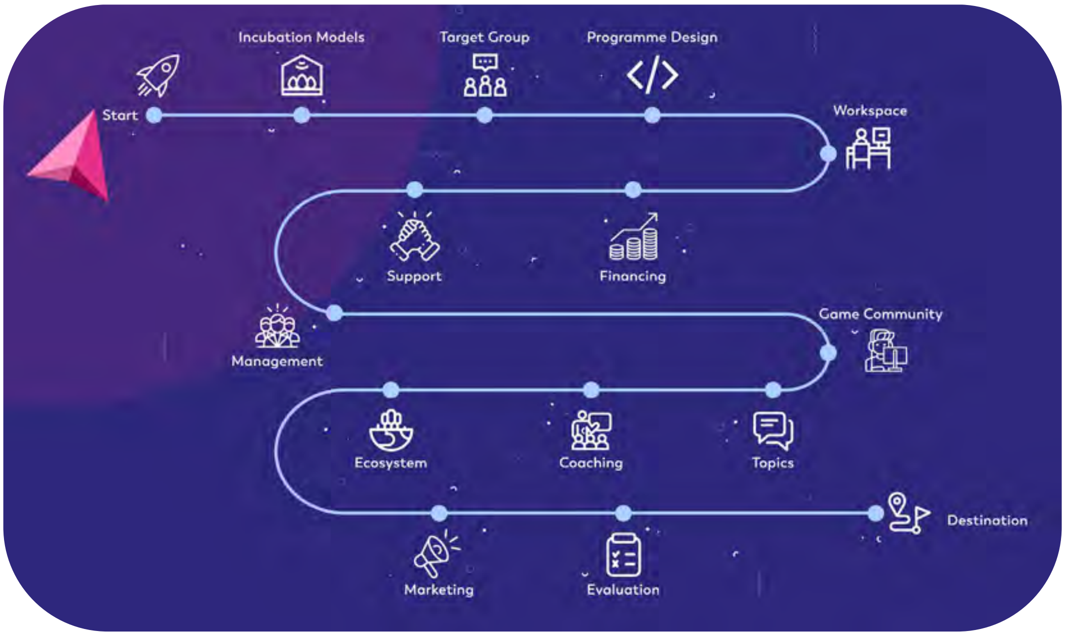

Figure 9: The Baltic Game Industry incubation roadmap

The support across Europe varies substantially between the countries, with the size and duration of overall funding packages varying and the nature of the funds, grants, loan and tax relief in many combinations.

There are some agencies and associations which cover the whole (or large areas) of Europe. Creative Europe MEDIA sub-programme[100] although it is a primarily a film and TV scheme also funds narrative interactive content.

The Interactive Software Federation of Europe (ISFE)[101] operates across all European countries, with the mission to "*serve Europe's games ecosystem by representing the interests of Europe's – and the world's – most successful, creative and most innovative game publishers and developers, and ensure that the diversity, skill and creative talent can continue to grow*."

[99] balticseagames.eu/roadmap/

[100] ec.europa.eu/culture/creative-europe/creative-europe-media-strand

[101] www.isfe.eu

France

A selective aid through *Fonds d'Aide au Jeu Vidéo (Support Fund for Videogames)*[102] is intended for supporting videogame projects, based on assessment of their artistic quality and their commercial potential. Two funds are available. The first, a novel Intellectual Property creation fund up to €200,000 with a 50% match requirement. The second, a Pre-Production loan to support R&D, covering up to 25% of the eligible R&D spend.

A Video Games Tax Credit scheme[103] also runs in France, for projects with development costs over €100,000. The limit for eligible expenses is €6 million per year. The scheme's eligibility criteria are similar to the UK VGTR scheme.

France's *National Cinema Centre (CNC)* has launched a temporary €10 million funding line to support initiatives aimed at modernising the infrastructure of the French film, TV, and video games sectors as they rebuild following the economic shock of the Covid-19 pandemic.

Syndicat National du Jeu Vidéo (SNJV)[104] is the French Video Game Trade Association. It campaigns for the industry promotion, growth and competitiveness. Providing support network through training and skills initiatives and an annual *Game Camp*[105] to encourage new talent. There are also several smaller regional associations operating in France.

Germany

The *Deutscher Games-Fonds (DGF)*[106] is the German Games Fund, providing support to computer and video game projects at national level. Awarding funding to support the long-term vision for video games in Germany. The *DGF* provides funding to both small and large developer studios. Supporting the development of prototypes and productions. A cultural test is required to obtain funding.

With an annual budget of €50 million, funding of up to €2 million is supported with 50% match, with a sliding scale up to €8 million with a 75% match required. Prototype funding is available for projects between €30,000 to €400,000. Production funding is available for projects between €100,000 to €40 million. Funding for €40 million plus projects are assessed separately.

[102] www.cnc.fr/web/en/funds/support-fund-for-videogames_191823
[103] www.cnc.fr/web/en/tax-credit-for-videogames_137201
[104] snjv.org
[105] gamecamp.fr
[106] www.game.de/en/german-games-funding

game – Verband der deutschen Games-Branche[107] is the German video games industry association, and is co-organiser of Gamescom, Europe's biggest video games trade fair. *Stiftung Digitale Spiele Kultur*[108] the Foundation for the German Games Industry is a not-for-profit organisation focused upon supporting and promoting the video games industry.

Deutscher Computerspielpreis[109] the German Computer Game Awards were launched by the German federal government on the initiative of the German parliament, in partnership with both trade associations. The focus is on promoting innovative, culturally relevant or educational computer and video games primarily produced in Germany.

In 2021 the federal state initiated the creation of an industry hub for the video games industry in Düsseldorf. The *Fusion Campus*[110] – *German Centre of Games Competence* is run in partnership with *Ubisoft Blue Byte* and will sit along-side Ubisoft's existing graduate and entrepreneurial initiatives.

Finland

Business Finland[111] provides video games business development funding, although the fund is not specific to games. With three funding route, Concept (Tempo) grant funding up to €50,000, R&D/pilot loans of €100,000 plus, and Rapid Growth/Business scaling grants and loans of €1.25 million. Since 1995 Business Finland has provide over €100 million in funding to Finnish video games companies.

Neogames[112] is the hub of the Finnish game industry, providing usual industry association support, guidance and promotion to the sector.

Games Factory[113] was established in 2018 to act as a focal point for games talent in Finland, providing a recruitment service. The *Talent Board*[114] flips the usual recruitment mechanism on its head, listing the individual developer's skills on a publicly searchable database.

[107] www.game.de/en/
[108] www.stiftung-digitale-spielekultur.de/en
[109] deutscher-computerspielpreis.de
[110] fusioncampus.de
[111] www.businessfinland.fi/en/for-finnish-customers/services/funding/tempo-funding/game-business-funding
[112] neogames.fi
[113] gamesfactorytalents.com
[114] talent.gamedevtalents.com/?

Norway

In 2019 the government announced it aimed to further increase game development support by NOK 10 million per year over the next two years, potentially raising annual funding for games in Norway to NOK 60 million by 2022.

Prepared by the Ministry of Culture together with the Norwegian Film Institute, Kulturtanken and the Norwegian Media Authority, the *Spillerom* (which translates to "Games Room") support strategy for 2020-2022[115] is currently in operation. The strategy's main objectives include encouraging varied content and top quality in Norwegian video games, a professional and diverse Norwegian games industry, heightened market penetration for Norwegian games, and an inclusive and accessible Norwegian video games culture.

The video games industry in Norway is well supported by professional associations including, the *Association for the Nordic Games Industry (ANGI)*[116], *Spillmakerlauget*[117] (a game developer network).

Sweden

As part of its activities supporting the industry in Sweden *Games Habitat* operates a dedicated not-for-profit community co-working and office space, the Game Habitat DevHub[118]. The DevHub hosts 20 companies and is located in central Malmö.

Italy

The *Italian Interactive Digital Entertainment Association (IIDEA)*[119], operates the *First Playable Fund* on behalf of Ministry of Economic Development. The fund primarily focuses primarily on developers wanting to develop new IP projects. Providing grants of between €10,000 and €200,000 (covering 50% of eligible expenditure), which are available to studios with concept and pre-production video games in prototyping, which will. The total funding available is €4 million.

[115] www.regjeringen.no/contentassets/42ac0925a3124828a2012ccb3f9e80c9/spillerom---dataspillstrategi-2020-2022.pdf

[116] angi-nordic.com

[117] spillmakerlauget.no

[118] www.gamehabitat.se/devhub

[119] en.iideassociation.com

Denmark

The *Danish Film Institute (DFI)* manages a "Games Scheme"[120] which subsidises concept and project development, as well as the production of Danish digital games. Subsidies are awarded by the DFI's management team.

The purpose of the DFI's subsidies is to strengthen video games as a culture-bearing medium and secure better development and growth conditions for Danish video games. There is currently no information available on criteria and fund size. Although there have been some notable successes from the scheme, including Playdead's Limbo[121] and Inside[122].

Interactive Denmark[123] is a not-for-profit organisation dedicated to supporting the games and interactive sector but does not provide funding.

Switzerland

Pro Helvetia the Swiss arts and culture organisation, promotes the professional contemporary creation of interactive content with a view to ensuring its diversity as well as its national and international reach. In 2021 a new division for *Design & interactive Media* has been created as part of a new financial settlement from the Swiss Government[124].

Pro Helvetia has supported the sector with calls for projects and the organisation of *SwissGames*[125] delegations at international developer events, and organising the SwissGames Showcase. Providing a range of funding covering pre-production (up to CHF 20,000), production (up to matched CFH 50,000) and post-production (up to CHF 20,000)[126].

There is also an independent *Swiss Game Developers Association (SGDA)*[127], which is member-driven organisation for Swiss game developers, also hosting an annual awards event.

The Italian government have announced the introduction of tax relief for video games companies, with 25% of development costs covered, up to €1 million.

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[120] www.dfi.dk/en/english/funding/games-and-cross-media
[121] playdead.com/games/limbo
[122] playdead.com/games/inside
[123] interactivedenmark.dk
[124] prohelvetia.ch/en/press-release/support-design-interactive-media
[125] swissgames.ch/industry
[126] prohelvetia.ch/en/guidelines-interactive-media/factsheet-work-grants
[127] www.sgda.ch

Spain

The *Spanish Video Game Association (AEVI)*[128] manages a €20 million fund for COVID affected video games businesses. It operates a fund for early-stage prototype for up to €10,000 per project. 2021 saw the fourth-round call, with just 2 projects selected for funding.

In September 2021 AEVI launched AEVIDevs[129] an initiative to support the developer network in Spain.

Project financing options are also available via *CREA SGR* which represents the broader cultural and creative industries. It grants guarantees all companies access to commercial and government loans and financing.

Poland

The *GameINN* programme was set up by the *Polish Games Association*[130]. It ran between 2014 and 2020, providing 116 million zlotys in funding to 38 projects.

The Polish government have also announced a video games tax relief scheme for projects with development costs over 100,000 zloty, 50% of eligible development costs can be covered. Applicants are required to pass a cultural test.

[128] www.aevi.org.es
[129] twitter.com/aevidevs
[130] polskiegry.eu/en

International Comparison

There is significant activity across the globe supporting the games industry, with a few notable and/or substantial schemes. Here we note a few examples of support in both regions when video games are well established and where there are not.

The *International Game Developer Association*[131] is the world's largest no-for-profit video games association, provides support, guidance and promotion to video games professionals.

Epic Games also operates *Epic MegaGrants*[132] a US$100 million fund to support video game developers all over the world with grants. It appears that only one Welsh company has successfully obtained an Epic MegaGrant.

Canada

Canada offers one of the most extensive support systems in the world for video games companies. Operates two schemes which are not specifically aimed at video games, but video games companies are eligible to potentially claim both, The *Scientific Research & Experimental Development (SR&ED) Tax Credit*[133] covers R&D activity at 35% to 45% of eligible costs, and the *Industrial Research Assistance Program (IRAP)* research and innovation grants covering 60% to 80% of eligible costs.

The *Canada Media Fund*[134] supports video games companies with loans for three stages of projects, Conceptualisation up to CA$15,000, Prototyping up to CA$250,000, and Innovation (Development) up to CA$1.5 million.

There are also many localised state-sponsored support schemes and tax credits, including Quebec, Ontario, Nova Scotia, Manitoba and British Columbia. Ontario state also offers the *Interactive Digital Media Fund*[135] providing grants for concepts up to CA$50,000, and production up to CA$300,000, with a 50% match requirement.

The Canadian video games industry is also supported by the *Entertainment Software Association of Canada*[136].

[131] igda.org
[132] www.unrealengine.com/en-US/megagrants
[133] www.investcanada.ca/programs-incentives/scientific-research-and-experimental-development
[134] cmf-fmc.ca
[135] ontariocreates.ca/investment-programs/content-creation/idm-fund
[136] theesa.ca

Australia

As part of the Australian government's Digital Economy Strategy, the *Digital Games Tax Offset*[137] will be introduced in July 2022, offering tax relief at a rate of 30% on eligible development costs (with a minimum development spend of AU$500,000.

The *Interactive Games & Entertainment Association (IGEA)*[138] supports the video game industry in both Australia and New Zealand, with networking, research and advocacy activity. The IGEA advocates for the reinstatement of an Interactive Games Fund, which was discontinued in 2014.

Some states in Australia provide their own incentives for video games companies. For example, *Film Victoria*[139] provides grants (with 50% match) for up to AU$80,000 for a prototype, AU$150,000 for a vertical slice, and AU$300,000 for production.

New Zealand

The New Zealand government created the *Centre for Digital Excellence (CODE)*[140] in 2019 and committed NZ$10 million to support the local video games industry. Several funding offers are available, ranging between NZ$10,000 and $250,000 per project. There are four funds currently available - Kick Start, Start Up, Scale Up and Service Start.

The New Zealand Film Commission offers the *Whakawhanake Te Ao Niko-Interactive Development Fund*[141] designed to enable the development of interactive content with significant New Zealand creative and cultural outcomes. Concept development of original narrative-based video games content, with grant funding of NZ$25,000 to NZ$50,000 per project.

Asia

Government support is also becoming more prominent in Asia, with the Malaysian government continuing support through the *Malaysian Digital Economy Corporation (MDEC)*[142], the Indonesian government implementing new funding and infrastructure support, launching the *Indonesia Game Developer Exchange*. The Vietnamese government will also formally establish the *Vietnam Online Game Developers and Publishers Alliance* in 2022.

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[137] digitaleconomy.pmc.gov.au/fact-sheets/investment-incentives
[138] igea.net
[139] www.film.vic.gov.au/funding/games-funding
[140] www.dunedinnz.com/CODE
[141] www.nzfilm.co.nz/funds/whakawhanake-te-ao-niko-interactive-development-fund
[142] mdec.my/

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Acknowledgements

We wish to thank Clwstwr for supporting and enabling us to complete this important piece of research.

Special thanks to Niall Glynn an MA Film graduate, who joined this project as a research assistant as part of the University of South Wales graduate internship scheme in 2021.

We would also like to thank the wider Screen Survey Wales 2021 team, Dr Helen Davies, Tom Ware, Phoebe Lacey-Freeman and Megan Franzen for their support. A special thankyou to Corrado Morgana for supporting this research. We are extremely grateful to everyone who have taken time out of their busy schedules to complete our survey, provide answers to our questions and supply images.

The Centre for the Study of Media and Culture in Small Nations at University of South Wales delivers high-quality collaborative research and innovation on the creative industries in Wales through the frame of small nations globally. It is based in the Faculty of Creative Industries and works closely with Film and TV School Wales. The Centre has strong UK and international partnerships with research universities and creative industries organisations delivering a range of multidisciplinary grant-funded projects.

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Suggested Citation

Hurford, R. & McElroy, R. (2022) Games Survey Wales 2021. Clwstwr publication series. Cardiff, Clwstwr.

ISBN: 978-1-909838-59-8