XR Stories and Screen Industries Growth Network (SIGN)

Impact of XR Stories and SIGN

Workstream 2 (WS2)

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BOP
Consulting

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1. Executive Summary

Objective: To undertake data gathering (e.g. qualitative and quantitative) to enable future analysis of the impact of the almost £1m investment XR Stories has made on our region to date in engaging with around 100 Yorkshire and Humber SMEs and how this translates into national impact: How has XR Stories changed our local and national economy?

Some of the fastest growing companies in the Screen Industries in Yorkshire and Humber have worked with XR Stories.

XR Stories is partnership between the University of York, Screen Yorkshire and the British Film Institute to support research and development for the economic growth of screen industries focussed companies working in the Yorkshire and Humber region.

The Screen Industries Growth Network (SIGN) is a parallel project based at the University of York, which aims to empower people and support economic growth in the screen industries in Yorkshire and the Humber.

Collaborations between XR Stories and innovative companies are enabling Yorkshire and Humber to seize opportunities for jobs and growth. This is detailed in Section 1 alongside a deep dive into the digital immersive and interactive labour market in York, North Yorkshire and Yorkshire and Humber.

In Section 2, we look to the future. Both in terms of how SIGN is strengthening and diversifying the Screen Industries workforce in Yorkshire and Humber and ways in which the future impact of XR Stories/SIGN might be better captured in data and articulated to stakeholders.

2. Securing growth and jobs

This section reviews the geographic distribution of businesses that have engaged with XR Stories and the relationship between high-growth companies in the Screen Industries in Yorkshire and Humber and engagement with XR Stories. It also provides deep dives into the labour market to focus on workers that are currently engaged with the cutting edge digital immersive and interactive technologies that are at the heart of XR Stories' focus on creative R&D.

2.1 Geographic distribution of XR Stories' engagement with businesses

Data on the businesses that have engaged with XR Stories to-date show us that these are mainly located in the project's target Yorkshire & the Humber region (70%). While the programme does have a regional focus, it is also important that XR Stories engages with companies that enable to region to improve its access to national and international supply chains, and also to collaborate with companies that have relevant specialist skills and market focus. Most of the companies that XR Stories engage with outside the region are either in London or are based in the other UKRI-funded Creative Industries Cluster (CICP) areas (especially the Bristol area and in Northern Ireland, but also Cardiff, Edinburgh and Dundee).

A similar pattern to the geographic distribution emerges when we look at the sectoral background of businesses that XR Stories has engaged with to-date. Just over half of the businesses (53%) are working in the Screen Industries, which is the main focus for XR Stories. However, this does mean that the other half (47%) are drawn from the rest of the creative industries across the region, which demonstrates the transversal importance of digital immersive and interactive technologies to the future of the wider creative sector (and beyond).

Figure 1 Geographic distribution of businesses engaging with XR Stories, 2020

Source: BOP Consulting and Curator Technologies. Base = 66 businesses

The businesses that XR Stories has engaged with have varying levels of experience: 39% were founded 11+ years ago but 36% were founded only five or fewer years ago. The significant minority of well-established businesses that XR Stories has engaged with may also be reflected in the size profile of companies.

Interestingly, almost one third of the business that have already engaged with XR Stories are large companies with at least 1,000 employees, which suggests both that the project is reaching beyond the SME base, but also perhaps that the ‘absorptive capacity’ to engage in the kinds of creative R&D supported by XR Stories is high in large companies, making it easy for them to engage.

2.2 XR Stories and high growth companies

We used LinkedIn to identify high-growth companies in the Screen Industries in Yorkshire and Humber. The growth of these companies was assessed in terms of recruitment over the past five years.

We identified 88 high-growth companies in the Screen Industries in Yorkshire and Humber and worked with XR Stories to establish that 11 of these 88 companies have worked with XR Stories. Of these 88 high-growth firms, LinkedIn data allocates 79 of these firms to a size band as small, medium, or large based on number of employees. The figure below shows that high-growth companies that have engaged with XR Stories are:

— **Geographically dispersed:** six of these companies are based in York, one is based in North Yorkshire, and four are based elsewhere in Yorkshire and Humber

— **Heterogenous in their activities and engagements with XR Stories:** From traditional media activities (e.g., TV production company) to newer kinds of activities (e.g., AR/VR), the figure below features businesses working across a wide range of activities. The ways in which these companies have engaged with XR Stories have also varied, with a range of different kinds of funding and other support accessed by these high-growth companies.

— **Predominately small companies:** There is one large company (Sky) and one medium-sized company (Dubit), with the rest of these companies being small. 22% of the 89 high-growth firms are large (i.e., 17 of the 79 high-growth firms in the Screen Industries of Yorkshire and Humber that can be allocated to a size band), 24% are medium (i.e., 19 of the 79), and 54% are small (i.e., 43 of the 79). Therefore, the high-growth firms are predominately small (54%) but the high-growth firms that have engaged with XR Stories are even more disproportionately small (83% – or 10 out of 12). It is not clear whether this reflects:

- Small firms having more to gain from XR Stories than larger firms – perhaps because larger firms have more internal capacity for R&D than smaller firms
- Small firms being more open to engaging with R&D and seeking new innovations – perhaps because larger firms have more established processes that they are reluctant to adapt, while small firms are more agile than this
- XR Stories failing to engage as effectively with medium and large firms as has been the case with small firms. If this is the case, it suggests that there is a benefit to Yorkshire and Humber that is being foregone among medium and large firms. It is also noticeable that the only company listed below in North Yorkshire is a large company, which might suggest that there are small companies in this part of the region that XR Stories is less effectively engaging than elsewhere in the region.

Figure 2 High-growth companies in the Screen Industries in Yorkshire and Humber that have worked with XR Stories

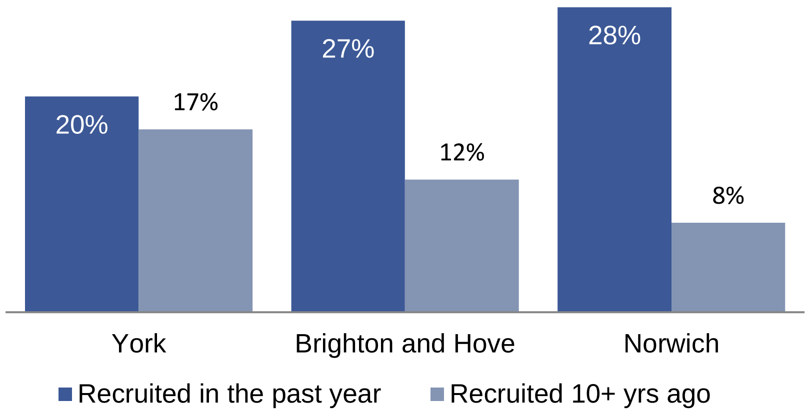
Company	Description	Company scale	XR Stories engagement	Geography
Digifish	Film and animation production company	Small	MRES partner	York
BetaJester	XR Gamification Interactive Marketing App Development	Small	Strategic funding call	York
Revolution Software	Developers of adventure games	Small	Small Collaborative funding call	York
Fierce Kaiju Ltd	Indie game developer	Small	Strategic funding call	York
Inkblot Films	Video producers, animators and VR and AR creators	Small	Participated in Immersive Storylab workshop	York
Viridian FX	Visual effects house, specialised in Film and in-house experimental creative storytelling projects	Small	Small Collaborative funding call	York
Sky	Media entertainment company	Large	Developing potential funding call	North Yorkshire
Air TV	TV production	Small	Received funding for 'Derelict Rescue Revealed'	Yorkshire and Humber
Dubit	Research and development agency	Medium	Young XR funding call	Yorkshire and Humber
Cooperative Innovations	Immersive technologies studio	Small	Young XR funding call	Yorkshire and Humber
XR Games	Games development	Small	Strategic funding call	Yorkshire and Humber

Source: BOP Consulting and Curator Technologies, using LinkedIn data, 2021

2.3 Deep dive: York

The LinkedIn data allows us to look at both recruitment and retention within the labour force working in digital immersive and interactive activities (within both the core screen industries and the wider creative industries). Recruitment is measured by the percentage of the workforce that was recruited over the last year, while retention is measured by the proportion of the labour force that has been with their current employer for 10 years or more. Using these metrics, we notice in the figure below that York has a lower proportion of new hires compared to its comparators and a greater proportion of retained workers.

Figure 3 Workers engaged in digital immersive and interactive technologies in the core screen industries and wider creative industries recruited in the past year (%), and workers that have been retained for 10+ years ago, York and comparators, 2021



Source: BOP Consulting and Curator Technologies, using LinkedIn data, 2021

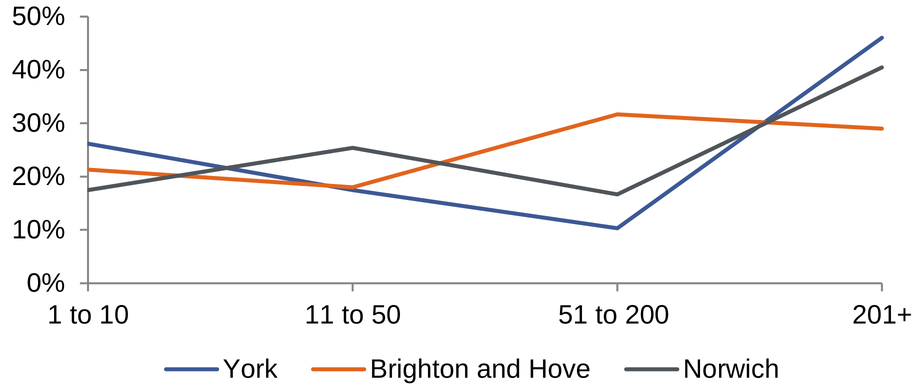
Where data is available, LinkedIn data also shows that (Figure 4):

— In York, 26% of workers included in this analysis are employed in companies that have 10 or less employees and 46% are in companies with 200+ employees.

— In contrast, Brighton and Hove has a higher prevalence of companies between 50 and 200 employees, and

— The workforce in Norwich is relatively evenly distributed across company size bands.

Figure 4 Workers engaged in digital immersive and interactive technologies in the core screen industries and wider creative industries, by company size of employer (measured as number of employees), York and comparators, 2021



Source: BOP Consulting and Curator Technologies, using LinkedIn data, 2021

Data on job roles and seniority for Screen Industries workers based in York indicates:

— Job roles: 59% workers in York have a role in Creative and Production, 13% in Operations, and 15% in Sales

— Seniority: 49% workers in York are employed in an entry level position, 22% as directors.

2.3.1 Deep dive: North Yorkshire

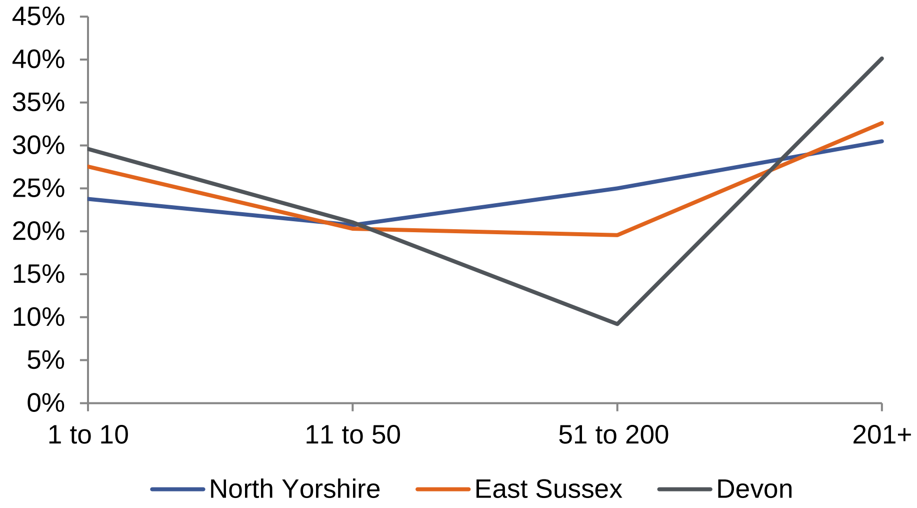
Looking at the proportion of the workforce that has recently joined a company and the levels of retention, the figure below shows that North Yorkshire has a pattern similar to both Devon and East Sussex.

Figure 5 Workers engaged in digital immersive and interactive technologies in the core screen industries and wider creative industries recruited in the past year (%), and workers that have been retained for 10+ years ago, North Yorkshire and comparators, 2021

Source: BOP Consulting and City Curator using LinkedIn data, 2021

LinkedIn data shows that in terms of business size, North Yorkshire's profile is like East Sussex. As the figure below shows, companies in these counties have a similar distribution in terms of company sizes – whereas Devon benefits from proportionately more large company (201+ employees).

Figure 6 Workers engaged in digital immersive and interactive technologies in the core screen industries and wider creative industries, by company size of employer (measured as number of employees), North Yorkshire and comparators, 2021

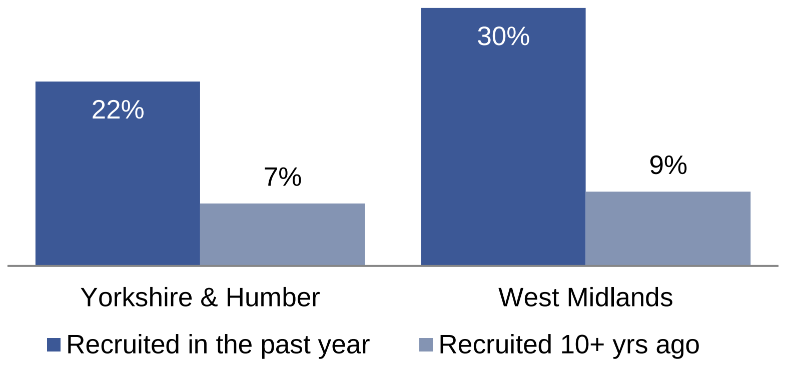


Source: BOP Consulting and Curator Technologies, using LinkedIn data, 2021

2.3.2 Deep dive: Yorkshire and Humber

Looking at the proportion of the workforce that has recently joined a company and the levels of retention, Yorkshire and Humber has a slightly lower level of new hires compared to West Midlands. Both regions, however, have a lower level of retainment, when compared to the smaller geographies analysed above.

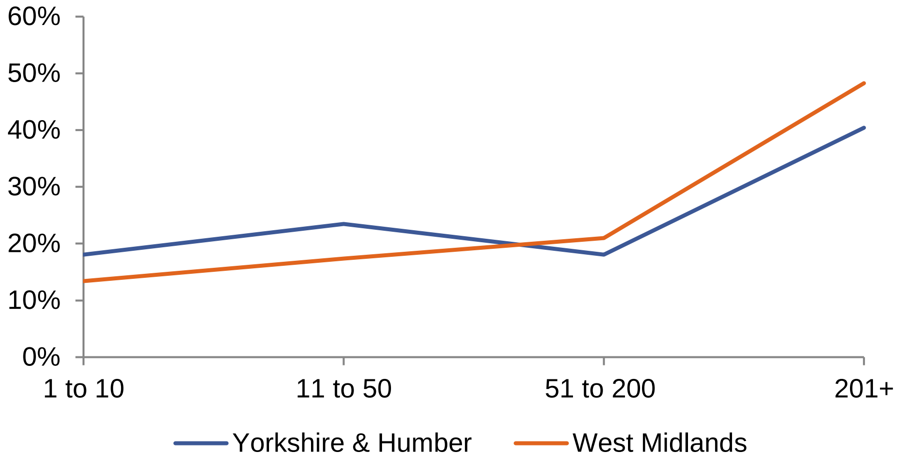
Figure 7 Workers engaged in digital immersive and interactive technologies in the core screen industries and wider creative industries recruited in the past year (%), and workers that have been retained for 10+ years ago, Yorkshire and Humber and the West Midlands, 2021



Source: BOP Consulting and Curator Technologies, using LinkedIn data, 2021

The figure below shows that the distribution of companies by size is similar in Yorkshire and Humber and the West Midlands – with the West Midlands benefitting from proportionately slightly more large companies (201+ employees).

Figure 8 Workers engaged in digital immersive and interactive technologies in the core screen industries and wider creative industries, by company size of employer (measured as number of employees), Yorkshire and Humber and the West Midlands, 2021



Source: BOP Consulting and Curator Technologies, using LinkedIn data, 2021

3. Securing future skill requirements and growth opportunities

This section looks to the future along two dimensions: fulfilling the skill requirements of Yorkshire and Humber as a centre for Screen Industries excellence through the Screen Industries Growth Network (SIGN) and tracking data on the development of these industries in this region through the work of XR Stories.

3.1 SIGN

SIGN is a parallel project to XR Stories based at the University of York, which aims to empower people and support economic growth in the Screen Industries in Yorkshire and the Humber.

The Screen Industries Growth Network (SIGN) is a unique, business-facing initiative supporting the TV, film and games industries in Yorkshire and the Humber. SIGN aims to make the region the UK's centre for digital creativity, and a model of diverse and inclusive activity.

SIGN is a £6.4m project that started in summer 2020, funded primarily by Research England, as well as the University of York and its partners. The University of York leads the initiative, working with Screen Yorkshire and eight other Yorkshire universities.

Activities of SIGN

Activities will include:

- Online and face-to-face opportunities, from workshops and mentoring programmes to webinars, immersive experiences and beyond
- Developing technical, creative and professional training programmes to generate new skills amongst the region's workforce
- Identifying and attending to current and future skills gaps
- Talent development, and management and leadership training, including bespoke consultancy programmes
- Skills acquisition, including career development workshops and internships.

To date, delivery has largely focused on internships. 36 internships have been undertaken since SIGN launched in summer 2020. These internships have been completed by undergraduate students at universities in Yorkshire and Humber:

- University of York – 20
- University of Leeds – 5
- University of Sheffield – 4
- Sheffield Hallam University – 1
- York St. John University – 2
- University of Bradford – 4

Equality, Diversity and Inclusion (EDI)

Studies of employment and working practices in the Screen Industries document widespread inequalities, discrimination, exploitation, and exclusion of workers experience due to their gender identity, sexuality, age, ability, class, ethnicity, race, or geographical location.[1] The sector's workforce does not, therefore, reflect the diversity of the UK's population.

The activities of SIGN, consequently, seek to address this lack of diversity – with all of SIGN's work being informed and shaped by the values of equality, diversity, and inclusivity (EDI).

[1] See Dr Anna Ozimek (2020), 'Equality, Diversity and Inclusion in the Screen Industries – Scoping Report', Report for SIGN

While launching amid Covid-19 was a challenging time for SIGN to begin its work (and it remains a relatively new initiative), we undertook an interview programme to understand the early impacts of SIGN and its contribution towards improving EDI in the Screen Industries of Yorkshire and Humber.

3.1.1 Insights from interviews with HEIs

We interviewed representatives from SIGN, as well as universities involved with this programme (University of Bradford, Leeds University, Sheffield Hallam, University of Sheffield, York St John University, and University of York), about the impact and future of this initiative.

Benefits of SIGN

Interviewees spoke positively about the impact of participation in the programme upon students. The following benefits were reported:

- Personal and professional development
- Allowing participants to build their portfolios of work, experiences and networks that will help them to grow careers in the Creative Industries
- In some cases, freelance work for students has followed a placement through SIGN. In others, students are now targeting full-time employment at the companies that gave them their placement

The programme is also thought to benefit the businesses that have provided placements to these students, by:

- Providing them with students that have skills relevant to them
- Helping them to focus on their skills and training requirements
- Giving them additional resources that can be allocated to specific projects, e.g. prototype development

In addition to the students and the businesses, there are benefits to the universities involved:

- Developing the applied knowledge of students, making them more likely to be successful as students
- Increasing the employability of students and probability of positive graduate outcomes
- Improving the understanding of universities of skills that are valued by employers
- Building relationships with local businesses and strengthening networks between HE and creative businesses

Future collaboration

The universities intend to refresh and recalibrate their current teaching curricula to be more industry-relevant in line with the industry understandings unlocked by SIGN. The universities report that SIGN has encouraged collaboration with local businesses and interdisciplinary collaboration within the universities.

There is an ambition to extend this collaboration beyond businesses in the Creative Industries and to place students with other businesses utilising creative skills beyond the Creative Industries.

This collaboration has, though, been handicapped by Covid-19. The pandemic has created new challenges for local businesses and strengthening networks with universities through SIGN are part of the response to these challenges.

3.2 Data gathering

A Theory of Change (ToC) could assist XR Stories/SIGN in strengthening the narrative around the purpose of the programmes, what they have achieved to-date, and in giving structure/focus to future ambitions.

In terms of this bridge to future ambitions, we provide further detail in Workstream 4 – with a proposal that the ToC development forms a part of enhanced stakeholder engagement.

“Good policy-making,” notes the HMT Magenta Book, “necessitates a thorough understanding of the intervention and how it is expected to achieve the expected outcomes (and) understanding the intervention is typically done through synthesising existing evidence and producing a ToC."

To develop a ToC, therefore, it is necessary to define the intervention. In this context, this might be done ex-post (i.e. the achievements of XR Stories/SIGN to date) or ex-ante (i.e. structuring the potential future impacts of a Centre for Digital Creativity – as advocated in Workstream 4).

Alternatively, this ex-post work may helpfully precede this ex-ante – i.e. the ex-post ToC will help with the evaluation of XR Stories, while also laying the groundwork for an ex-ante ToC that will help structure and fulfil future ambitions.

"A key part of producing a Theory of Change," according to the HMT Magenta Book, "is the synthesis of existing evidence." The Key Performance Indicators (KPIs) being maintained by XR Stories and SIGN will form the Outputs that are one element of a ToC.

"Developing a Theory of Change," the HMT Magenta Book continues, "will typically involve the stakeholders involved in designing and executing the intervention." This entails internal consultation at the university to identify and agree the Outcomes and Impacts relevant to the ex-post ToC and combine this with insight from external stakeholders on relevant Outcomes and Impacts for purposes of the ex-ante ToC.

BOP Consulting

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