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EVALUATION OF THE CREATIVE INDUSTRIES CLUSTERS PROGRAMME

FINAL REPORT TO AHRC AND UKRI

24 MAY 2024

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EXECUTIVE SUMMARY

This is our final evaluation report to the Arts and Humanities Research Council (AHRC) on the impact of the Creative R&D Partnerships (CRDP) element of the Creative Industries Clusters Programme (CICP).

The CICP is a £61m programme, delivered by AHRC over a 2018-23 funding period. It forms one of the Industrial Strategy Challenge Funds (ISCF) which were delivered in support of the UK's previous Industrial Strategy and the Grand Challenges associated with it.

This assessment focusses on the contribution made by the nine CRDPs which collectively account for £55m of total programme funding. These were local interventions based around the UK, each led by a Higher Education Institution (HEI). The CICP also included the Creative Industries Policy and Evidence Centre (PEC). The PEC operated entirely separately to the CRDPs and is therefore also evaluated separately.

This programme was designed in response to the recognised contribution that the creative industries makes to the UK economy and with a view to driving continued long-term industry growth. There was little evidence of HEI research being focussed on the creative industries, or of significant R&D investment being conducted within the sector. This programme was designed to create links between research undertaken in HEIs and the creative industries and then at the city region level, to deliver regional economic benefits associated with R&D investment and cluster development including an expansion of capacity among creative businesses to exploit technical and data-driven innovation (DDI). This is the first time that a national innovation programme has targeted regional rather than national economic development.

The stated aims of the CICP are set out below and grouped according to whether these align most closely to the CRDP or the PEC programme delivery component.

The aims of the CICP and contribution of the CRDP and PEC components

CRDP focussed aims

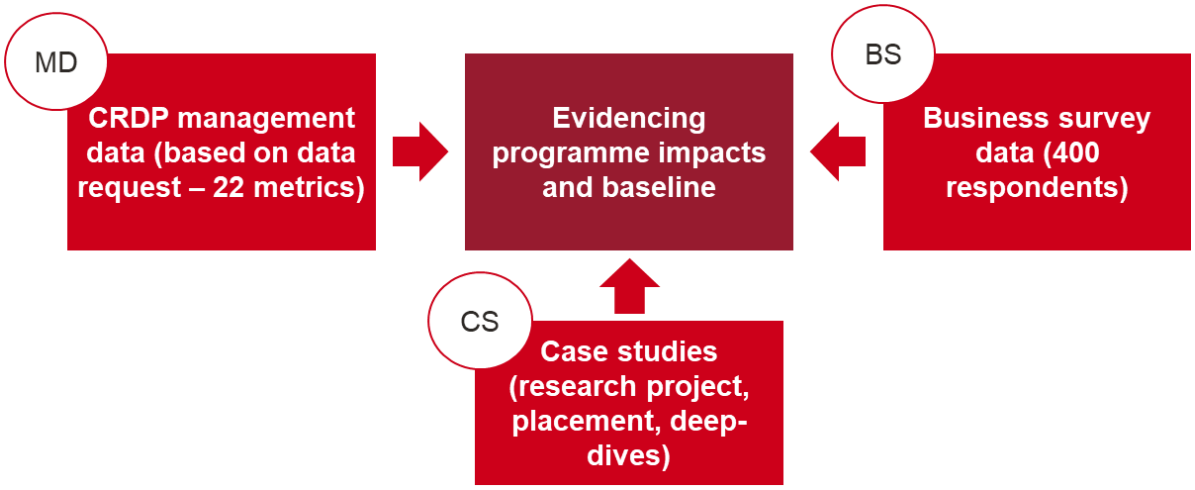
1. Identify industry-defined challenges where collaborative research and opportunities can lead to demonstrable and measurable outcomes for industry growth and advancement in knowledge.
2. Grow R&D activity for and with the creative industries; tapping into new opportunities and potential for collaboration and establishing strong and sustained connections between the UK research base and the creative industries.
3. Create an environment where large enterprises will increasingly see the value of making significant creative industries R&D investments with academic institutions to support innovative research, cutting-edge R&D and new opportunities for enterprises of all sizes (including in the supply chain).
4. Create a research community and R&D workforce adept at working across university, business and creative practice.

PEC focussed aims

5. Create a strong voice for the creative industries and enhancing data, analysis and research on and with the creative industries, both to inform policy and to provide insights for the sectors themselves.

Our theory-based assessment of programme impact is designed to provide an evidence-based assessment of whether CRDP programme delivery achieved these aims. It is structured around five programme evaluation themes defined by Frontier Economics and BOP Consulting in the evaluation framework developed in 2020.

Each theme is supported by indicators and metrics and evidenced through a mixed methods approach drawing on CRDP responses to a bespoke evaluation data request, analysis of 2020 baseline and 2023 final impact business survey responses, and a series of qualitative research project, placement and cluster deep-dive case studies.



The remainder of this summary sets out the headline findings and key supporting evidence for each evaluation theme on the impact of CRDP investment, over the 2018-23 programme delivery period.

Theme 1: Creating an environment for new and experimental creative content

One of the intended aims of the CICP was to provide potential creative industry innovators with the skills and resources that would leave them better equipped to conduct applied research (AR) and to stimulate emerging creative markets. For those not yet investing in applied research, the programme aimed to inform on the benefits of applied research in the creative industries. Another aim was to inform stakeholders (including the CRDPs themselves, UKRI and AHRC and national, devolved nation and regional policy makers) on different models of collaborative applied creative industry research, to improve decision making.

We set out the headline findings and a summary of the supporting evidence below.

CRDPs are more aware of and have a better understanding of what successful models of collaborative applied research and innovation in the creative industries look like

The qualitative case study research found strong evidence that CRDPs developed a better understanding of what successful models of creative industries applied research looks like through their delivery of CICP. Established AR models were seen as largely unsuitable for the creative industries because there are fewer large research-intensive businesses that are found in many other sectors. CICP enabled HEIs to play a commissioner / grant-making body role within their regions. In all cases, this role was supplemented with a range of support mechanisms offered throughout the process (from application stage to final delivery) that were seen as key to the success of the programme.

These included brokerage between participating SMEs and the academic knowledge base; ‘hand-holding’ at application stage, supporting businesses to engage with AR; and producer roles who could offer ongoing project support. We found evidence that these measures helped businesses to engage in applied research for the first time and significant demand for support

was reported by the CRDPs and stakeholders we interviewed. The survey evidence supports this: 78% of businesses that were familiar and had engaged significantly with their CRDP reported improved knowledge and confidence to conduct data and technology-led research.

It should be noted that CRDPs had to iterate to get their delivery models right, devising ways to overcome university inertia and academic routines, lack of trust and common language between industry-academia, and attracting the 'usual suspects'. This includes changes to size of grants, language around grant calls, structure of delivery team and the nature of the partnerships.

Overall, CRDPs have succeeded in improving the attractiveness and focus of their cluster as a location for creative industry applied research

74% of surveyed businesses agreed that their local city was an attractive place to work and establish a business. Nearly nine in ten of those who agreed strongly with this statement also considered that the CRDP had contributed to this. City region stakeholders interviewed as part of the CRDP case studies also noted the reputational benefits having a CRDP in their region.

CRDP supported businesses have a better understanding of the benefits of conducting applied research and capacity to do this in the future

CRDPs reported supporting an average of 482 businesses and academics in applied research projects each year. A higher proportion of survey respondents reported that they had a good or excellent capacity to engage in data or technology driven applied research in the 2023 survey compared with the baseline (36% vs 30%). Those that had engaged significantly were more likely to report this benefit than those that had had only light engagement with their CRDP (44% vs. 30%). Nearly two-thirds (65%) of engaged businesses had an improved awareness of the benefits of conducting data or technology driven research. Those with more significant engagements were more likely to report this benefit (84%) than those with light engagements (49%). The research project case studies also found that supported SMEs were more likely to engage in applied R&D in the future thanks to their participation in CICP, although capacity to engage with the research, and relatedly, the benefits realised, was greater among SMEs that had existing AR experience or capabilities (technological and creative businesses).

CRDPs have supported emerging markets through the development of products, services and tools, although some businesses encountered barriers to commercialisation

On average, each year the CRDPs supported the development of 179 products, services and tools. By the end of the programme in 2023, a total of 383 MVPs had been brought to market with CRDP support.

The five research case studies all showed evidence of tools, products or services being created through their projects. At baseline, the projects reported that they were developing prototype products to be tested in small scale settings for market readiness. One has taken

the software they developed to market, while the other projects encountered barriers to commercialisation which included prohibitive licensing fees and insolvency of key partners.

CRDPs have informed and influenced policy decisions at the city region and devolved nation level but it is too early to assess this for the UK

In 2020, we found greater policy engagement by CRDPs in the devolved nations. Three years on, there has been continued engagement from the Scottish and Welsh Governments. In England we found evidence that CRPDs have raised the profile of CIs to regional policymakers, but that it's too soon to assess whether this will translate into policy change. More generally, stakeholders acknowledged that policy change takes time, and there may well be contributions and influence of the CRDPs that have not yet been realised.

Theme 2: Generating long-term strategic applied research partnerships

CRDPs have improved access to infrastructure and assets to some extent despite the Covid pandemic and an overall increase in perceived facility access barriers over time

CRDPs invested a reported £36.5 million in collaboration workspaces, specialist facilities and technical assets and services over the course of the programme. This includes significant capital investment in assets that continue to be used beyond the lifetime of this programme. The CRDP delivery teams we spoke to told us that they had invested less than initially planned owing to the practical restrictions of facility creation and access during the Covid pandemic. Each year these workspaces or assets were used an average 413 times. The survey evidence suggests that despite overall access barriers increasing over time (30% businesses reported at least moderate access barriers in 2020 compared with 37% in 2023), the CICP acted to alleviate these (businesses that had engaged significantly with their CRDP were less likely to report significant access barriers (9%) than those whose level of engagement had been light (15%)). The smallest and least tech-focussed businesses were most likely to be facing these barriers.

The programme generated and sustained research partnerships and widened collaborator networks

An average of 189 applied research partnerships were created or sustained each year by the CRDPs with the number of these partnerships doubling each year between 2020 and 2022. Our survey showed that 31% of businesses supported by a CRDP were conducting their research in collaboration during 2023 compared to 19% in 2020.Those that had engaged more significantly with their CRDP were also more likely to collaborate. There is also evidence that the programme widened collaborator networks with 39% of significantly engaged businesses stating this as a significant benefit compared with 21% of those that had not. Immersive businesses benefited the most in this way (85% reported a benefit). Nearly half (48%) of businesses that had significantly engaged with their CRDP reported having widened their production, technical or digital specialist networks through the programme, compared with

29% who had not. Firms of all sizes and those that had a creative as well as a technical business focus appear to receive these network benefits.

The qualitative research shows different ways in which the CRDPs played a convening or community-building role in their city-regions, both through the structure of applied research projects and through additional networking activities programmed. As well as B2B and HEI-Industry partnerships, the research also found evidence of strengthened HEI-HEI partnerships, which in some cases have gone on to apply for – and receive – further joint funding projects.

Theme 3 Improving access to skills, knowledge and expertise

Training, mentoring and HEI placements were delivered and new courses and course delivery structures developed

An average of 691 businesses were trained or mentored through the programme each year through HEI courses, R&D funded projects, tailored business support programmes and industry internships. As part of this, a total of 60 new courses or course components were developed, including full degree courses such as Future Fashion Factory's BA in Fashion Design and Innovation and its MA in Global Fashion Management. In addition to this, the programme seconded 236 entrepreneurs (for example through Creative Informatics' Resident entrepreneurs programme) and placed 285 researchers in industry (FFF industrial placements and XR Stories' internships are examples).

The case studies also found evidence that the CICP has had an impact on the long-term strategic thinking of participating HEIs and the way they support creative industries innovation, including catalysing the development of two new schools and departments within HEIs.

Technical and data skills barriers increased for all businesses but less so for those receiving more support from their CRDP

Businesses' technical or data skills barriers increased over the duration of the programme (24% of surveyed businesses faced moderate to significant barriers in 2020 compared with 32% in 2023). Businesses that had significantly engaged with the programme were less likely to report a significant technical or data skills barrier in 2023 (28%) than those that had not (44%). 75% of significantly engaged businesses reported that their skills levels had been improved through the programme compared with only 41% of lightly engaged businesses. Those businesses with a purely data or technical focus were less likely to report these benefits (44%) than creative or creative and tech-focussed businesses (60%)

The qualitative research found evidence of SMEs acquiring new skills and knowledge, including one SME that was able to transform its business model thanks to the technical competency developed through engagement with the CRDP. In slight contrast to the business survey, tech-focussed businesses in the case studies were more likely to report technical skills gained, whereas the creative businesses, both of which worked with tech partners, focused more on the strategic or operational learnings from the programme.

Skills access within the clusters appears to have improved over time

The majority of surveyed businesses (65%) agreed that access to digital and creative skills within their cluster had improved over last five years, including 37% who strongly agreed. Of this 37%, almost three-quarters (72%) strongly agreed that CRDP investment had positively contributed to this benefit.

CRDPs delivered several hundred publications and attracted thousands of current and prospective creative researchers to events

Collectively, the CRDPs reported delivering a total of 355 academic research publications (a large proportion of these were produced by the two fashion and textiles related CRDPs), 101 publicly disseminated reports, 14 publicly disseminated datasets, and attracted 15,327 individuals to events they hosted or played a significant role in. The survey evidence suggests that by 2023, 49% of engaged businesses had attended a CRDP workshop or event and 22% had read a publication, paper or briefing. 69% of engaged businesses also reported being inspired by a CRDP showcasing event (these tended to be businesses without a particular data or technical focus). Programme stakeholders saw knowledge-sharing and datasets generated through CICP to be valuable contributions to the regional creative sector.

Theme 4 Addressing key place-based or sector issues

CRDPs' high level of knowledge about their regions and sectors was used to address place-based sector issues

The 2020 baseline research found the CRDPs had high levels of knowledge about their regions and sectors. Our qualitative research conducted in 2023 found evidence that CRDP's have deepened this knowledge. The research outputs and project outcomes have been used to inform strategic decision making for different stakeholders: policymakers, HEI senior leadership, and the CRDPs themselves.

The CRDPs funded 116 research projects that were specifically aimed at addressing city region or subsector issues. Two of the nine CRDPs accounted for 53% of these. All CRDPs could demonstrate progress in addressing issues within the city region and or subsector in which they were operating. However, given many of the issues identified were large, structural challenges that take years to address, none of the CRDPs felt the programme had 'solved' the issues for the region, or unlocked the maximum growth potential.

Theme 5 Generating economic and social benefits

The final evaluation theme considers the longer-term impacts of the CICP. It has a sub-sector focus which considers whether the programme led to screen-related and fashion and textiles businesses becoming more sustainable, equitable and competitive; and a cluster level focus which explores whether supported businesses were more able to attract funding and finance, invest in R&D and more generally grow and make an increasing contribution to city region economies.

Supported screen and fashion and textiles businesses appear to have de-prioritised sustainability and equity considerations for data or technology-led investment decisions over the course of this programme (note, this does not speak to all aspects of investment decision making)

The business survey shows that the proportion of supported businesses taking 'reducing environmental impact' and 'addressing socio-economic barriers and inequalities' into account as a highly important factor in their data and technology-led investment decisions, fell slightly over the programme period. The proportion of businesses stating that environmental impacts were a highly important factor for their data and technology-led investment decisions fell from 58% to 47% and the proportion of businesses reporting reducing socio-economic barriers and inequalities as a highly important data or technology-led investment decision factor fell slightly from 68% to 61%. This suggests that when making investment decisions, factors *other* than the environmental impact of the project or its potential to reduce socio-economic barriers or inequalities have been increasingly prioritised over the course of the programme.

We looked at this at a sub-sector level for the fashion and textiles and screen-related industries. We found this de-prioritisation of reducing environmental impact for data driven or technology led investment to be even more pronounced for fashion and textiles businesses. The proportion of fashion and textiles businesses reporting environmental impact as a highly important data or technology-led investment decision fell from 86% in 2020 to 45% in 2023.

For reducing socio-economic barriers and inequalities, the de-prioritisation appears more pronounced for screen-related businesses. The proportion of surveyed screen-related businesses citing this as a 'highly important' data and technology-led investment factor fell from 66% in 2020 to 58% in 2023. This is in contrast to the investments made by the CRDPs, who used the design of their funding calls as a lever to support sustainability, often making this a condition of funding, either as a supplementary criteria, or in some cases, as a challenge call that asked SMEs to directly address these issues through their applied research projects. While significant efforts were made by CRDPs to ensure the cohort of businesses and projects they supported were sustainable and equitable, the delivery teams acknowledged that the issues of inequality and sustainability are systemic and long term, and progress within the wider sector happens slowly. The survey evidence suggests that CRDPs have influenced screen-related businesses in this way for their data and technology-led investments, with those that have had significant engagements with their CRDP more likely to cite reducing environmental impacts (39%) and socio-economic barriers (64%) as highly important than those that had had light engagements (29% and 47%, respectively).

Business access to funding and finance has improved and more businesses are investing in 2023 than was expected in 2020

Compared with businesses that had only light engagements with their CRDP, businesses that had significant engagements were more likely to report improved access to private funding (56% reported a benefit). There is also evidence that investment outcomes have exceeded expectations: in 2020, 70% of businesses stated they would be investing more in three years'

time; in 2023, 80% of surveyed businesses said they were investing more than three years ago. Our analysis of CRDP data suggests that supported businesses were able to leverage £57 million of co-investment or follow-on funding or investment from public and private sources over the course of the programme (note this refers to investment leveraged by the businesses themselves rather than the CRDPs)The qualitative research found that bespoke support to apply for R&D funding was a key feature of the CRDPs' offer to SMEs, and CRDPs reported that SMEs they worked with went on to secure first-time funding from UKRI or other funding sources outside of CICP. We also found evidence that participating businesses in some city regions were more willing to invest in the skills and knowledge base locally because of their participation. Finally, the institutions and partnerships that comprised the CRDPs have also had success in securing follow-on funding.

Awareness of overseas opportunities has improved but accessing international markets remains a significant barrier

In 2023, 36% of surveyed supported businesses were exporting. Businesses that had engaged significantly with their CRDP were more likely to attribute a better awareness of overseas opportunities to the support (43%) than those who had only engaged in a light touch way (14%). However international market access remains a significant barrier for some businesses, with the proportion not changing much between 2020 (20%) and 2023 (23%).

For most CRDPs, developing trade links and overseas showcasing was not highlighted as a major part of their activities and offering, although the case studies found some evidence and examples of overseas showcasing and networking building.

There is early evidence of business creation and growth resulting from CRDP support

CRDPs reported a total of 107 spin-outs, start-ups and scale-ups over the course of the programme and total employment creation or safeguarding of 3,413 FTE employees. This statistic represents self-reported employment creation by the CRDPs across all the support they provided. It does not consider whether these jobs displaced jobs at other businesses, nor the extent to which at least some of these jobs may have been created without CRDP support.

The business survey suggests that 19% of supported businesses increased employment over the period (62 surveyed businesses). Of these 19%, 26% reported that this definitely would not have happened without CRDP support, suggesting strong or full additionality for this 26%, a further 29% states that the change in employment probably wouldn't have happened, 31% stated that some of the employment may have happened and finally 15% stated that the change in employment probably would have happened but it would have taken longer. This suggests some degree of additionality for these remaining businesses.

The survey asked businesses how many FTE employees they had and to estimate the employment increase that had resulted from their CRDP engagement. 51 businesses were able to report this information and reported a total employment increase of 365 FTE employees. 11 of these 51 businesses (22%) stated that their employment increase definitely

wouldn't have happened without CRDP support. These businesses had created 112 FTE employment posts over the period 2019-23 (31% of total reported employment increase). We assume partial additionality for the remaining reported employment increase (see main section of report for full methodology).

Overall, we estimate that as a result of CRDP engagement, the 51 reporting businesses increased their employment by 270 FTE employees. This gives us a conservative estimate of realised employment creation that can be attributed to CRDP support based on a business survey that received an 11% response rate. This is likely to overstate the true value of net employment creation because it does not consider whether these jobs displaced jobs at other businesses.

Unfortunately we do not know enough about the 11 non-reporting businesses whose employment also increased, or the 89% of businesses that didn't respond to this survey to be able to scale this result up to the population of CRDP supported businesses.

37% of surveyed SME businesses stated that their turnover had increased as a result of CRDP support and of these, 21% stated that the change in turnover definitely wouldn't have happened. Just nine of these businesses were able to report their turnover change for the period and so we don't attempt to estimate the turnover impact for the programme (because of the small sample size and the relatively short time period that will have elapsed since CRDP support finished).

1 The purpose of this report

This is our final report to the Arts and Humanities Research Council (AHRC) concerning the impact of the Creative R&D Partnerships (CRDP) element of the Creative Industries Clusters Programme ("the CICP"). It follows on from an evaluation framework report delivered in 2020,[1] and a baseline and initial impact report delivered in 2021.[2] Its purpose is to provide a final assessment of the impact and value for money of the CICP at the end of its five-year grant funding period (2018-23).

Our assessment of programme impact is structured according to the evaluation questions, indicators and metrics defined in the 2020 evaluation framework and draws on baseline and initial impact evidence from the 2021 evaluation report as well as a substantial body of new evidence, gathered over the course of 2023. Overall, it is intended to provide AHRC/UK Research and Innovation (UKRI) with the evidence required to assess whether the CICP met its objectives.

1.1 Programme objectives

The CICP is a £61m programme, delivered by the AHRC over a 2018-23 funding period. It formed one of the Industrial Strategy Challenge Funds (ISCF) that was delivered in support of the UK's previous Industrial Strategy and the Grand Challenges associated with it. This evaluation focusses on the impacts directly attributable to the £55m of core funding received by the CRDPs at the start of the programme, it does not consider the impacts of any additional funding (such as demonstrator project funding).

The aims of the CICP are to:[3]

1. Identify industry-defined challenges where collaborative research and opportunities can lead to demonstrable and measurable outcomes for industry growth and advancement in knowledge.
2. Grow R&D activity for and with the creative industries; tapping into new opportunities and potential for collaboration and establishing strong and sustained connections between the UK research base and the creative industries.
3. Create a strong voice for the creative industries and enhancing data, analysis and research on and with the creative industries, both to inform policy and to provide insights for the sectors themselves.

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1 Frontier Economics and BOP Consulting, Evaluation of the Creative Industries Clusters Programme – Phase 1 evaluation framework report – the CRDPs, December 2020 (Unpublished).

2 Frontier Economics and BOP Consulting, Evaluation of the Creative Industries Clusters Programme – Phase 2 baseline and initial impact reporting – the CRDPs, July 2021 (Unpublished).

3 Source: Mini Competition against an existing Framework Agreement (MC) on behalf of UK Research and Innovation (UKRI) -AHRC Subject: Creative Industries Clusters Programme – Evaluation Sourcing Reference Number: CR19114

4. Create an environment where large enterprises will increasingly see the value of making significant creative industries R&D investments with academic institutions to support innovative research, cutting-edge R&D and new opportunities for enterprises of all sizes (including in the supply chain).
5. Create a research community and R&D workforce adept at working across university, business and creative practice.

These five aims were delivered through two interventions:

- **Creative R&D Partnerships**. Nine local interventions based around the UK, each led by a Higher Education Institution (HEI). The CRDP intervention was most focussed on aims 1,2 and 4, though elements of delivery also contributed to the other CICP aims.
- **The Policy and Evidence Centre (PEC).** A research-based intervention focussing on creative industry policy and evidence, hosted by NESTA[4] which provided funding for research and dissemination to a network of researchers based mainly in HEIs, coordinated and supported by a core central team. The PEC is focussed on delivering against the third programme aim ('Create a strong voice') and the fifth aim ('Create a research community').

These two interventions operate independently of each other and have different structures, delivery mechanisms and objectives. This report focuses on the CRDP component of the programme.

1.1.1 The CRDPs

Each of the CRDPs was quite different. They operated independently of each other and had different structures, delivery mechanisms and objectives. Table 1 summarises their key characteristics.

[4] https://www.nesta.org.uk/

Table 1 The CICP CRDPs

CRDP	Description	Core funding (2018-23)
Bristol and Bath (B+B)	Understanding user engagement with new platforms, working at sites where 5G connectivity, Extended Reality (XR) technologies and (particularly) live arts overlap	£6,165,645
Business of Fashion, Textiles and Technology (BFTT)	Delivering sustainable innovation within the entire fashion and textile supply chain	£5,994,115
Clwstwr	Sustaining and growing media production in the Cardiff city area and across Wales, through enabling local businesses to compete with global media companies	£5,905,164
Creative Informatics (CI)	Enabling all creative businesses in the city region to benefit from transversal, data-driven innovation (DDI)	£6,178,930
Future Fashion Factory (FFF)	Transforming the UK fashion industry's capacity for new product innovation, and reducing lead times and waste, through the convergence of new digital and textile technologies within the fashion design process.	£6,149,573
Future Screens NI (FSNI)	Delivering expert technical skills, opportunity and growth across film and broadcast, animation, games and immersive technologies and industries in Northern Ireland	£6,155,381
InGAME	Creating economic benefit for the cluster, helping businesses to find new domestic and international markets (e.g. through 'gamification') and to scale up	£5,599,063
StoryFutures (SF)	Placing innovative storytelling at the heart of next generation immersive technologies and experiences and stimulate new markets within and outside the creative industries to fuel the growth of the sector	£6,508,228
XR Stories	Supporting research and development for companies working in cutting-edge digital technologies in the Yorkshire and Humber region	£6,493,925
TOTAL		**£55,150,025**[5]

Source: AHRC

[5] Note: Based on data provided by AHRC in April 2024. Table values rounded to nearest GBP and so individual CRDP values do not sum exactly to the total value reported above.

1.2 Document structure

The remaining sections of the main body of this report set out a summary of our evaluation approach, our evaluation findings (organised according to the five evaluation themes), an assessment of the value for money of the CRDP component of the CICP and finally lessons learnt from this evaluation and our recommendations for similar future evaluations.

The annexes describe the business survey questionnaire, contact database and respondent characteristics, additional graphical analysis from the business survey (referred to in the main report), the evaluation logic model, indicators and metrics.

2 Our approach to evaluating the CICP

We have conducted a programme level evaluation of the CICP CRDPs based on the approach set out in our evaluation framework report[6]. It captures evidence from the individual CRDPs and reporting at an aggregated programme level. We do not provide a comparative assessment of individual CRDP performance.

2.1 Evaluation themes, indicators and metrics

The evaluation is structured around five impact evaluation themes shown in Figure 1.

Figure 1 The five evaluation themes

Source: Frontier Economics and BOP Consulting analysis

These themes are supported by 21 impact indicators and 58 metrics and are listed in full in 0. The relevant indicators are also presented at the start of each themed impact section in the main report.

2.1.1 The evidence base

We draw on evidence from four workstreams:

- CRDP management data;
- Survey of cluster businesses;
- Project case studies (applied research projects and researcher placements); and
- Cluster development deep-dive case studies.

6 Frontier Economics and BOP Consulting, Evaluation of the Creative Industries Clusters Programme – Phase 1 evaluation framework report – the CRDPs, December 2020 (Unpublished).

CRDP management data

We have been collecting management data to inform many of the evaluation metrics from all of the CRDPs over the course of the evaluation. We used a standardised data template to request the data in 2020 and followed up this request with a similar template in 2023 asking CRDPs to update their previous submission with additional years of data. Overall the management data covers all nine CRDPs' activities and outputs over the period January 2019 to March 2023.

The first request was made in October 2020 and our analysis of this data was reported in the phase 2 baseline and initial impact report in July 2021. The second request was made in early 2022 and results reported to AHRC in April 2022. The third and final request was made over the period February to March 2023 (prior to the expected programme end date of March 2023) and the analysis and results were reported to AHRC in June 2023. This was the last time we collected data from the CRDPs as although some continued to operate and deliver activities funded through the CICP (under no cost extension arrangements), this only applied to some CRDPs and their final activities were not expected to significantly change the data that was being collected through the management data requests. Other clusters continued to operate but using 'demonstrator' funding which lies outside of the scope of this evaluation.

In most cases the management data records levels of CRDP activity and outputs, where it can reasonably be assumed there is a high degree of additionality to the programme. For Theme 5, which reports metrics relating to economic impact such as the number of businesses created and jobs created or saved, our data request asked CRDPs to report to their best knowledge only *additional* business creation and jobs, though in practice this may be hard for individual CRDPs to identify. We point to these limitations and uncertainties as we analyse and discuss the results in the main thematic sections of this report.

Finally, this is a programme level evaluation, and so although data was collected individually from each CRDP, the results are reported in aggregate. We provide illustrative examples for particular CRDPs where these highlight particular aspects of the data. This should not be interpreted as these CRDPs being 'higher impact'.

Survey of cluster businesses

In October and November 2023 we invited a total of 3,618 businesses that had interacted in some way with the CRDPs to complete a 20 minute telephone and online survey exploring the longer term impacts of the programme on their ability to innovate and overall business performance. We received 389 complete responses from SMEs, a response rate of 10.8%[7]. It was important that we maximised response rates across all of the CRDPs rather than aiming for a high response rate at programme level. To help with this we added an online completion

[7] The survey was open to all CRDP beneficiaries. Our cleaning process removed 10 large and 3 medium sized organisations, and 7 businesses that did not indicate their size. These organisations included public organisations that hadn't been captured by our pre-survey filtering.

option to the survey as many business contact records only contained email addresses and weighted the survey effort towards for CRDPs where we had relatively few contacts and/or a low response rate (see Annex A for a breakdown of the responses by CRDP).

We did not receive full information from the CRDPs on the number and characteristics of the full population of supported businesses and so have been unable to weight the responses to provide a fully representative view of the programme. The majority of responses we received were from micro-businesses (1-9 FTE employees) (65% of responses). In terms of sector, the most common responders were film, video, radio and photography businesses (28% of responses). 60% of responses were from businesses that describe themselves as being purely a creative industry business (as opposed to a technology and data driven business or a mix of both).

41% of responses were from businesses stating that they were very familiar with their CRDP *and* had engaged significantly with them. 49% of responses were from businesses that stated they were quite familiar with their CRDP and had engaged to some extent with them (such as through reading a paper or attending an event). The remaining 10% of respondents had not interacted with a CRDP.

Annex A provides full details of the contact database and respondent characteristics.

Establishing the counterfactual

The survey explores the counterfactual (defined as there having been no CICP) from a number of perspectives:

- **Self-reported counterfactuals:** Businesses are asked for their opinion today on what would have happened, or how their behaviour would have been different, in the absence of CRDP support. This provides us with self-reported measures of additionality, but the results may be unreliable because of business's difficulty recalling all relevant decision factors for a previous time period and potential response bias if those satisfied with the CRDP engagement are more likely to have responded.
- **Comparison with the baseline:** Some of the 2023 survey questions were designed as follow-up questions to the 2020 baseline and early impact survey. By comparing these results we can track how actual performance or attitudes have changed over time. The 'before' and 'after' responses provide an accurate snapshot of where businesses were at the start and end of the programme, but this comparison also cannot be considered a robust assessment of programme additionality because it cannot isolate programme impact from other factors influencing any change in attitude or performance over the period. In addition, there may be differences between the profile of respondents in the two surveys (which is cross-sectional rather than longitudinal) which affect the comparisons.
- **Comparison by significance of engagement:** The 2023 survey asked businesses to classify according to their level of engagement with their CRDP. Our analysis classifies businesses as significantly engaged if they stated they were very familiar and had engaged significantly with them, and lightly engaged if they were quite familiar (e.g., had

read a paper or attended an event) to not at all familiar. This allows for comparisons to be made between significantly engaged and non-significantly engaged businesses, though we note there is no attempt to match or balance the two samples.[8]

Project case studies (applied research projects and placement projects)

We undertook seven project case studies:

- **Five collaborative applied research case studies:** Five CRDP-funded or supported projects, covering collaborative applied research projects selected from the four CRDPs that are not involved in the deep-dive case studies. For three out of five of the research projects, the case studies are longitudinal, with interviews conducted at baseline and again in the final evaluation phases to assess the longer-term outcomes of the intervention.
- **Two placement/internship case studies:** Two CRDP-funded or supported projects covering placement or internships selected from two CRDPs that were running this type of activity. Interviews were conducted with the researchers/students who participated alongside the host business / organisation.

The case study projects are summarised below. The names of participating businesses and participant names have been anonymised as part of this report to protect any sensitive information.

Applied research projects

Healthcare charity / StoryFutures

The project developed an immersive prototype exploring the role of immersive storytelling in transition of care for young patients. It was a collaboration between a healthcare charity, a software company, a clinical researcher and a StoryFutures producer, carried out between December 2020 and May 2021. The project had a £40,000 cash R&D production budget, supported by over £40,000 in-kind support from StoryFutures and the charity. During the project, the charity employed fewer than ten people.

Immersive screen business / FSNI

The Belfast-based screen business, which transitioned from being a 'traditional' film and television business to an immersive technology studio and software developer with the support of FSNI, was supported through a significant number of projects over the course of CICP, including both collaborative research and researcher placement projects. These projects

[8] Six respondents indicated they had never heard of their CRDP and were included in the initial set of 'light engagement' businesses. Due to the nature of many of the questions which ask for opinion on CRDP impact, they were screened out of many of the questions and analysis in the main report.

supported the business to develop immersive production pipelines, assets and experiences.

Independent media company / B+B

A prototype project funded by Bristol + Bath CRDP as part of the Digital Placemaking Pathfinder. The project started in Spring 2020 and was initially scheduled for 5 months but was delayed to May 2021 because of the Covid pandemic. The project has c £20k production value. The project team delivered an immersive web-based application which interacts with the urban environment. It was delivered by an independent media company and software company.

Materials researchers / BFTT

One the seven workstreams ('Challenges') run by the CRDP. The project started in February 2019 and ran until Summer 2022. The total budget allocated to this workstream was c£750k. It aimed to evaluate and improve the properties of textiles produced with Regenerated Protein Fibres including those derived from milk, egg and soy, as well as assessing their commercial feasibility and market readiness. The research is conducted through the close collaboration between researchers specialised on design and others focussing on the technological development.

The project is delivered by the BFTT Co-Investigators from UAL and University of Leeds – two of the six universities partnering in the delivery of the CRDP. The academic team is also working with the Industry Partner Keracol - a spin-out company from The University of Leeds active in the chemistry sector. It was founded in 2011 and employs less than 10 people.

Creative technology company / XR Stories

The Leeds-based creative technology company were supported to undertake two collaborative R&D projects, one with another Leeds based art-direction studio and another with a national media partner. Both projects developed prototype immersive experiences. The company also hosted interns through an XR Stories-supported internship scheme.

Placement / internship projects

Software company / XR Stories

The internship project, managed by XR Stories, placed a recent graduate with a software company that implements simulation solutions and 3D modelling to professionals and companies. Their services are often aimed at city planners, architects, and civil engineers.

Software company / StoryFutures

The collaborative project was one of the R&D Seed Funding Programmes supporting SMEs in developing new products and services while embedding an academic researcher on early-stage innovation development. Academic researchers had the opportunity to build experience within businesses and pursue their own research projects.

The project saw the academic researcher in residency at the SME to test and develop a software prototype supporting non-technical creatives to develop digital assets for immersive storytelling. The host SME was a software company working in the development of immersive experiences.

Cluster development deep-dive case studies

We conducted five longitudinal case studies on CRDP clusters matched with five counterfactual clusters. The focus of these case studies was to gather evidence around the CICP's place-based regional economic development objective: "*To what extent and how the programme has strengthened regional hubs, and positively benefitted individual regions; to what extent have the CRDPs provided a focus or anchor for local communities*."

Counterfactual clusters were defined geographically and selected based on their sub-sector focus, maturity and size to provide comparability with the CRDPs.

The five cluster pairs are:

- Clwstwr and Glasgow;
- Creative Informatics and Manchester;
- Future Fashion Factory and the East Midlands;
- InGAME and Teeside; and
- XR Stories and the West Midlands

For each cluster, we performed the following data gathering exercises:

Quantitative analysis on the clusters and cluster counterfactuals workforce using LinkedIn API. We selected the workforce relevant for each of the clusters in collaboration with the selected CRDPs. Each cluster was defined in terms of geography, sector and skills. We used the same workforce definition (in terms of sectors and skills) for the funded cluster and their counterfactual paired cluster.

This allowed us to analyse changes that were realised between the baseline and final evaluation phases, but also see any changes between each matched pair. For each cluster (and its matched counterfactual) we defined two sets of workforce:

- A core group encapsulating the workers active in an area directly linked to the focus of the CRDP, and
- A wider group which presents characteristics that are indirectly related to the core focus of the CRDP, or that have relevant skills but are not active in core sectors.
- The detailed list of core and wider groups definitions for each cluster can be found in the Case Study Annex document.

Qualitative analysis: at baseline stage, eight interviews were conducted for each deep-dive case study pair (five for each funded CRDP and three for each counterfactual). Interview participants included regional policymakers and industry stakeholders (all clusters) alongside

members of the funded CRDP delivery teams. A further set of interviews with the same or similar groups of stakeholders were followed-up in the final evaluation phase.

3 Theme 1: Creating an environment for experimental content

3.1 Key findings

One of the intended aims of the CICP was to provide potential creative industry innovators with the skills and resources that would leave them better equipped to conduct applied research (AR) and to stimulate emerging creative markets. For those not yet investing in applied research, the programme aimed to inform on the benefits of applied research in the creative industries. Another aim was to inform stakeholders (including the CRDPs themselves, UKRI and AHRC and national, devolved nation and regional policy makers) on different models of collaborative applied creative industry research, to improve decision making.

We set out the headline findings and a summary of the supporting evidence below.

CRDPs are more aware of and have a better understanding of what successful models of collaborative applied research and innovation in the creative industries look like

The qualitative case study research found strong evidence that CRDPs developed a better understanding of what successful models of creative industries applied research looks like through their delivery of CICP. Established applied research models were seen as largely unsuitable for the creative industries because there are fewer large research-intensive businesses that are found in many other sectors. CICP enabled HEIs to play a commissioner / grant-making body role within their regions. In all cases, this role was supplemented with a range of support mechanisms offered throughout the process (from application stage to final delivery) that were seen as key to the success of the programme.

These included brokerage between participating SMEs and the academic knowledge base; ‘hand-holding’ at application stage, supporting businesses to engage with applied research; and producer roles who could offer ongoing project support. We found evidence that these measures helped businesses to engage in applied research for the first time and significant demand for support was reported by the CRDPs and stakeholders we interviewed. The survey evidence supports this: 78% of businesses that were familiar and had engaged significantly with their CRDP reported improved knowledge and confidence to conduct data and technology-led research.

It should be noted that CRDPs had to iterate to get their delivery models right, devising ways to overcome university inertia and academic routines, lack of trust and common language between industry-academia, and attracting the ‘usual suspects’. This includes changes to size of grants, language around grant calls, structure of delivery team and the nature of the partnerships.

Overall, CRDPs have succeeded in improving the attractiveness and focus of their cluster as a location for creative industry applied research

74% of surveyed businesses agreed that their local city was an attractive place to work and establish a business. Nearly nine in ten of those who agreed strongly with this statement also considered that the CRDP had contributed to this. City region stakeholders interviewed as part of the CRDP case studies also noted the reputational benefits having a CRDP in their region.

CRDP supported businesses have a better understanding of the benefits of conducting applied research and capacity to do this in the future

CRDPs reported supporting an average of 482 businesses and academics in applied research projects each year. A higher proportion of survey respondents reported that they had a good or excellent capacity to engage in data or technology driven applied research in the 2023 survey compared with the baseline (36% vs 30%). Those that had engaged significantly were more likely to report this benefit than those that had had only light engagement with their CRDP (44% vs. 30%). Nearly two-thirds (65%) of engaged businesses had an improved awareness of the benefits of conducting data or technology driven research. Those with more significant engagements were more likely to report this benefit (84%) than those with light engagements (49%). The research project case studies also found that supported SMEs were more likely to engage in applied R&D in the future thanks to their participation in CICP, although capacity to engage with the research, and relatedly, the benefits realised, was greater among SMEs that had existing applied research experience or capabilities (technological and creative businesses).

CRDPs have supported emerging markets through the development of products, services and tools, although some businesses encountered barriers to commercialisation

On average, each year the CRDPs supported the development of 179 products, services and tools. By the end of the programme in 2023, a total of 383 MVPs had been brought to market with CRDP support.

The five research case studies all showed evidence of tools, products or services being created through their projects. At baseline, the projects reported that they were developing prototype products to be tested in small scale settings for market readiness. One has taken the software they developed to market, while the other projects encountered barriers to commercialisation which included prohibitive licensing fees and insolvency of key partners.

CRDPs have informed and influenced policy decisions at the city region and devolved nation level but it is too early to assess this for the UK.

In 2020, we found greater policy engagement by CRDPs in the devolved nations. Three years on, there has been continued engagement from the Scottish and Welsh Governments. In England we found evidence that CRPDs have raised the profile of CIs to regional policymakers, but that it's too soon to assess whether this will translate into policy change. More generally, stakeholders acknowledged that policy change takes time, and there may well be contributions and influence of the CRDPs that have not yet been realised.

3.2 Introduction

This section sets out the evidence on the CRDPs' baseline and early impacts for the first CICP evaluation theme: Creating an environment for new and experimental creative content, products, services and experiences.

The indicators and evidence sources for each of these are shown in Table 2.

Table 2 Theme 1 indicators and evidence sources

CRDP Success Indicator	CRDP data	Business survey	Research case studies	Placement case studies	Cluster case studies
Theme 1 – creating an environment for new and experimental creative content, products, services and experiences					
SI1. Better understanding of the benefits and better equipped to engage in applied research	✓	✓	✓	✓	✓
SI2. Better understanding of successful models of collaborative applied research and innovation	-	-	-	-	✓
SI3. Informing and influencing policy decisions	✓	-	-	-	✓
SI4. Stimulating and supporting emerging markets	✓	✓	✓	✓	-
SI5. The clusters are recognised as leading locations for CIs and related research	-	-	-	-	✓

Source: Frontier Economics and BOP Consulting

The remainder of this section sets out the full range of evidence we have gathered for this theme, structured by success indicator (SI).

3.3 SI1 Better understanding of the benefits and better equipped

3.3.1 CRDP data evidence

We requested data from the CRPDs on the annual total number of businesses and academics that engaged in research projects set up or funded by the programme. Table 3 summarises our analysis of this data. To avoid double counting, as many CRDPs were unable to provide

data separately for new and repeat project participants across the years, we report the average rather than the total number of engaged businesses and academics for 2019-23.

Table 3 Number of businesses and academics taking part in CRDP applied research projects

Year	2019	2020	2021	2022-23	Average
No. businesses and academics	247	433	664	582	**482**

Source: CRDP management data and Frontier Economics and BOP Consulting analysis
Note: All nine CRDPs reported data for at least some years and seven reported for all years

Overall, each year the programme engaged an average of 482 businesses and academics through their applied research projects[9]. Peak engagement occurred in 2021 (a total of 664 business and academics took part in R&D projects in this year). This may have been driven in part by some projects being delayed as a result of the Covid pandemic. The number of reported businesses and academics participating in R&D projects in the final years of the programme fell to 582.

Examples of applied research related events and projects

- Bristol + Bath adapted to Covid restrictions by hosting their Hopeful Future seminar series on YouTube. This allowed them to reach a wider audience (event attendance was significantly higher in comparison to the previous 2 years).
- Future Screens NI funded a wider range of applied research projects from Proof of Concept SME led projects to Covid 19 calls and projects supporting PhD students. All of these projects involved both an industry representative and an academic.

3.3.2 Business survey evidence

The business survey provides evidence on:

- programme beneficiaries' awareness of the benefits of carrying out applied data or technology-led research; and
- whether programme beneficiaries are better equipped to engaged in applied research in the future.

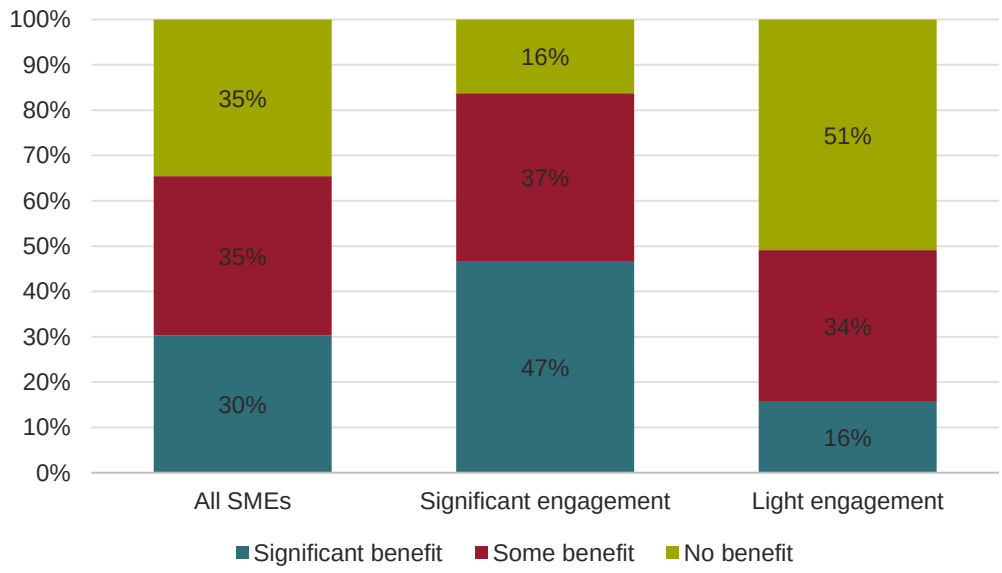
[9] Note: this result is likely to be a slight underestimate as two CRDPs were unable to report against this metric in all years.

Awareness of the benefits of carrying out data or technology-driven applied research

The survey asked all businesses whether as a result of their engagement with the CRDP they had gained a better awareness of the benefits of carrying out data or technology-driven research. Overall 65% of respondents stated they had received some or a 'significant benefit' from the programme in terms of increasing awareness (Figure 2).

To further test programme additionality we compared the responses of those businesses that had significant engagement with CRDPs with those that had only light engagement. These results further support the positive impact of the programme. They show that the significantly engaged businesses were more likely to report a better awareness of the benefits of data or technology-driven applied research (47% businesses) than those that had only light engagement (16% of businesses).

Figure 2 % SMEs benefitting from a better awareness of the advantages of conducting data or technology-driven applied research



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from response data to the November 2023 survey question "As a result of all of your interactions with CRDP, please tell me if the following benefits were relevant to your engagement and whether you obtained a significant benefit, some benefit or no benefit: Better awareness of the benefits of carrying out data or technology-driven applied research" . Base = 327 businesses (153 signifiant engagement, 173 light engagement)*

Firm size and creative vs. tech analysis

Additional analysis set out in Annex B shows that:

- Sole traders were least likely to state that engagement with their CRDP had significantly improved their awareness of the benefits of data or technology-driven applied research

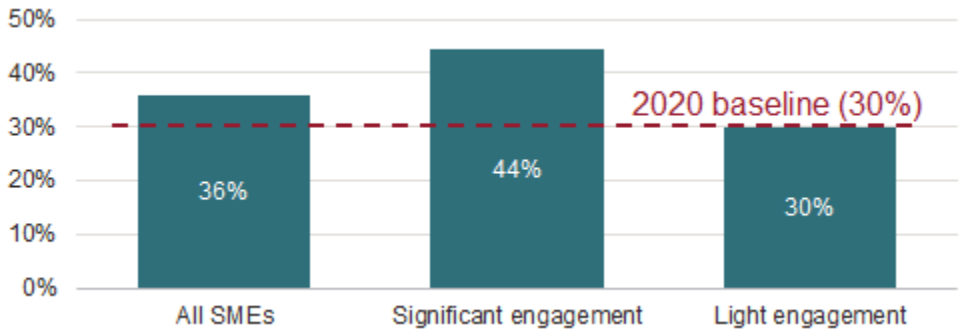
(21% sole traders) and medium-sized businesses were most likely to state this[10]). This finding suggests that more research into sole traders' capacity to conduct applied research alongside the day-to-day pressures of running of a business single handedly, may be valuable. See Figure 44 for the full analysis.

- Businesses with both a creative *and* a technology focus were most likely to state that engaging with their CRDP has significantly improved their awareness of the benefits of data or technology-driven applied research (39% of businesses). In contrast, 29% of purely creative businesses and 16% of purely technology-focussed businesses stated that CRDP engagement had led to significantly improved awareness of applied research benefits. See Figure 45 for the full analysis.

Capacity to engage in data or technology-driven applied research

The survey also explored businesses' capacity to engage in data or technology-driven applied research today. To understand programme impact the survey repeated the question we asked businesses in 2020 regarding whether they would describe their capacity as excellent, good, moderate, limited or none at all. In 2020, 30% told us that they had good or excellent capacity.

Figure 3 % businesses reporting a good or excellent capacity to engage in data or technology driven applied research



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the November 2023 survey question: "How would you describe your business's current capacity to engage in data or technology-driven applied research?" Base = 373 businesses (158 significant; 215 light) Baseline comparator from the 2020 survey.*

Figure 3 shows that in 2023, a slightly greater proportion of supported businesses reported having a good or excellent capacity to engage in data or technology-driven applied research (36%) than at the start of the programme delivery (30% in 2020), although we note that a different set of (non-matched) businesses responded to the two surveys so these results cannot be directly compared. Comparing the proportion of significantly engaged business reporting these benefits (44%) with lightly engaged businesses (30%), further suggests that the CICP has increased businesses' capacity to conduct applied research.

[10] Note, this statistic is based on the responses of just 10 medium or large businesses and should be treated with care.

Additional analysis set out in Annex B Figure 46 shows that significantly supported businesses were twice as likely to report having an excellent capacity (16%) than lightly supported businesses (8%).

Business size and creative vs tech business analysis

Annex B contains further evidence showing that larger businesses supported by the programme had greater capacity to carry out applied research. 8% of sole traders indicated they had excellent capacity to conduct applied research, compared with 19% of small businesses and 27% of medium+ businesses[11]. This is in line with our expectations that larger businesses will have more free resource to allocate to research and may be less risk adverse. See Figure 47. There was no significant difference between the results for purely creative, purely tech and tech and creative businesses.

3.3.3 Project case study evidence

Across the small sample of SMEs interviewed, all agreed that they would like to take part in an R&D project in the future, and the experience with CICP had increased the likelihood they would do so. In terms of understanding the benefits of applied research, these benefits were reported most positively among the SMEs who work on the development of technology as a core part of their business. This appears to be the result of greater absorptive capacity at the project outset, as well as prior experiences of R&D projects on which to base their expectations.

In the case of the two 'non-technical' creative organisations who were working with tech partners to develop a prototype, both organisations interviewed reported that the prototypes did not meet their needs or expectations (they felt 'let down' by the tech). From their perspective, the value they sought to gain from their participation in the project (which one organisation found to be much more resource-intensive than expected) was a viable product at the end. Although this did not transpire for either project/organisation, both felt they had learned valuable lessons about what to expect when undertaking collaborative R&D and learnings about working with partners that could be applied to future projects.

Healthcare charity / StoryFutures:

The charity involved reported capacity issues when it came to their engagement with the research: **"***The whole thing was a real learning really. We're a small charity. And I think we found our involvement was a lot more intense than we had expected at the beginning*."

The charity were unable to take the project further as it was not financially viable to do so, although the tech partner was able to apply the project learnings to future projects: "*I think the production company has taken those learnings and done something different. From this process, the charity really couldn't afford the licencing it probably needed. So that business model was a challenge for everyone. It didn't go further than a prototype."*

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[11] Note this result is based on the responses of just 11 businesses and should be treated with care.

3.4 SI2. Better understanding of successful models

3.4.1 Cluster deep-dive case study evidence

CRDPs developed and trialled different models of collaborative applied research through the programme, including challenge calls (all five deep dive CRDPs), grants and seed funding (all five), residencies (Creative Informatics, XR Stories) and R&D vouchers (InGAME). While these models were implemented in different ways, all cases saw the HEIs acting in a commissioning or grant-making role and so this can be seen as the core of the programme.

Of equal significance were the range of support mechanisms offered by CRDPs to SMEs throughout process, from application stage to final delivery. These included application support and workshops (all five), business accelerators (Creative Informatics) and networking, mentorship and membership schemes (all five).

Reflecting on the development of these models, especially the 'wraparound' support offered to cluster businesses, CRDPs acknowledged that established sector-agnostic applied research models – i.e. the models that were in place prior to the programme - are not well-suited to the sector. The creative industries have fewer of the larger research-intensive businesses found in sectors such as pharmaceuticals or tech, and therefore new models of applied research needed to reach a larger footprint of CIs SMEs (*"Research council funding can be a big problem to access across the [CI] landscape.*" - Stakeholder, INGAME) (*"The way of doing this is much more established in the sciences and the engineering part of the portfolio than it is in the creative industries. So anything that enables us to build those links I see as being a really positive thing for the university."* – VP, Abertay University, INGAME) (*"Government itself has separate pots of funding for innovation, such as Smart Cymru, but they've been very difficult to access for creative industries companies in particular over the years."* - Stakeholder, Clwstwr).

CRDPs developed successful models of applied research through an iterative process that evolved over the course of programme delivery (*"I would say a year in, we got the structure right."* – Delivery partner, Creative Informatics – *"It took us 23 months to get the model right."* – Delivery team, XR Stories).

Iterations included changes to the size of grants, communications strategies, the structure of the delivery team, changes to the wraparound support offer, and the nature of partnership agreements. Further details on the way in which projects evolved over the course of the project can be found in the CRDP Deep Dive Case Study Annex.

CRDPs also reported that AHRC were supportive of the changes that needed to be made and had an awareness and understanding of the way in which successful models were being developed (*"AHRC were great when we needed to change things. They now have a methodology for things like this. It felt like an experiment."* – Delivery team, InGAME – *"A constant thread was the AHRC's understanding of what the programme was"* – Delivery team, XR Stories).

3.5 SI3. Informing and influencing policy decisions

We have gathered evidence directly from the CRDPs and through the qualitative deep-dive case studies to understand whether the CICP played a role in informing and influencing policy decisions. Our analysis of this evidence is presented below.

3.5.1 CRDP data evidence

We requested management data from all CRPDs over the course of the delivery period on the number of policy-related outputs produced each year. This covered the policy relevant publications produced by the CRDPs and the number of events attended or hosted by CRDPs where they directly engaged with policy makers.

Table 4 Number of policy relevant publications produced and events where CRDPs engaged directly with policy makers

Year	2019	2020	2021	2022-23	Total
Policy relevant publications (all 9 CRDPs)	13	21	35	51	**120**
No. events where CRDPs engaged directly with policy makers (6 CRDPs*)	43	25	53	34	**155**

Source: *CRDP management data and Frontier Economics and BOP Consulting analysis*

Note: *Two CRDPs did not report against this metric, and another reported the number of policy maker interactions instead of the number of policy events (a total of 355 interactions for the years 2019-21).*

Table 4 reports the aggregated results for each delivery year and the total number for the entire 2019-23 delivery period. Our key findings are that:

- Nine (or all of the) CRDPs delivered a total of 120 policy relevant publications. As we would expect, the number of annual publications increased over the course of the programme (reflecting the time needed to gather evidence and publish). Some CRDPs were more publication-focussed than others. Three CRDPs in particular account for 74% of all of the publications over the delivery period.
- Six CRDPs were responsible for hosting or actively participating in 155 policy-focussed events. The number of events was more or less constant over the period (on average 39 events were held or attended each year by CRDPs).

Recent policy publication and event examples

XR Stories published **14 policy relevant publications** in 2022-23. These were a mix of publications and formal written submissions to policy committees (such as UK parliamentary BEIS committee and the House of Lords Communications and Digital Committee). It also has a representative on the DCMS College of Experts and took part in a UK industry expert delegation to explore XR technologies in Japan.

InGAME convened and hosted a **roundtable** with the Migration Minister to discuss Brexit's impact on the computer games industry and with the Digital Markets Unit of the UK Competition and Markets Authority.

3.5.2 Cluster deep-dive case study evidence

There is evidence that CRDPs informed and contributed to policy decisions at regional and national level. It was also acknowledged that policy change takes time, and there may well be contributions and influence of the CRDPs that have not yet been realised ("*It's probably too early to say*." – Policy stakeholder).

In addition to this, the extent to which CRDPs actively influenced policy is impacted by the differing governmental structures across the relevant city regions.

Evidence from the baseline stage of the evaluation suggested that, ''there is greater [policy] engagement by the three CRDPs in the devolved nations with the Scottish and Welsh Governments'. The findings at this final stage of the evaluation are broadly consistent with the baseline findings, although there is now more evidence that the two CRDPs in England have raised the profile of their industries within the region and its policymakers. This is especially noteworthy given baseline evidence which suggested CRDPs could do more to communicate and advocate at City Region level. ("*Future Fashion Factory has hugely increased the profile of the industry in the region. Policymakers have seen the economic benefits. The level of their engagement has been regular through steering groups*." – FFF Delivery team – "*It's also been interesting to see, as the LEP heads towards becoming a combined authority, how they have begun to take more of a focus on the creative sector, in terms of their sector development work. So it's been good to see the way that the project has helped galvanise bids beyond York within the region*." City of York Council).

Clwstwr policy engagement:

Policymakers in Cardiff noted close and complementary alignment between Clwstwr and the different layers of government in the city and in Wales, as well as the ways in which Clwstwr research outputs have informed local regional economic development:

"We can get, you know, ministers involved with things as well, if needed, and again, things can go from Clwstwr up to a Welsh Government Minister. We're lucky, because of the way that governance fits together." – Cardiff City Council.

"It was absolutely critical – those relationships with the Clwstwr team were just so important, because if we wanted to develop propositions and develop industry, we needed absolutely their steer, not just on the innovation aspect, either, but on the creative economy. It was from day one critical: they could give me the data and the evidence that I couldn't get from others." – Cardiff Capital Region

3.6 SI4. Stimulating and supporting emerging markets

3.6.1 CRDP data evidence

To help cluster businesses develop their capacity to conduct applied research, CRDPs focussed on supporting products or concepts that addressed industry-defined challenges that were neither ready to be deployed or marketed (as this would provide limited scope for improving applied research capacity), nor at such an early phase of development (or low technology readiness level (TRL)) that there was an extremely low likelihood of the concept reaching market.

Our analysis of the extent to which CRDPs were able to support innovative creative industry product and service development starts with a presentation of CRDP data on the number of Minimum Viable Products (MVPs), tools services and other products supported by the programme as well as the number brought to market (note, this evidence was initially aligned with SI17).

To do this we requested data from all CRDPs on the number of MVPs and other tools, products and services that were developed through the programme and the number brought to market.

Table 5 Number of creative industry related MVPs, tools, services and other products developed and brought to market by the CRDPs

Year	2019	2020	2021	2022-23	AVE/ TOTAL
No. supported products, services, tools in development (all CRDPs)	27	102	298	290	**179 (per year)**
No. MVPs supported through to market (all CRDPs)	2	45	128	208	**383 (in total)**

Source: CRDP management data and Frontier Economics and BOP Consulting analysis
Note: No. MVPs supported through to market was recorded against SI17 but is reported here for presentation purposes.

Table 5 reports the aggregated results for each delivery year and the average number of supported products services and tools (because the same product may be developed over more than one year, adding up annual figures may result in double counting). It also presents the total number of products brought to market over the period 2019-23. Our key findings are that:

- The number of supported MVPs has increased steadily to a level of around 290 supported products, services or tools per year since 2021.
- Three CRDPs accounted for 67% of these results over the period 2019-23[12].
- As of March 2023, a total of 383 products, services or tools were brought to market by the programme (this may underestimate the final impact total as some products or services still in development may reach market over the coming years).
- Two CRDPs were particularly effective in this areas and account for 69% of the total number of products or services brought to market for the period 2019-23.

Product development examples

InGAME supported Lowtek Games's text-to-speech plug-in, to make games more accessible to dyslexic players. The CRDP also provides all collaborative R&D service participants with an internal actionable MVP.

Future Screens NI supported 'Virtual Startle Effect' – an immersive experience focussing on when a startle effect happens to provide a Virtual Immersive Training Environment for surgical team members; and 'Listening Learners Beyond the School Gate' – tool kits for student and school support for online and restricted learning conditions.

12 See Frontier Economics and BOP Consulting Final phase assessment of the CICP management data (unpublished – prepared for AHRC programme completion reporting), 23 June 2023, for full details.

3.6.2 Project and cluster deep-dive case study evidence

The baseline evaluation found that for most of the research project case studies, the projects aimed to develop prototype products to be tested in small scale settings for market readiness. Of these projects, only one ultimately took their product to market. Other projects cited barriers to commercialisation which included prohibitive licensing fees and insolvency of key partners. As a result, there is only a small amount of qualitative evidence from the research case studies of the CICP stimulating and supporting emerging markets through new products and services, although the qualitative case study sample is by no means representative of the cohort of supported SMEs as a whole.

Further, one project featured in the case studies was not seeking to create a new product or service, but to improve the accessibility of an existing product of a large media company, making it available to a wider range of users with different access needs. The SME report having applied the techniques developed through this project to a subsequent project, enabling them to make a positive contribution to the accessibility of the emerging immersive market.

FSNI / Immersive screen business

An academic collaborator describes how the CRDP's collaboration with the immersive screen business stretched them to think beyond being a service provider and towards IP creation. The collaboration has resulted in a real-time collaborative VR platform that succeeded in attracting private finance and is now available commercially. Beyond this, the academic describes the way in which the CRDP, and projects like this one, have played a galvanising role within the creative industries ecosystem in the region and raised the profile of the immersive / screen sector.

"*It is really starting to unlock some really interesting creative collaborations and building exposure for them as a company because I think one of the key things with the cluster for me here in Northern Ireland was that it built visibility of the industry within the industry itself, which seems like a sort of daft thing to say… but we were [previously] very siloed*." – Academic partner

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3.6.3 Cluster deep-dive case study evidence

In the deep-dive case studies, some of the challenges identified at the start of the programme in relation to the (lack of) business models for XR products and services were seen by one stakeholder as persistent, despite the technological innovations supported by the programme:

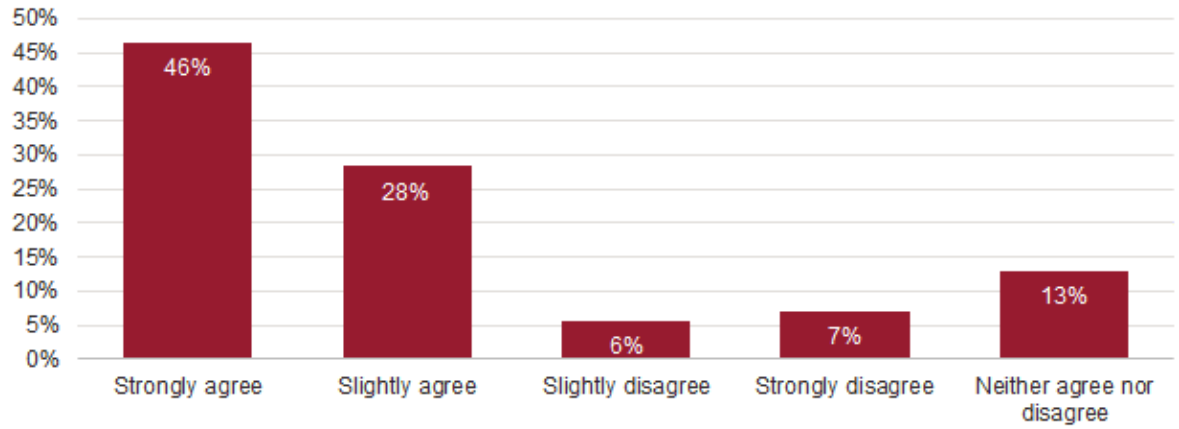
"The other big learning for us is that the business models are not yet there. You can make stuff once, but if you want to replicate that, who is commissioning XR work? How do you even distribute that? Commissioned works are getting shown at festivals but producers themselves are having to pay. That's a really big challenge. People are not making huge amounts of money – who is paying for that work? Who is even going to see it?" – Delivery partner, XR Stories

3.7 SI5. The clusters are recognised as leading locations

3.7.1 Business survey evidence

The survey asked businesses that had engaged with the programme the extent to which they agreed with the statement that their local city-region was an attractive place for highly skilled technical creatives to work and establish a business. The responses suggest that most businesses operating in a CICP cluster area consider their local city-region to be attractive.

Figure 4 % SMEs (dis)agreeing that their city region is an attractive place for highly skilled technical creatives to work and establish a business



Source: *Frontier Economics, BOP and SRI analysis*

Note: *Derived from responses to the November 2023 business survey question: "I'd like to finish with a few questions about technical skills in your city region. For each of these statements please can you state how much you agree or disagree: My local city region is an attractive place for highly skills technical creatives to work and establish a business." Base = 375 businesses*

Figure 4 shows that 46% of respondents strongly agreed that their city-region is attractive and a further 28% slightly agreed (74% of respondents agreed to some extent that their city region is attractive).

To explore whether this attractiveness could be attributable to the CICP, the survey also asked whether the activities of their CRDP had contributed to city region attractiveness. 66% of businesses who had strongly agreed their city region was attractive also strongly agreed that their CRDP had contributed to making the city-region attractive (and a further 22% slightly agreed). This suggests that CRDP activities are having a positive impact on a city region's attractiveness to high skilled creative entrepreneurs.

3.7.2 Cluster deep-dive case study evidence and national stakeholder interview evidence

City Region stakeholders interviewed as part of the CRDP case studies noted the reputational benefits of having a CRDP in their region and saw it as contributing to a higher profile sector, greater recognition of the benefit that the creative industries bring to the city, and a more innovative 'city brand'.

"*They did get the message outside of Edinburgh about Edinburgh as a creative, entrepreneurial city. European Festival Cities have been really interested in what Festivals Edinburgh has been doing [with Creative Informatics] – they see it as very innovative.*" – Festivals Edinburgh

"Some of the really interesting businesses that are coming through XR stories […] it's helped build up this broader understanding, which will actually have more longevity, in terms of where we go with using the UNESCO City of Media Arts designation. We've done quite a lot of work over the last few years on what we've talked about a city narrative, recognising, yes, we're a historic city, but a city that's very innovative as well. XR stories supports that – it is a good exemplar." – City of York

Nationally, a stakeholder closer to the programme felt the CRDPs had successfully promoted themselves and collaborated across the country.

"I think [CRDPs] were pretty strong [at promoting themselves nationally]. There was a gravity that built up. It's notable that lots of the clusters are still working together. The legacy goes far beyond the direct impact of the programme. There has been lots of evidence of knowledge sharing between the clusters, hopefully going back into the sector." – National stakeholder

However, a stakeholder further from the programme felt the CICP network was 'tight' and somewhat closed, and demonstrated limited awareness of projects, despite working in a city region with a CRDP.

4 Theme 2 Generating Strategic Research Partnerships

4.1 Key findings

CRDPs have improved access to infrastructure and assets to some extent despite the Covid pandemic and an overall increase in perceived facility access barriers over time

CRDPs invested a reported £36.5 million in collaboration workspaces, specialist facilities and technical assets and services over the course of the programme. The CRDP delivery teams we spoke to told us that they had invested less than initially planned owing to the practical restrictions of facility creation and access during the Covid pandemic. Each year these workspaces or assets were used an average 413 times. The survey evidence suggests that despite overall access barriers increasing over time (30% businesses reported at least moderate access barriers in 2020 compared with 37% in 2023), the CICP acted to alleviate these (businesses that had engaged significantly with their CRDP were less likely to report significant access barriers (9%) than those whose level of engagement had been light (15%)). The smallest and least tech-focussed businesses were most likely to be facing these barriers.

The programme generated and sustained research partnerships and widened collaborator networks

An average of 189 applied research partnerships were created or sustained each year by the CRDPs with the number of these partnerships doubling each year between 2020 and 2022. Our survey showed that 31% of businesses supported by a CRDP were conducting their research in collaboration during 2023 compared to 19% in 2020.Those that had engaged more significantly with their CRDP were also more likely to collaborate. There is also evidence that the programme widened collaborator networks with 39% of significantly engaged businesses stating this as a significant benefit compared with 21% of those that had not. Immersive businesses benefited the most in this way (85% reported a benefit). Nearly half (48%) of businesses that had significantly engaged with their CRDP reported having widened their production, technical or digital specialist networks through the programme, compared with 29% who had not. Firms of all sizes and those that had a creative as well as a technical business focus appear to receive these network benefits.

The qualitative research shows different ways in which the CRDPs played a convening or community-building role in their city-regions, both through the structure of applied research projects and through additional networking activities programmed. As well as B2B and HEI-Industry partnerships, the research also found evidence of strengthened HEI-HEI partnerships, which in some cases have gone on to apply for – and receive – further joint funding projects.

4.2 Introduction

This section sets out the evidence on the CRDPs' baseline and early impacts for the second evaluation theme: Building long-term strategic R&D partnerships between HEIs, creative enterprises and other relevant sectoral and local stakeholders that offer new R&D facilities (labs) and a multi-disciplinary workforce.

The indicators and evidence sources for this theme are shown in Figure 5.

Figure 5 Theme 2 indicators and evidence sources

CRDP Success Indicator	CRDP data	Busi-ness survey	Research case studies	Placement case studies	Cluster case studies	Stakeholder interviews
Theme 2 – generating long-term strategic applied research partnerships						
SI6. Improved access to infrastructure and assets	✓	✓	✓	✓	-	-
SI7. New and diverse applied research partnerships within the cluster	✓	✓	✓	-	-	✓
SI8. HEIs recognised as instrumental to the creation of applied research partnerships	-	-	✓	-	✓	✓

Source: Frontier Economics and BOP Consulting

4.3 SI6. CRDPs provide creative industries researchers and entrepreneurs with improved access to the infrastructure and assets they need to collaborate and innovate

4.3.1 CRDP data evidence

The data collected by CRDPs informs us on their investment in infrastructure and assets and the number of researchers accessing or using these assets.

CRDP investment in infrastructure and assets

CRDPs collected data on their total annual investment (CRDP + leveraged) in collaboration workspaces, specialist facilities and technical assets and services.

Table 6 Total CRDP investment in collaboration workspaces, specialist facilities and technical assets and services

Year	2019	2020	2021	2022-23	Total
Total value of investment, £m (All CRDPs)	4.45	4.39	21.6	6.06	**36.5**

Source: CRDP management data and Frontier Economics and BOP Consulting analysis
Note:

Table 6 reports this as the total reported investment in collaborative spaces, specialist infrastructure and technical assets for the period 2019-23 as £36.5m. Investment increased significantly in 2021 but dropped off as expected in 2022-23 as the programme funding period came to a close. This funding has been used to acquire space for hot desks, labs and training areas and a large part of investment is capital with an asset life that extends beyond the CICP funding period. Investment by five of the CRDPs accounts for 95% of the total (BFTT, Story Futures, XR Stories, FSNI, FFF). All CRDPs leveraged funding through their project work and used this to invest in facilities and other research assets.

Examples of workspace and facility investment by the CRDPs

These include investment in a new VR lab by StoryFutures; investment by FSNI in a virtual production studio; and BFTT's £1.1m grant from angel investors in 2021 to build a new pilot plant.

Clwstwr developed a collaboration workspace with Cardiff City Council. Due to the Covid pandemic it has not been able to realise its other planned investments (PDR FabLab – a resource/service investment by Cardiff Metropolitan including workshop space; and space and equipment infrastructure investment by BBC Wales).

CRDPs also collected evidence on the number of researchers using the infrastructure and assets that the CRDP's have invested in.

Table 7 No. creative researchers accessing/using CRDP assets

Year	2019	2020	2021	2022-23	Average
Number of researchers using CRDP workspaces, facilities or assets (All CRDPs)	271	107	387	446	**413**

Source: CRDP management data and Frontier Economics and BOP Consulting analysis

Note: CRDPs record the total number of researchers using each facility in a given year. This means that the data may count one individual multiple times because they use more than one asset.

Table 7 shows that in 2022-23, 446 users were recorded by the CRDPs as having accessed workspaces and other facilities and assets invested in by the programme and over the full programme period average use was 413 creative researchers (but this result is affected by the low number of users during the programme start up period and Covid-19 pandemic). Overall, the number of users appears relatively low compared with the reported £36 million of investment made by CRDPs in workspaces, other facilities and assets (around £22,000 per user if these figures relate to unique users, and a higher cost per user if these are not unique users). However, these assets should continue to be used after the close of the CICP and so this data should be read as an early indicator of programme impact and the true benefit assessed over the course of the lifetime of each asset.

Examples of creative researcher use of CRDPs workspaces and assets

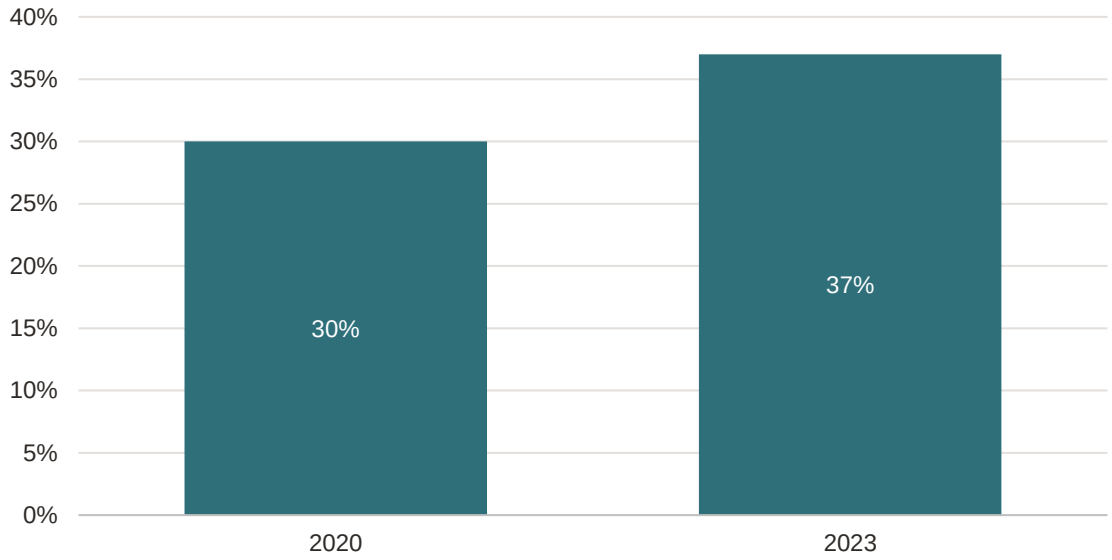
XR Stories started to provide equipment on loan in 2021 (this was delayed because of the Covid pandemic). It reported that in 2022, 12 SMEs were supported through the loan of equipment, staff, workshop and programme support and six Creative Researchers were provided with access to and use of the facilities and technical assets in the Guildhall Lab. Overall, the lab was used a total of 37 times.

Future Screens NI reported 50 users of Pixel Mill and up to 200 users of the Ormeau Baths in 2022-23.

4.3.2 Business survey evidence

Both our 2020 and our 2023 survey asked creative and technology focussed businesses that had interacted with a CRDP whether access to research facilities acted as barrier to conducting applied research. In 2020, 31% of businesses said that access to facilities was a moderate or significant barrier. In 2023, this percentage had increased slightly to 37% (Figure 6).

Figure 6 % businesses reporting access to research facilities as a moderate or significant barrier, 2020 vs 2023

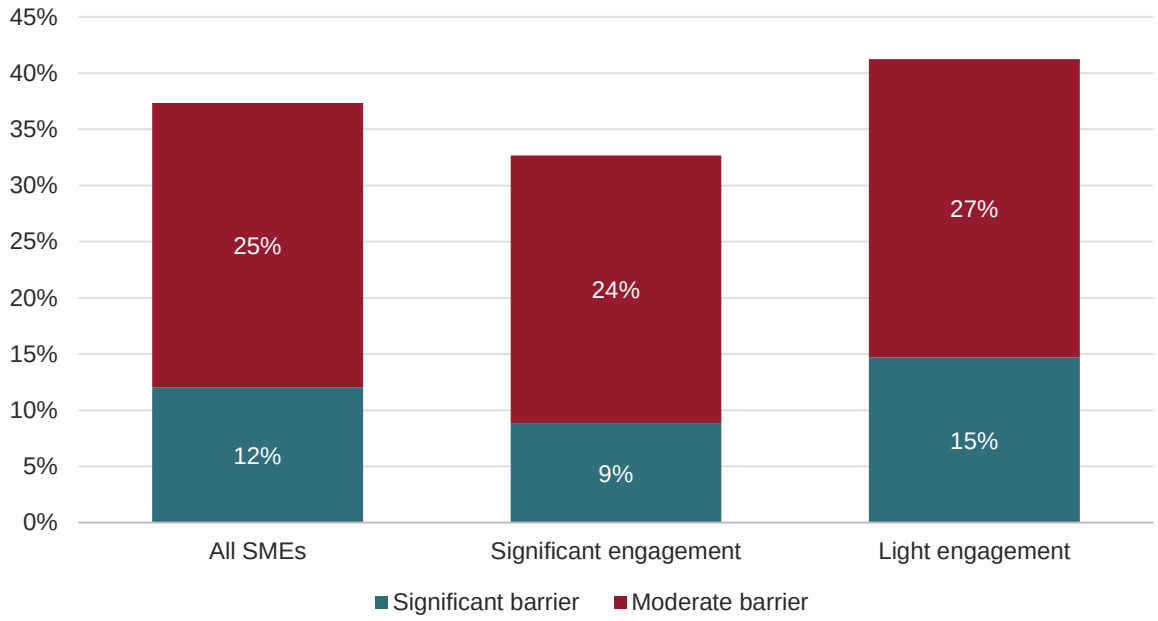


Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the December 2020 and November 2023 survey question: I'd now like to understand more about the barriers your business faces today when considering or carrying out applied research: Access to equipment and research facilities such as workspaces, labs and studios". Base = 400 businesses (including medium and large) (2020) and 324 SMEs (2023)*

We also looked at whether CRDP support had acted to reduce the size of the barrier over the period by comparing the proportion of businesses reporting moderate or significant facility access barriers for those that intensively engaged with their CRDP and those that only lightly engaged (Figure 7).

Figure 7 % businesses reporting access to research facilities as a moderate or significant barrier – significant vs light engagement



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the November 2023 survey question: I'd now like to understand more about the barriers your business faces today when considering or carrying out applied research: Access to equipment and research facilities such as workspaces, labs and studios". Base = 324 businesses (147 significant engagement, 177 light engagement)*

This analysis shows that businesses with significant engagement were slightly less likely to indicate significant facility access barriers (9%) compared with those that had light engagement (15%), and also less likely to report at least a moderate facility barrier (33%) compared with light engagement businesses (42%). These results suggest that the programme did improve access to research facilities for businesses that engaged significantly, but this remains at least a moderate barrier for a sizeable proportion of creative cluster businesses.

Figure 42 and Figure 43 in Annex B set out further analysis which shows there to be no appreciable difference between sole traders, micro and small businesses. Businesses describing themselves as purely creative were more likely to report significant facility access barriers (14%) than purely tech-focussed businesses (6%) and slightly more likely than those with a creative and tech focus (10%).

4.3.3 Project and cluster deep-dive case study evidence

Evidence from the baseline study suggested that, while there were some examples of SMEs accessing facilities provided by the CRDPs, this had been significantly disrupted by the Covid-19 pandemic. Data collected for the final evaluation indicates that, for most of the five CRDPs that were the subject of the deep dives (aside from XR Stories), there has not been a

significant shift towards lab-based infrastructure as a core offer to SMEs following the lifting of restrictions, as by this point the CRDPs had well-established remote offerings.

There are, however, some positive examples from the research project case studies of SMEs accessing facilities provided by CRDPs and this supporting business growth ("*There was good collaboration between Future Screens and Digital Catapult which allowed access to facilities. We had access to LED volumes, which a company like ours couldn't afford*." – SME supported by Future Screens).

XR Stories

XR Stories reflected that access to space, equipment and a lab technician was a valuable part of their offer, even if they were only able to offer this towards the latter part of the programme timeline. In fact, the level of facilities and infrastructure they offered SMEs they supported was in part the result of an unanticipated change to their planned site relocation, prompted by Covid-19, which ultimately saw them move to a better-suited city centre venue.

"*And then we eventually got the Lab – we have a place where the equipment mostly resides. There's a space you can do this stuff in, interwoven with all the projects – that worked", and: "Our difference was the wraparound offer – the expertise – the facilities, the networking – the kit – people were able to use the Lab, borrow bits of kit, access a technician." XR Stories Delivery team*

4.4 SI7. New and diverse applied research partnerships

4.4.1 CRDP data evidence

CRDPs collected evidence on the number of new partnerships generated by the CRDPs over the period 2019-23, including business, HEI and wider stakeholder partnerships.

Table 8 No. of new long term applied research partnerships

Year	2019	2020	2021	2022-23	Average
Number of Partnerships (All CRDPs)	96	186	346	126	**189**

Source: *CRDP management data and Frontier Economics and BOP Consulting analysis*

Note: *CRDPs' interpretation and ability to report on new partnerships varied across the programme. Overall, we have captured data on project work, purposeful strategic partnerships between the CRDPs and other organisations and for some, internship and fellowship partnerships. Some CRDPs reported all partnerships, whereas some were able to identify 'new'. This data should therefore be treated with care and only indicative of CICP partnership creation.*

Table 8 shows that on average, the programme generated 189 research partnerships by the end of the funding period. The table also shows that the number of reported research partnerships generated by the programme increased steadily year on year to a total of 346 partnerships in 2021. The number then fell in 2022-23 to 126 as the CRDPs started to wind down their programmes.

Examples of research partnership creation

Future Fashion Factory generated new R&D collaborations in 2022, including the Recycling and Sorting Demonstrator partnerships (between UKFT and several members of FFF).

XR Stories' data provides an insight into the proportion of partnerships generated by the CRDPs that are 'new'. In 2023, the CRDP reported that 15 of the 60 R&D partnerships it supported were new (including partnerships formed through fellowships and internships).

4.4.2 Business survey evidence

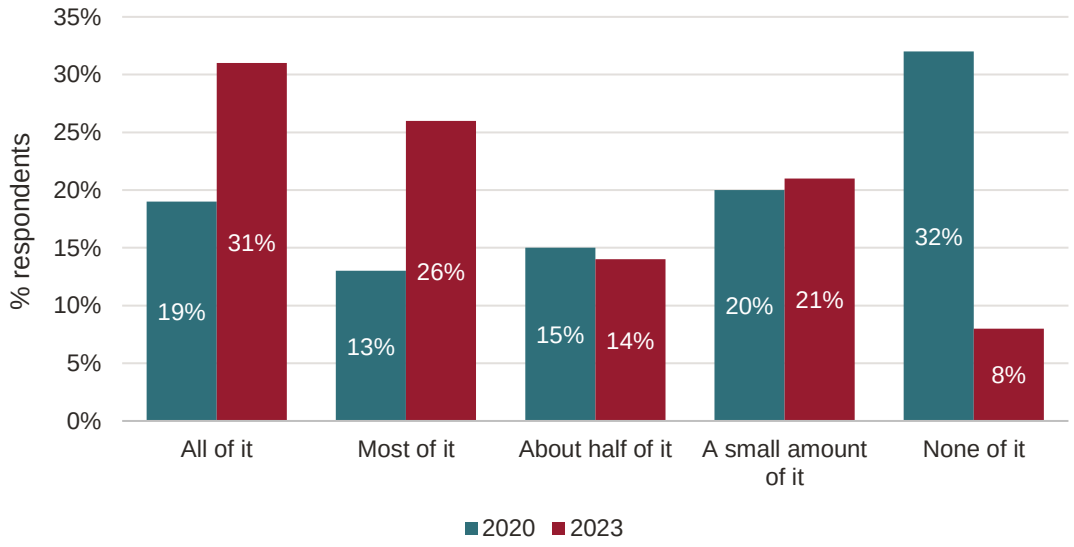
Increasing the level of collaboration both between HEIs and creative SMEs and between creative SMEs themselves is a key aim of the CICP, which itself comes from the substantial body of research demonstrating collaborative R&D to be more productive than internal (single institution) R&D[13]. Our survey analysis explored the extent to which businesses engaging with the CICP were conducting their research in collaboration and whether as a result of engaging with their CRDP they were now better connected into research networks.

Extent to which businesses are conducting collaborative research

Our baseline survey found that in 2020, 32% of businesses interacting with a CRDP were conducting most of their research in collaboration and 66% of businesses were conducting some research in collaboration. We repeated the question in 2023 and found that significantly more businesses engaging with the CICP were collaborating when conducting applied research: 57% businesses that had engaged with the programme were conducting most of their research in collaboration and 92% were conducting at last some in collaboration (Figure 8).

[13] See for example, https://www.sciencedirect.com/science/article/abs/pii/S0048733399000037#aep-abstract-id3

Figure 8 Change in the % businesses collaborating with other organisations for all/most/half/a small amount of their applied research activity

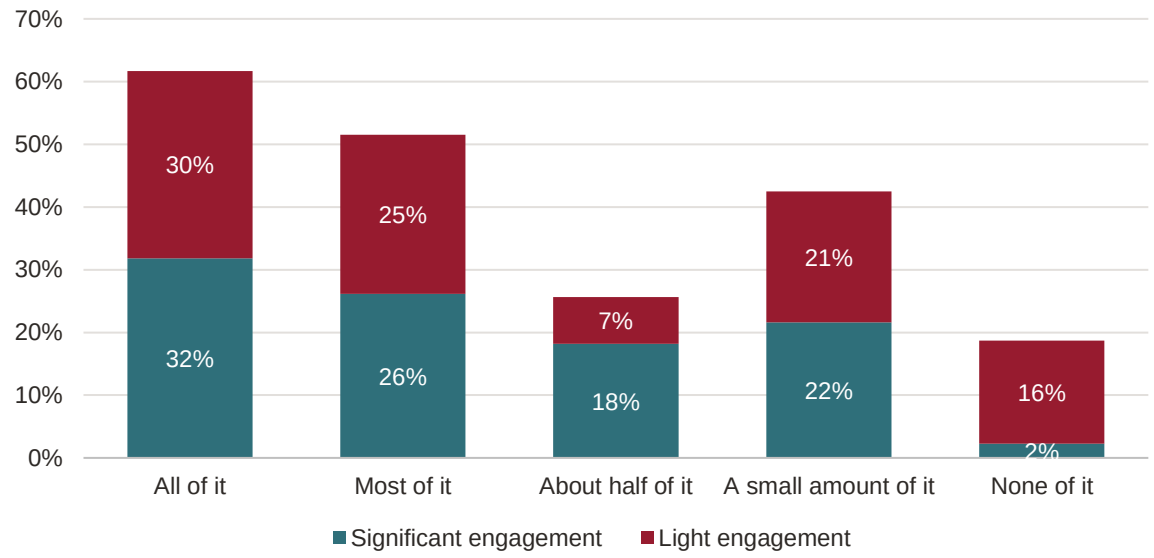


Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from the December 2020 and November 2023 business survey question: "Thinking of your business's applied research over the last 12 months, how much of this was conducted in collaboration with other organisations?". Base: 364 businesses (2020); 155 businesses (2023)*

Further analysis comparing the responses of businesses that engaged significantly with a CRDP with those that engaged lightly suggests that those with programme engagement tended to collaborate more. Figure 9 shows that just 2% of intensive engagement businesses conducted none of their research collaboratively compared with 16% of light engagement businesses. This could suggest a positive impact of the programme (and also that the programme is engaging businesses more disposed to collaboration).

Figure 9 % businesses collaborating with other organisations for all/most/half/a small amount of their applied research activity



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from the November 2023 business survey question: "Thinking of your business's applied research over the last 12 months, how much of this was conducted in collaboration with other organisations?". Base = 155 businesses (88 significant engagement, 67 light engagement)*

Business size and creative vs tech business analysis

We also explored whether different types of businesses engaging with the programme tended to collaborate. There was little difference in the responses of purely creative, purely technology or data driven and those with a mixed focus, or between businesses of different sizes (see for example, Figure 56 and Figure 57 in Annex B .

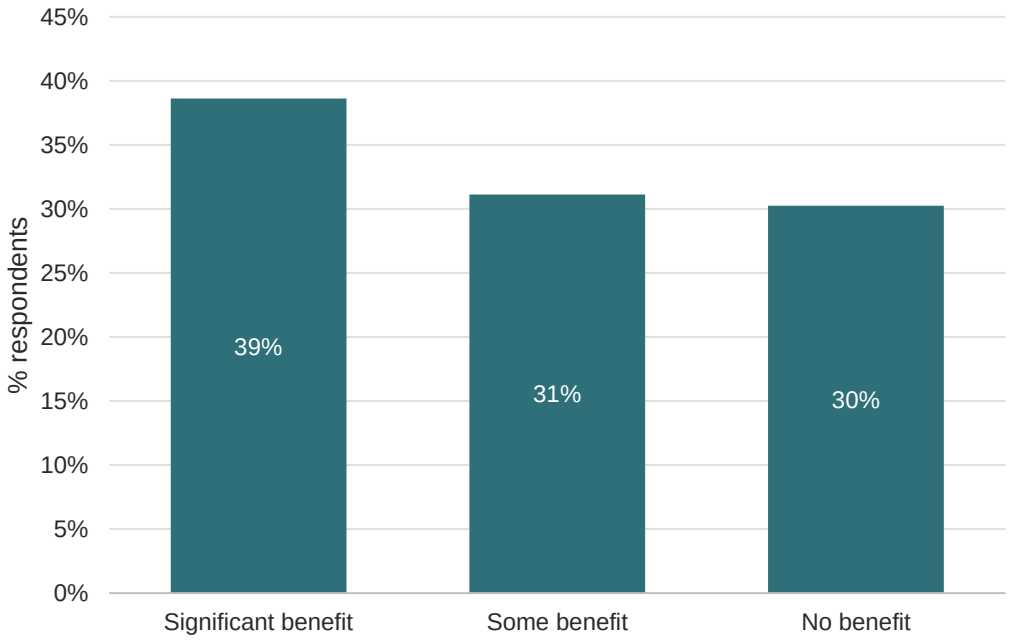
Research networks

The survey analysis also explored the extent to which the programme was enabling collaboration by extending businesses' research networks – both research collaboration networks and production, technical and digital specialist networks.

Extending research collaborator networks

Businesses were asked whether engagement with the CICP had delivered a benefit of a wider network of research collaborators. 39% of businesses responded that they had received a significant benefit and a further 31%, some benefit (Figure 10).

Figure 10 % businesses benefitting from a wider network of research collaborators as a result of interacting with their CRDP

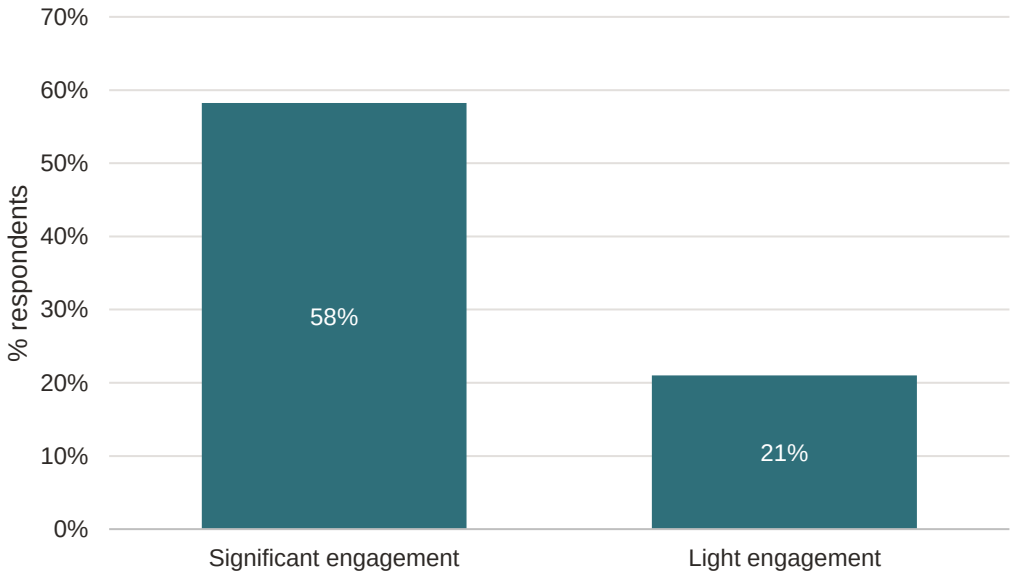


Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the November 2023 business survey question: As a result of all of your interactions with [CRDP], please tell me if the following benefits were relevant to your engagement and whether you obtained a significant, slight or no benefit: A wider network of research collaborators. Base = 334 businesses.*

We then compared the responses of light engagement businesses (who act as our control group) with those of businesses that had engaged with the programme more significantly (our treatment group). This analysis (Figure 11) suggests further that the programme has increased businesses collaborator networks: 58% of intensively engaged businesses reported at least some benefit compared with only 21% of lightly engaged businesses. Note, this analysis does not control for other factors that could also determine whether a business was able to increase its collaboration network so should only be treated as another indication of programme impact.

Figure 11 % businesses benefitting significantly from a wider network of research collaborators – signfiicant vs light engagement



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Result based on those responding significant benefit. Derived from responses to the November 2023 business survey question: As a result of all of your interactions with [CRDP], please tell me if the following benefits were relevant to your engagement and whether you obtained a significant, slight or no benefit: A wider network of research collaborators Base = 129 businesses.*

Creative vs. tech business analysis

Additional analysis presented in Figure 49, Annex B suggests that the programme delivered the greatest benefit in terms of a wider network of research collaborators to businesses that had a mixed creative and technology focus (47% of these businesses reported at least some programme benefit), and the least to purely tech-focussed businesses (23% businesses). See Figure 49.

Business size analysis

Our analysis by business size did not show significant response differences between the size groups (see Annex B Figure 50).

Sector analysis

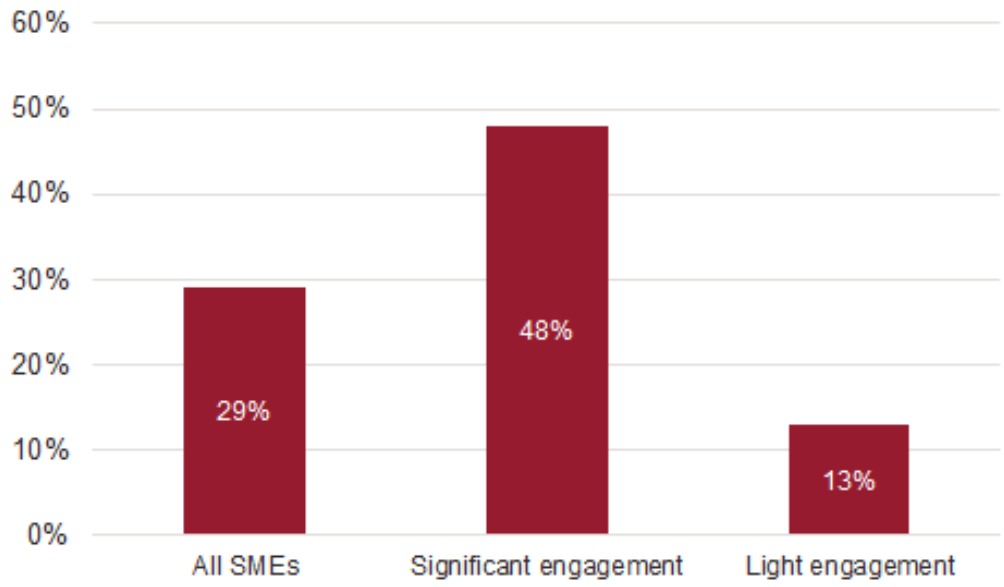
Figure 52 in Annex B presents the detailed sector breakdown of the survey question responses. This shows some variation between the extent to which different sector businesses reported at least some research collaborator network benefit, with publishing (100%) and immersive technology businesses (85%) most likely to report this benefit and IT, software and computer service companies least likely (40% of respondents).

Production, technical and digital specialist networks

The survey also asked engaged businesses whether they had received benefits from their CRDP in terms of having access to a wider network of production, technical and digital specialists. 29% of business reported a significant benefit and a further 32% reported some benefit. 39% stated they had not received this benefit.

To explore programme impact further we compare the responses by significant and light engagement businesses (Figure 12). This provides us with a form of treatment and control group, although we are limited by the likelihood of there being fixed differences between businesses that engaged more or less intensively with the programme.

Figure 12 % businesses benefitting from a wider network of production/ technical/digital specialists – significant vs light engagement



Source: *Frontier Economics, BOP Consulting and SRI analysis*

Note: *Derived from responses to the 2023 business survey question "As a result of all of your interactions with [CRDP], please tell me if the following benefits were relevant to your engagement and whether you obtained a significant, slight or no benefit? A wider network of production/technical/ digital specialists" Base = 334 businesses (156 significant engagement, 178 light engagement)*

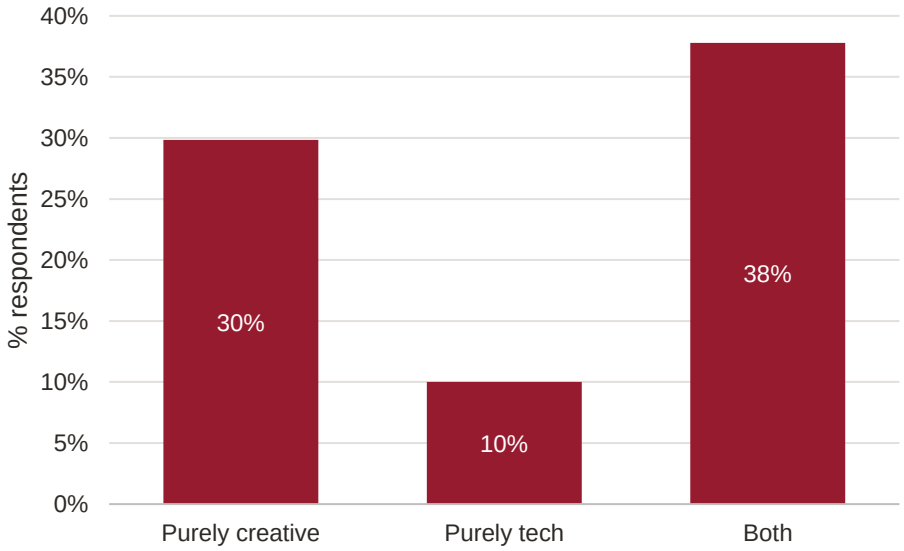
This analysis showed a marked difference in the proportion of businesses reporting improved access to production, technical or digital specialist networks: 48% of significantly engaged businesses reported having improved access to a wider network of specialists compared with 13% of light engagement businesses.

Creative vs tech business analysis

Figure 13 presents further analysis differentiating between the responses of those businesses describing themselves as creative business, a technology and data driven business, or both. This shows that businesses describing themselves as both were most likely to increase their

network of production, technical and digital specialists through their engagement with a CRDP (38% reported a significant benefit), a slightly smaller proportion (30%) of purely creative businesses also reported benefits, whereas purely technology and data focussed businesses were least likely to report a benefit (10%).

Figure 13 % businesses benefitting from a wider network of production/ technical/digital specialists –creative vs tech



Source: *Frontier Economics, BOP Consulting and SRI analysis*

Note: *Derived from responses to the 2023 business survey question "As a result of all of your interactions with [CRDP], please tell me if the following benefits were relevant to your engagement and whether you obtained a significant, slight or no benefit? A wider network of production/technical/ digital specialists. Base = 321 businesses (201 purely creative, 30 purely tech, 90 both)*

Business size analysis

Further analysis looking at businesses of different sizes did not reveal any significant differences for businesses employing up to 49 FTE employees (e.g., 27% sole traders and 27% of those employing 10-49 FTE employees reported a significant benefit). Those employing 50 or more FTE employees were less likely to report a significant benefit (10%), but as this group represents a relatively small number of businesses, this finding should be treated as indicative only. See Annex B Figure 51 for the analysis.

4.4.3 Project case study evidence

Of the SMEs interviewed, all had been involved in research projects delivered in collaboration with HEIs and/or other businesses before their participation in the CICP. More than one SME reported new partnerships developed following their participation in the CICP-supported project which can at least in part be attributed to CICP.

Examples of new partnerships and collaborations

B+B/ Independent media company: The SME successfully secured investment for a follow-on project from an investment fund that they were first introduced to through CICP. The fund had previously invested in the project's tech partners.

XR Stories / Creative technology company: The SME worked as a collaborator with a national media corporation on an XR Stories supported project. While the firm had worked with large media partners in the past, it was the first time they had done so as a collaborator rather than a subcontractor. The experience and capacity developed allowed them to secure a related project with a major financial services partner.

BFTT / Rethinking material resources: The academic team leading on the project recognised that their project was a rare opportunity for inter-disciplinary collaboration between the two research groups.

FSNI / Immersive screen business: The SME noted the 'community'-building and common aims fostered by the CRDP, which supported them to collaborate with major institutional partners such as the BBC and NI Gov, as well as secure further funding, both from private sources and from another CRDP: XR Stories.

4.4.4 Cluster deep-dive case study evidence

There is further evidence from the deep-dive case studies that CRDPs have played a community-building role among local businesses ("*It has helped establish a forum through which people can engage with change. In the past couple of years we've done a lot with AI. Because of that sense of community, people know where to go with their questions."* – Delivery partner, Creative Informatics).

In addition to HEI-industry partnerships, the CRDP case studies also found that the CICP has led to the development of inter-cluster or inter-HEI partnerships which will have a legacy that endures beyond the programme. For instance, most of the successful CoSTAR bids include partnerships (both HEI-HEI and HEI-Industry) that were established or deepened through CICP. The case studies found that HEIs and organisations funded by both CICP and subsequently CoSTAR, felt that the strength of their consortia and the process of bidding was greatly improved thanks to the partnerships that had developed first through CICP.

However, CRDPs also acknowledged that the level of resources needed to sustain this convenor role is not insignificant, and some expressed concerns that the end of the programme will leave a vacuum, despite a legacy of stronger partnerships.

Examples of inter-HEI collaboration

Continued collaboration through XR Network +, an EPSRC-funded virtual production research programme led by The University of York in collaboration with the University of Edinburgh, University of the Arts London, Cardiff University and Ulster University.

The University of Edinburgh and Edinburgh Napier have continued the collaboration established through Creative Informatics to offer joint business support for creative businesses

4.5 SI8. HEIs recognised as instrumental to applied research partnerships

4.5.1 Project case study evidence

In the context of the CICP, case study participants largely considered HEIs as the central engine of the CRDP, although the structure and role of the HEI / academics varied across the case study projects in our evaluation.

Some projects saw a 'one-to-one' academic-SME collaboration, while in others the HEI was supporting a collaborative applied research project undertaken by two or more organisations. In one of the projects, beneficiaries reported little involvement from the HEI beyond establishing the project.

Evidence from an SME supported by XR Stories, in which their primary contact within the HEI was a producer – as opposed to an academic Co-Investigator – is illustrative of the new roles and approaches that were developed by CRDPs to overcome some of the inflexibility of the academic system that was required to be able to work with creative businesses.

Several CRDPs described challenges in securing the time of academics for the kinds of smaller, shorter applied research projects funded through the programme. For instance, XR Stories had to pivot away their initial planned approach (loaning out academics' time from their partner HEIs), to a model based on building up the in-house XR Stories team, which consisted of producers and dedicated research fellows. This meant they could 'keep pace' with industry partners and largely avoid university bureaucracy ("*By creating these posts, these people were institutionally flexible enough to engage and overcome the institutional barriers and demands on academics time."* – Delivery team, XR Stories).

XR Stories / Creative technology company. Beyond providing the opportunity to collaborate with a national media corporation, the SME were given ongoing support by a 'producer' from XR Stories which they viewed as key to the success of the project.

"Yeah, I thought [the producer] was brilliant. She really helped us. She handled a lot of the setting up the agile workflow and the Miro boards that we were using throughout that project. There was a lot of stuff that she set up for that project that we found useful in other projects, as well." – SME supported by XR Stories.

4.5.2 Cluster deep-dive case study evidence

At baseline, the evidence from the CRDP case studies suggested a lack of systematic HEI/industry collaboration prior to CICP: stakeholders described a perception that collaborations often failed due to misaligned objectives for applied research ("*Academia was pulling in a different direction to industry*' – Stakeholder, Creative Informatics, and: "*There was a lack of trust between industry and the universities"* – Stakeholder, FFF).

There is good evidence that the CICP has supported CRDPs to overcome some of these challenges. HEIs reported wider and more diverse networks locally, particularly in relation to micro-SMEs (*"It's enabled us to build connections to companies, particularly to SMEs and micro-SMEs, which would be incredibly hard sometimes for us to make without that without that link."* – VP Research, Abertay).

The deep dive case studies also found evidence of shifting perceptions within industry of the role HEIs can play in convening productive applied research partnerships (*"I shared industry's view of academia to a large degree at the beginning, but you know, I am a massive convert now. My perception changed."* – Industry stakeholder, FFF).

Other stakeholders in the regional economic development sphere also observed closer networks within their geographies ("*I think there's probably more alignment between industry and academia as a result, closer networks, closer engagement."* – Stakeholder, Creative Informatics, and: "*Has it had an impact on the level of how networked the sector is? Yeah, definitely."* – Government stakeholder, Clwstwr).

However, this view was not unanimous across all city-regions in the deep dives. For instance, one stakeholder felt that that business support and community building functions (i.e. not applied research partnerships) could be more effectively met through other networks or organisations. ("*At the moment, we're looking at how on earth we might do more sector development with this sector. And some kind of thing that we could fund to help the sectors to grow. I'm not sure that the university is necessarily the route for that."* – Local government stakeholder, XR Stories).

The additionality of CICP in driving the creation of new, productive applied research partnerships can be understood when looking at the counterfactual city regions included in the

deep dives. While there was some level of HEI/industry collaboration taking place in the five chosen counterfactual areas, none were on the scale of CICP, and stakeholders in these city regions largely expressed a desire to see enhanced and more widespread collaboration within their regions.

5 Theme 3 – Improving access to skills, knowledge and expertise

5.1 Key findings

Training, mentoring and HEI placements were delivered and new courses and course delivery structures developed

An average of 691 businesses were trained or mentored through the programme each year through HEI courses, R&D funded projects, tailored business support programmes and industry internships. As part of this, a total of 60 new courses or course components were developed, including full degree courses such as Future Fashion Factory's BA in Fashion Design and Innovation and its MA in Global Fashion Management. In addition to this, the programme seconded 236 entrepreneurs (for example through Creative Informatics' Resident entrepreneurs programme) and placed 285 researchers in industry (FFF industrial placements and XR Stories' internships are examples).

The case studies also found evidence that the CICP has had an impact on the long-term strategic thinking of participating HEIs and the way they support creative industries innovation, including catalysing the development of two new schools and departments within HEIs.

Technical and data skills barriers increased for all businesses but less so for those receiving more support from their CRDP

Businesses' technical or data skills barriers increased over the duration of the programme (24% of surveyed businesses faced moderate to significant barriers in 2020 compared with 32% in 2023). Businesses that had significantly engaged with the programme were less likely to report a significant technical or data skills barrier in 2023 (28%) than those that had not (44%). 75% of significantly engaged businesses reported that their skills levels had been improved through the programme compared with only 41% of lightly engaged businesses. Those businesses with a purely data or technical focus were less likely to report these benefits (44%) than creative or creative and tech-focussed businesses (60%)

The qualitative research found evidence of SMEs acquiring new skills and knowledge, including one SME that was able to transform its business model thanks to the technical competency developed through engagement with the CRDP. In slight contrast to the business survey, tech-focussed businesses in the case studies were more likely to report technical skills gained, whereas the creative businesses, both of which worked with tech partners, focused more on the strategic or operational learnings from the programme.

Skills access within the clusters appears to have improved over time

The majority of surveyed businesses (65%) agreed that access to digital and creative skills within their cluster had improved over last five years, including 37% who strongly agreed. Of this 37%, almost three-quarters (72%) strongly agreed that CRDP investment had positively contributed to this benefit.

CRDPs delivered several hundred publications and attracted thousands of current and prospective creative researchers to events

Collectively, the CRDPs reported delivering a total of 355 academic research publications (a large proportion of these were produced by the two fashion and textiles related CRDPs), 101 publicly disseminated reports, 14 publicly disseminated datasets, and attracted 15,327 individuals to events they hosted or played a significant role in. The survey evidence suggests that by 2023, 49% of engaged businesses had attended a CRDP workshop or event and 22% had read a publication, paper or briefing. 69% of engaged businesses also reported being inspired by a CRDP showcasing event (these tended to be businesses without a particular data or technical focus). Programme stakeholders saw knowledge-sharing and datasets generated through CICP to be valuable contributions to the regional creative sector.

5.2 Introduction

This section sets out the evidence on final programme impact for the third evaluation theme: "The CRDPs arrange training, mentoring, and HEI placements that provide creative industries entrepreneurs with new creative and digital cross-disciplinary skills which enable them to carry out technical/data driven innovation".

The indicators and evidence sources for this theme are shown in Figure 14.

Figure 14 Theme 3 evidence sources

CRDP Success Indicator	CRDP data	Business survey	Research case studies	Placement case studies	Cluster case studies	Stakeholder interviews
Theme 3 – Improving creative and digital enterprises' ability to access skills, knowledge and expertise						
SI9. The CRDPs arrange training, mentoring, and HEI placements	✓	✓	✓	✓	-	-
SI10. Researchers and HEI students acquire new knowledge	✓	-	-	✓	-	-
SI11. Researchers and HEI students acquire new knowledge	✓	✓	-	-	✓	✓
SI12. Clusters are increasingly attractive places to work and create businesses	-	✓	-	-	✓	-

Source: Frontier Economics and BOP Consulting

5.3 SI9. CRDP training, mentoring, and HEI placements

5.3.1 CRDP data evidence

The CRDPs collected data on the number of businesses and individuals who were trained or mentored in any given year by the programme, the number of researchers and HEI students benefitting from new course designs or course components and the number of creative industry entrepreneurs that were involved in a secondment or placement.

Training and mentoring

CRDPs reported on the number of businesses or individuals that were trained or mentored each year.

Table 9 No. of businesses (or individuals) trained or mentored through the CICP

Year	2019	2020	2021	2022-23	Average
Number of business and individuals trained or mentored in a given year (All CRDPs)	650	390	1,036	611	**691**

Source: CRDP management data and Frontier Economics and BOP Consulting analysis

Note: Conservative estimate based on the assumption that 50% of users at one of the CRDP's accelerator programme took up the CRDP's offer of training.

Table 9 shows that on average, 691 businesses (or if not part of a business, individuals) received training or mentoring through the CICP CRDPs each year. CRDPs delivered training and mentoring support through a number of channels including HEI courses, R&D funded projects, tailored business support programmes and industry internships.

Examples of mentoring, training and new course attendance

Future Screens NI reported 100 mentors in the Future Foundation programme working directly with companies; 72 companies in the DFC art work scheme receiving training; and 8 further individuals receiving training through the VP futures programme.

FFF reported 73 learners on new courses they had developed, 8 apprentices and 2 industrial placements.

Course design

CRDPs reported on the number of new courses or course components that were informed by the programme.

Table 10 No. new courses developed by the CICP

Year	2019	2020	2021	2022-23	Total
Number of new courses developed (All CRDPs)	29	4	17	10	**60**

Source: CRDP management data and Frontier Economics and BOP Consulting analysis
Note:

CRDPs recorded a total of 60 new courses or course components over the period 2019-23 (Table 10). These courses range from full HEI degree courses to formal training programmes connected to the CRDP's R&D programmes (e.g., StoryFutures reported training programmes connected to its R&D On Demand programme).

Examples of new course design

The last year of the programme saw 10 new courses being introduced including three new courses by **Creative Informatics**, and four by **FFF** (e.g., BA Fashion Design and Innovation and MA Global Fashion Management). B+B reported that six funding recipients had adapted their teaching or module design as a result of their involvement with **B+B** (not included in the statistics reported above).

XR Stories has brought two new degree programmes online: BA(Hons) Business of the Creative Industries; and MA Management in the Creative and Cultural Industries and introduced a new module to an existing course (Object-Based Media).

Secondments and placements

CRDPs reported on the number of businesses or individuals benefitting via secondments or placements through the programme.

Table 11 No. of creative industries entrepreneurs involved in secondments or placements organised through the CICP

Year	2019	2020	2021	2022-23	Total
Number of placed entrepreneurs (All CRDPs)	15	82	77	62	**236**
Number of placed researchers (All CRDPs)	11	47	144*	83	**285**

Source: CRDP management data and Frontier Economics and BOP Consulting analysis
*Note: * One CRDP reported total placements for 2019-21. We have not been able to disaggregate this and report this statistic against 2021 (resulting in an artificial step change between the figures reported in 2020 and 2021.*

Table 11 shows that the programme organised a total of 236 secondments or placements. CRDPs' ability to offer secondments and placements was limited by the Covid pandemic in the early phases of the programme. One CRDP reported internship activity starting to pick-up in 2021, and the government's kickstart scheme being helpful in this regard. The programme also placed 285 HEI researchers and students in industry (SMEs).

Examples of secondments and placements

The **Creative Informatics** Resident Entrepreneurs programme enabled entrepreneurs to apply for £12,000 of funding along with mentoring and support from the Creative Informatics team to develop innovative products and services using data.

FFF delivered industrial placements through formal a placement scheme and through its Responsive R&D projects.

BFTT organised R&D project-led placements for nine researchers and one student.

InGAME reported embedding one of its researchers within the local games company Ninja Kiwi to develop an automated testing programme.

XR Stories organised 22 internships with the University of York and regional universities and cluster SMEs in 2022 and in 2023 organised four student placements with the BBC and two with Bang & Olufsen.

5.3.2 Business survey evidence

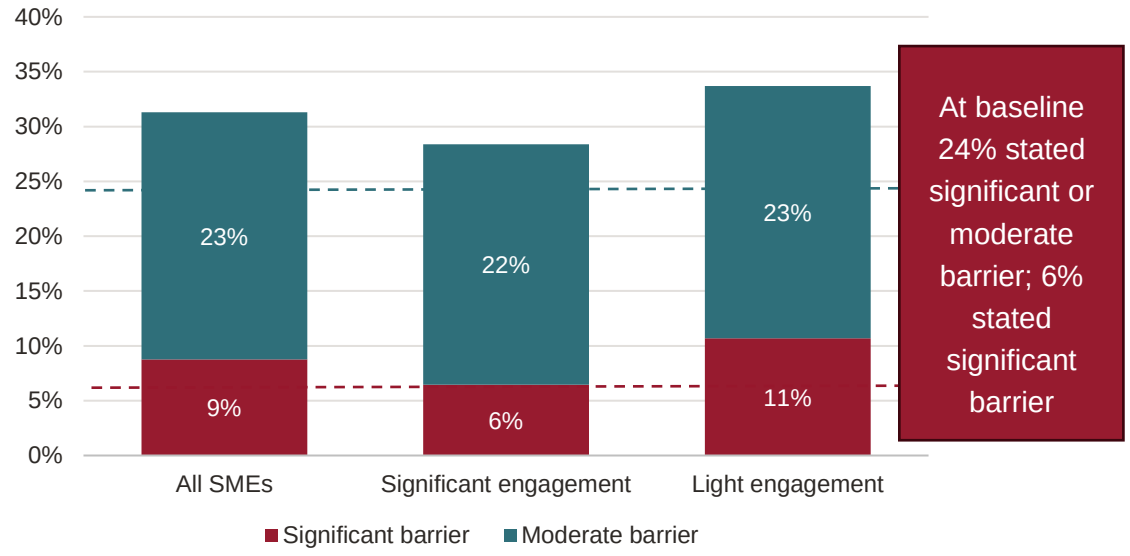
The business survey collected evidence on the extent to which:

- businesses supported by the programme were facing data and technical skills barriers;
- the extent to which the CICP helped businesses overcome these; and
- whether businesses supported by the CICP considered that access to digital and creative skills had improved within their city region.

Extent to which businesses are facing data and technical skills barriers

Business engaging in the CICP were asked whether their current level of technical or data skills were a barrier to their ability to conduct applied research. This question was asked at the start of programme delivery in 2020 and again in 2023. In 2023, overall 32% businesses stated they faced moderate or significant technical or data skills barriers (Figure 15), this compares with 24% of businesses reporting these barriers in 2020 and suggests that technical and digital skills barriers, despite CICP engagement, have increased over time. This unexpected finding could be explained by the rapid adoption of advanced technologies such as Immersive screen-related technologies and AI-drive technologies such as Chat GPT and smaller businesses struggling to keep pace, rather than the CICP itself raising barriers.

Figure 15 % businesses stating their level of technical skills to be a significant or moderate barrier - significant vs light engagement



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from the responses to the 2023 survey question: I'll read out some factors that could restrict your business's ability or motivation to carry out applied research. For each, please indicate whether this is a significant barrier, a moderate barrier…: My business's current level of data and / or technical skills. Base = 342 businesses (155 significant engagement, 187 light engagement)*

Comparing the responses by businesses that engaged significantly or lightly with the CICP, a slightly lower proportion of those engaging significantly reported significant barriers (6% vs 11%) which suggests that the programme may have helped improve technical and data skills to some extent (it can be said that the proportion of businesses in this group facing significant technical or skills barriers did not increase over this three year period despite the increasing demand for these skills more generally). This reinforces our hypothesis that the rise in overall skills barriers is linked to rapid technological progress rather than any negative impacts of the CICP.

Time since first CICP engagement analysis

Separate analysis comparing the proportion of engaged businesses reporting significant data or skills barriers according to when they first interacted with the programme also suggests that the programme has helped to increase these skills and reduce businesses' research barriers. 46% of businesses that started to engage with the programme only recently (in the last two years) reported moderate or significant technical or data skills barriers compared with 27% of businesses that had been engaging with the programme for longer than two years. However, this is only one hypothesis, because we are relying on cross-sectional survey data rather than longitudinal data, these results could also be explained by more highly skilled businesses engaging earlier with the programme and less highly skilled businesses only engaging in the later years of the CICP. See Annex B, Figure 59.

Business size analysis

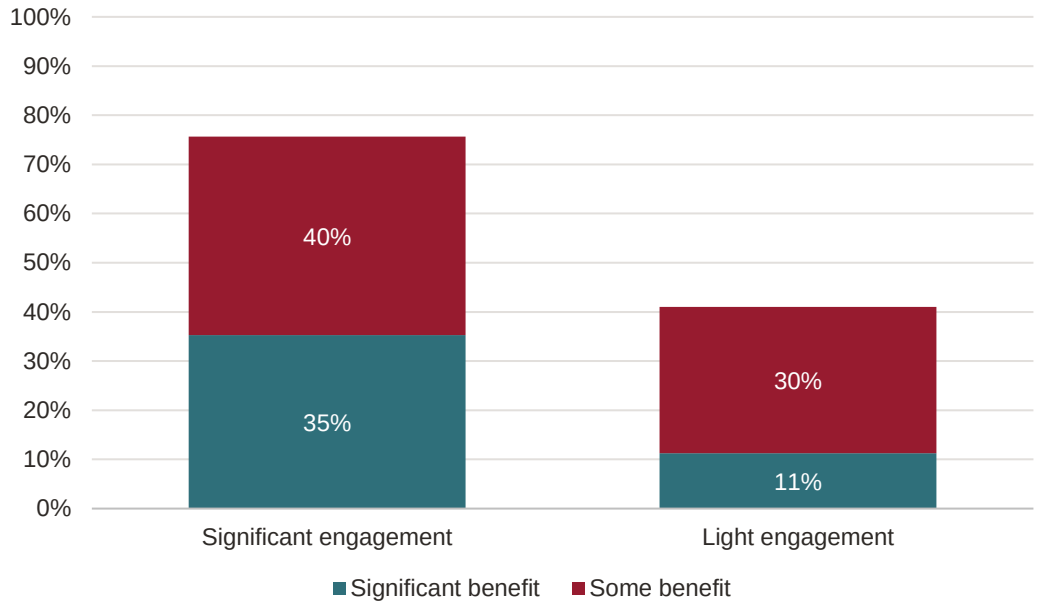
Finally, we examined whether smaller businesses were more likely to face significant data or technical skills barriers. We observed very little difference between the responses of sole traders, micro enterprises and other small businesses (the most notable difference being between the proportion of sole traders reporting moderate barriers (19%) and other small businesses (10-49 FTE employees) (27%)), although none of the few medium sized businesses that responded reported significant data or technical skills barriers. See Annex B Figure 58.

Businesses' perceptions of the contribution of their CRDP to reducing technical and data skills barriers

Businesses that engaged with the programme were asked whether as a result of engaging with their CRDP, they had received a benefit of improved technical or data skills.

Overall, 57% of businesses reported that they had received either a significant or some benefit in terms of having improved technical or data skills. Those that had engaged significantly with the programme were much more likely to report improved technical or skills, with 35% of businesses reporting significant technical or data skills benefits and 40% reporting some technical or data skills improvement. Businesses that had engaged only lightly with a CRDP were far less likely to report a significant improvement to their technical or data skills (11% of light engagement businesses) or some improvement to their technical or data skills (30% of light engagement businesses) (Figure 16).

Figure 16 % businesses benefitting from improved technical or data skills - significant vs light engagement



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the 2023 survey question: As a result of all of your interactions with [CRDP], please tell me if the following benefits were relevant to your engagement and whether you obtained a significant, slight or no benefit: Improved technical or data skills. Base = 334 businesses (156 significant engagement, 178 light engagement)*

Business size analysis

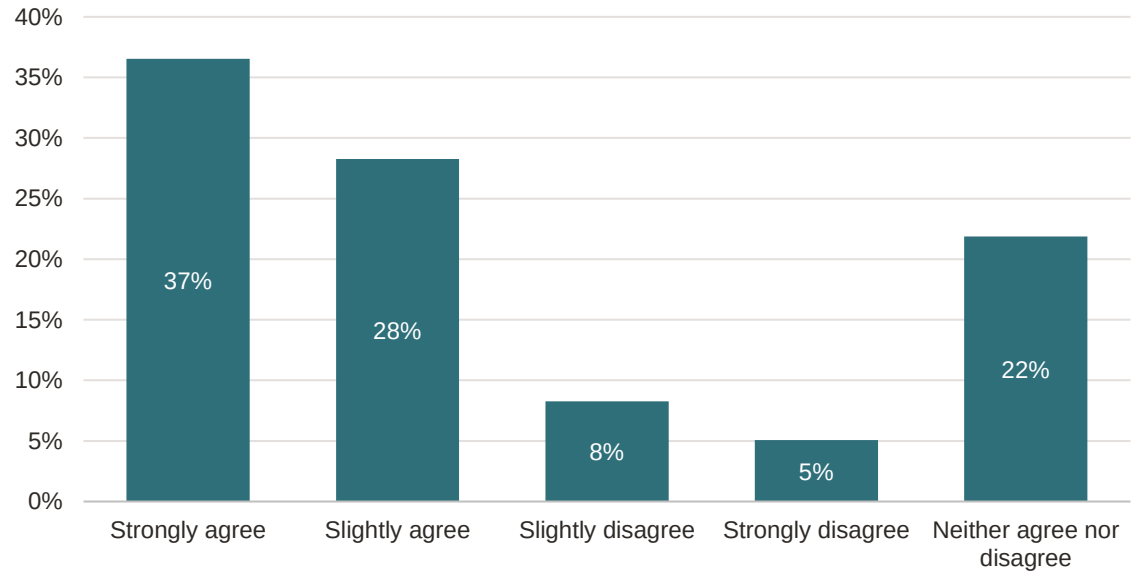
We don't observe marked differences between the responses of different sized businesses (Annex B Figure 53).

Access to digital and creative skills within the city region

The survey evidence also allows us to explore whether access to digital and creative skills within the CICP city region or cluster areas had changed over the duration of the programme and if the CRDPs themselves had a played a role.

Businesses were asked whether they agreed with the statement that 'access to digital and creative skills in the city region has improved over the last five years'. Overall, 65% businesses agreed that access to digital and creative skills had improved in their city region over the last five years, with 37% strongly agreeing (Figure 17).

Figure 17 % businesses (dis)agreeing that access to digital and creative skills in the city region has improved over the last five years

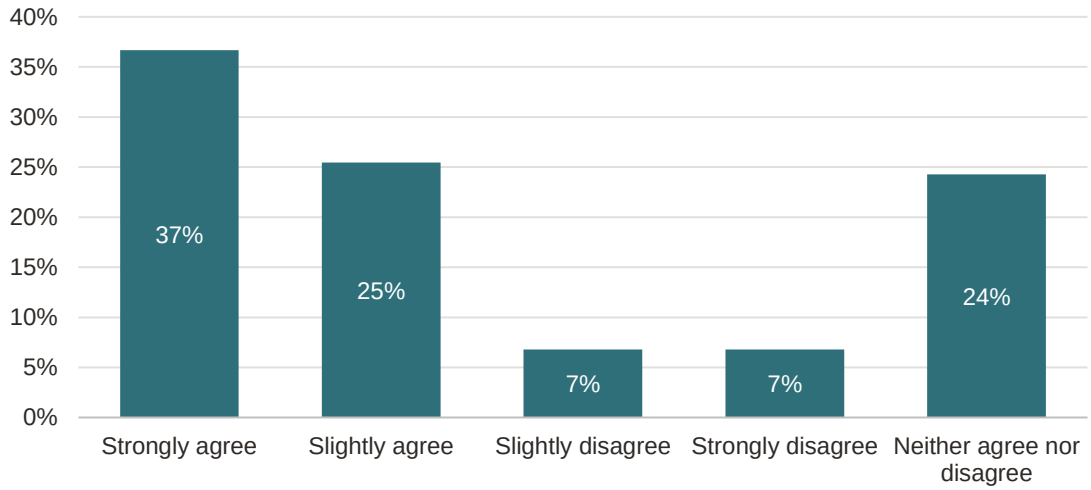


Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the 2023 survey question: "For each of these statements please can you state whether you strongly agree (etc.)….that access to digital and creative skills in the city region has improved over the last five years". Base = 375 businesses*

Businesses were then asked whether they agreed with the statement that their CRDP's investment in the city region had improved access to advanced digital and creative skills over the last five years. 62% of all responding businesses agreed, with 37% strongly agreeing (Figure 18).

Figure 18 % businesses (dis)agreeing that CRDP's investment in the city region has improved access to advanced digital and creative skills



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the 2023 survey question: "For each of these statements please can you state whether you strongly agree (etc.)….that CRDP's investment in the city region has improved access to advanced digital and creative skills over the last five years". Base = 338 businesses.*

We have brought these two pieces of analysis together to explore whether there was a link between those stating that access to creative and digital skills had improved in their city region and those stating that CRDP investment had improved access to these skills. We find there to be a strong correlation between these responses: 72% of those strongly agreeing to overall city region skills improvements also strongly agreed that the CRDP had positively contributed to this, suggesting that overall improved access to advanced digital creative skills is being driven to some extent by the CRDP intervention.

5.4 SI10. Researchers and HEI students acquire new knowledge

5.4.1 Project and deep dive case study evidence

The case studies provide some evidence on researcher and/or student opinion regarding the creative and digital knowledge being gained through industry placements. Although the researchers / students interviewed were at different stages of their career, all reported learnings related to terminology and language used in industrial settings, as well as the practical application of their discipline in commercial settings.

The case studies also found that researchers involved with CICP often went on to secure positions either within the university, or within local businesses ("*We've worked with graduates who have since gone on to work with lots of InGAME-supported companies – again, the core team were very open to the process*." – Stakeholder, InGAME).

Evidence of new knowledge around creative and digital innovation:

- SF / Healthcare charity. The researcher involved in the project, who has a background in clinical research, described a range of learnings relating to technologically-drive R&D processes – from the terminology and workflows, to the thinking around commercialisation ("*It has developed my skills in thinking about marketing and reach, not things I might be developing in an academic setting. I didn't really have to bother thinking about those things before because I never had to make money from it.")*
- XR Stories / Graduate at Software Company: The intern reported that she was satisfied with the level of skills she managed to build thanks to her internship. This was also reflected in the fact that the company offered her a job at the end of her work experience *("I just wanted to be able to get work experience and learn the different skills. I was really excited that in six months' time I would have been able to do stuff that I've never been able to do before.*")
- SF / Researcher at Software Company: The academic researcher embedded in the SME reported that this collaborative research project gave him an opportunity to get closer to the industry, its dynamics, and challenges. This will also inform his academic research practice (*"I hope this will keep me up to date with the availability of tools out there, but also building relationships, experience with working with a SME, building a more corporate terminology and language, but also understanding linkages with policy. Mostly, bringing skill sets into the university that are up to date.*").

While the deep dive case studies did not provide any qualitative examples of any new *courses* designed by HEIs as part of the CICP programme, they did find that the CICP had catalysed or accelerated the development of two new schools and departments within HEIs, alongside further evidence that CICP has had an impact on the long-term strategic decision-making of the participating HEIs:

"I just came actually, out of a conversation – we have a board that oversees the University strategic investment in new technology, and infrastructure and so on – and we are currently making considerable investments in areas that relate to real-time live performance, capture labs, XR, work in the metaverse, screen, you know, all of these things that we wouldn't have done without first mover experience from XR Stories." - Pro-VC, University of York

"It has helped us to realise our civic role. InGAME catalysed a whole load of that. We have the confidence that we can make local, national, international impact." VC, Abertay.

New schools or departments in deep-dive case study CRDPs influenced by CICP:

- The Leeds Institute of Textiles and Colour ("*Future Fashion Factory made LITC come to life"* –University of Leeds)
- University of York School of Arts and Creative Technologies ("*XR Stories has been a significant catalyst"* – University of York')

5.5 SI11. New knowledge created by the programme is disseminated in a wide range of forms throughout the clusters in a way that is valuable and accessible by creative and digital enterprise (in the cluster/sector)

5.5.1 CRDP data evidence

CRDPs collected data on the number of academic research publications that were produced by the CRDPs over the course of the programme, the number of reports and datasets shared by CRPDs and their use, and finally, attendance at the events they organised. Collectively this data provides us with a broad view of CRDP knowledge dissemination.

Table 12 No. CRDP published academic publications, shared reports and datasets and event attendees

Year	2019	2020	2021	2022-23	Total
Number of Research Publications (All CRDPs)	62	57	70	166	**355**
Number of reports shared by the CRDPS (8 CRDPs)	5	8	29	59	**101**
Number of datasets shared by the CRDPs (3 CRDPs)	0	1	6	7	**14**
Number of event attendees (All CRDPs)	1,014	791	6,512	7,015	**15,327**

Source: CRDP management data and Frontier Economics and BOP Consulting analysis
Note: Event attendance is the total number of attendees, not the unique number of individuals attending events.

Table 12 shows that by March 2023, the CRDPs had generated 355 academic research publications, as well as sharing 101 reports and 14 datasets. A total of 15,327 businesses, individuals and researchers attended CICP events (note, this is not a count of the number of unique individuals attending events). The number of event attendees is lower in 2020 than in other years, because of the Covid-19 pandemic. A number of CRDPs reported being able to successfully move their events online in 2020 and 2021. Since 2020, the number of attendees rose significantly to over 7,000 in 2022-23. CRDPs are also reaching businesses, individuals and researchers through newsletters and social media (not reported in the data above).

Examples of shared publications, reports, datasets and events

Almond , K, Elaine E. (2022). 'Made in Yorkshire; the commercial manufacture of everyday womenswear between 1945 and 1989'. *Futurescan 5: Conscious Communities*.

Angelis-Dimakis A, Whitehouse A, Vyrkou A, Hebden A, Rana S, Goswami P. (2022). 'Life cycle environmental impact and economic assessment of British Wool face masks'. *Cleaner Environmental Systems*, doi: 10.1016/j.cesys.2022.100084

Creative Informatics produced 12 reports (e.g., Detecting Dark Matter Data: data gaps for innovation and R&D activity in the creative industries; Jones V, Cunningham M. (2022)) and two datasets (e.g., Edinburgh Culture and Communities Mapping Project: Edinburgh Festivals).

XR Stories organised 26 events in 2022 attracting 140 attendees. Events included a Games Republic event and Pitching Ideas workshop, and a Mastering Spatial Audio masterclass.

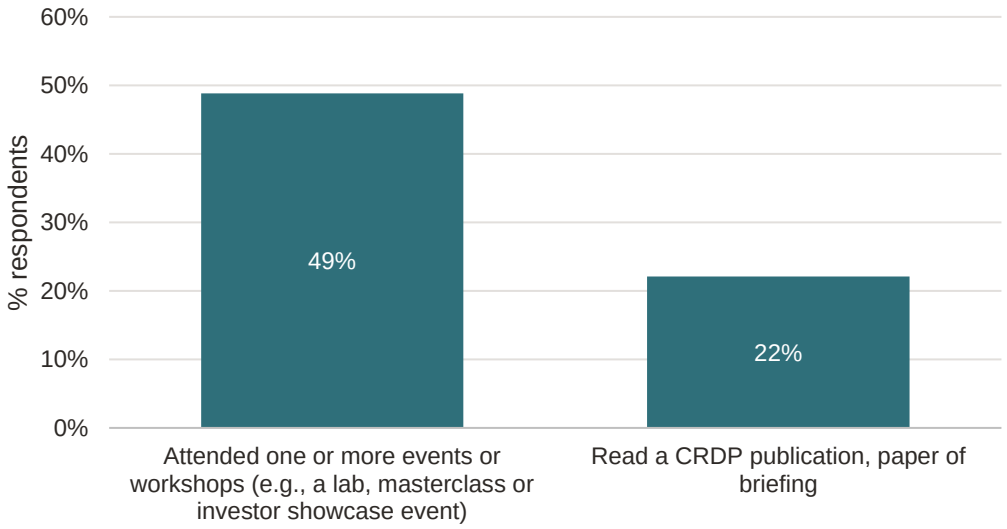
Future Screens NI recorded 933 attendees at its 2022-23 events which included Future Tuesdays, Awardees Webinars, a Social Media Masterclass and Future Foundation Events (featuring guest speakers).

5.5.2 Business survey evidence

The survey explored the different ways in which businesses engaged with their CRDP. 49% of respondents had engaged through events or workshops (such as a lab session, a masterclass or an investor showcase event) and 22% had read a CRDP publication, paper or briefing (Figure 19).[14]

[14] We investigated the survey results data further to explore whether any particular types of business (different sizes, different sectors or activity focus for example) had engaged differently to other businesses, but there were no visible patterns in the responses so we can conclude that CRDPs different dissemination methods were equally effective in reaching businesses of different types.

Figure 19 % businesses attending one or more events or workshops or reading a publication



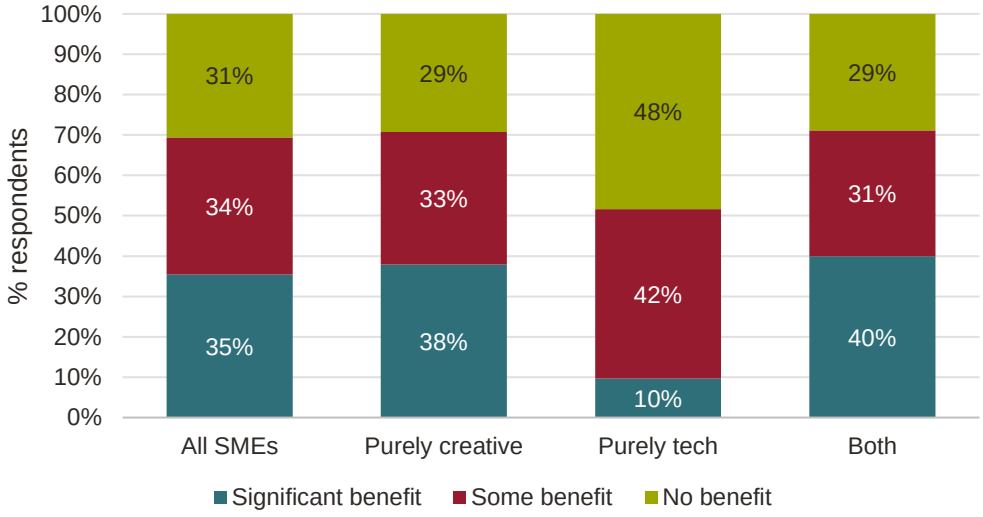
Source: *Frontier Economics, BOP Consulting and SRI analysis*

Note: *Derived from responses to the 2023 survey question: "How have you interacted with [CRDP]?" Base = 389 businesses.*

Businesses were also asked whether they had felt inspired by their CRDP's showcasing activities. We explored the responses for all respondents and then whether these businesses described themselves as purely a creative industry business, a purely technical and data driven business or a mix of the two (Figure 20). Overall, 69% of SMEs were inspired by CRDP showcasing activities and these benefits were mostly reported by non-technical businesses[15].

[15] The analysis didn't reveal any significant differences in terms of the benefits experienced by businesses of different sizes (Annex B Figure 55).

Figure 20 % businesses receiving a benefit in terms of being inspired from their CRDP showcasing success and new ideas –creative vs tech



Source: *Frontier Economics, BOP Consulting and SRI analysis*

Note: *Derived from responses to the 2023 survey question: As a result of all of your interactions with [CRDP], please tell me if the following benefits were relevant to your engagement and whether you obtained a significant, slight or no benefit: Inspiration from showcasing success and new ideas. Base = 333 businesses. For type of business, base = 319 (198 purely creative, 31 purely tech, 90 both).*

5.5.3 Project and cluster deep-dive case study evidence

The case studies found that CRDPs had taken different approaches to the dissemination of new knowledge. Some CRDPs spent a lot of time on dissemination throughout the programme while others moved into a 'dissemination phase' as delivery came to a close ("*We didn't have the comms resources to really share some of the knowledge. That's what our time is currently focused on. We have lots of events of the summer, toolkits, information sharing – it would have been great to do more regularly but it will be more at the end*." – Delivery team, InGAME).

Programme stakeholders saw knowledge-sharing and datasets generated through CICP to be valuable contributions to the regional creative sector *('I think being able to have the time and place and space to learn about the opportunities certain tools or resources or approaches might afford them, has definitely had an impact."* – Stakeholder, Creative Informatics).

There was limited evidence from the research project case studies of SMEs accessing knowledge and data produced by the CRDPs outside of the context of their projects, although one SME saw the CRDP's activities as 'filtering learnings back to the indigenous community' ("*I think the universities have a really profound role and are trying to democratise the technology; democratise the access to the skills that are required to run it*.").

Approaches to knowledge dissemination:

- **FFF** Stakeholders of FFF highlighted dissemination of new knowledge as a key engagement mechanism to encourage a wider pool of businesses to undertake R&D: "*Success breeds success, particularly in this industry. Everyone's always looking at what their competitors are doing. One of the things FFF has done very well, is that showcasing bit*."

  "Lots of our companies are across the supply chain, they know each other very well. When one company starts to innovate, others start to do that too."

- **InGAME**. Stakeholders and partners saw the data and knowledge generated as a key part of the programme's legacy:

  "There is a repository of data gathered through InGAME that will be accessible to partners that may form part of its legacy."

  However, one stakeholder felt that more could have been done to showcase the potential of the games industry to a wider audience:

  "I hoped that with InGAME, we'd kind of better show the public and policymakers what, what video games can do. And I think it has done that in pockets, but maybe not at the scale that I would have hoped."

5.6 SI12. Cluster attractiveness to work and set up a business

5.6.1 Business survey evidence

See Section 5.3.2 where we examine whether businesses supported by the CICP considered that access to digital and creative skills had improved within their city region.

5.6.2 Cluster deep-dive case study evidence and national stakeholder interview evidence

Most of the qualitative evidence from the CRDP case studies in relation to this success indicator is related to talent retention as opposed to talent attraction ("*We brought all this international talent who came and who have stayed – people have stayed and are still connected.*" – Stakeholder, InGAME, and: "*The impact of InGAME has been to ensure that Dundee remains an attractive place to be doing this work. Yeah. And in fact, add to that attraction by showing that it's not just the small industry, the small companies, it's not just the big players, but it's what the universities can bring into that marketplace as well."* – Stakeholder, InGAME

While stakeholders generally felt that the CICP had positively impacted the attractiveness of the city regions, they acknowledge that this was difficult to judge *("I think within the UK, I think some of the perceptions [of attractiveness] might have changed, but I've got no real evidence to base that on."* – Stakeholder, XR Stories), or in the case of Edinburgh, there was an acknowledgement that the cluster was operating within the wider Data-driven Innovation City

Deal, therefore attributing impact to Creative Informatics was difficult ("*The direct attribution to Creative Informatics is quite hard to do."* – Stakeholder, Creative Informatics).

From the perspectives of national industry stakeholders who were not directly involved with CICP, perceptions of the CRDPs as centres of regional innovation have been given a boost where the city-regions have been successful in securing follow-on funding through programmes such as CoSTAR ("*York jumps out in terms of reputation and I think it's more to do with what's come after".*)

In addition to the data provided by the CRDPs (see section above), the LinkedIn workforce data gathered for the deep-dive case study analysis can also provide indicators of the attractiveness of the CRDP city-regions as a place to work. In four out of five of the CRDPs, the growth of the sector workforce within the city region was greater than that of the matched counterfactual area.

While there are many factors affecting the development of the clusters (see Case Study Deep Dive Annex), this suggests the CRDPs have had a role in job creation and/or attraction of businesses and workers to their city regions.

5.6.3 Project and deep dive case study evidence

The case study fieldwork suggests that businesses are acquiring skills, knowledge and expertise through their engagement with their CRDP and that that this is enabling them to carry out (more) technical/data driven innovation. In one case, the technological understanding acquired has allowed the business to completely transform its business model from being a service provider to the creator and exploiter of their own IP. Another case study found that the greatest learnings / knowledge reported by the participating organisation were operational (the time and resource needed to take part), with little emphasis placed on technical or creative processes.

Tech-focused SMEs highlighted the technical skills and knowledge they had gained through the project, whereas creative businesses reflected more on the practical or operational knowledge and learning gained. In turn, these differences more or less map onto the different roles that the businesses played within the applied research projects in the case studies.

Evidence of new creative and digital skills:

- FSNI/ Immersive screen business. The support from the CRDP provided the SME with input and guidance on a variety of elements, ranging from technical, operations and strategy which have helped to transform the business from a traditional screen sector business to an immersive business ("*It was very important for us to understand virtual production workflows – that's why Declan's been really fantastic*." – SME supported by FSNI).
- XR Stories / Creative technology company. The SME developed a workflow for interactive spatial audio which they have applied to other projects. As part of this process, they developed new technical ways of working to get the best out of the team: specifically, they developed a way to enable the SME's audio engineer, who is visually impaired, to work with games engines.
- B+B/ Independent media company. The support received enabled the SME to develop specific elements of their work related to both processes (development of a Content Management System and working with freelances) and technical skills (the development of a web-based app). The SME feels this is an extension that builds on their previous existing technical skills that were built thanks to their prior experience in the creation of digital platforms for interaction with content. Creatively, the SME felt the project afforded them the time to produce high-quality and ground-breaking editorial content that they will seek to use within other projects.
- SF/Healthcare charity. The charity described their learnings mostly from a process perspective – what it takes to engage in a collaborative applied research project – as opposed to technical skills acquired.

While this success indicator measures technical and data skills, one CRDP noted that these skills alone were not sufficient to support creative business growth, and that generic entrepreneurship skills were also needed across the cohort of SMEs they supported ("*If we ran the programme again, I would make sure the business skills were in from the beginning, because we're playing catch up. And having technical progresses is sadly, only half of the picture."* – Delivery team, Creative Informatics)

6 Theme 4 Addressing place-based sector issues

6.1 Key findings

CRDPs' high levels of knowledge about their regions and sectors was used to address place-based sector issues

The 2020 baseline research found the CRDPs had high levels of knowledge about their regions and sectors. Our qualitative research conducted in 2023 found evidence that CRDP's have deepened this knowledge. The research outputs and project outcomes have been used to inform strategic decision making for different stakeholders: policymakers, HEI senior leadership, and the CRDPs themselves.

The CRDPs funded 116 research projects that were specifically aimed at addressing city region or subsector issues. Two of the nine CRDPs accounted for 53% of these. All CRDPs could demonstrate progress in addressing issues within the city region and or subsector in which they were operating. However, given many of the issues identified were large, structural challenges that take years to address, none of the CRDPs felt the programme had 'solved' the issues for the region, or unlocked the maximum growth potential.

6.2 Introduction

This section sets out the evidence on the CRDPs' baseline and early impacts for the fourth evaluation theme: "Addressing key place-based sector issues through applied research programmes"

The indicators and evidence sources for this theme are shown in Figure 21.

Figure 21 Theme 4 indicators and evidence sources

CRDP Success Indicator	CRDP data	Busi-ness survey	Research case studies	Placement case studies	Cluster case studies	Stakeholder interviews
Theme 4 – Addressing key place-based sector issues through applied research programmes						
SI13. Better understanding of cluster issues and opportunities	-	-	✓	-	✓	✓
SI14. Applied research projects that unlock creative industry growth	✓	-	✓	-	✓	✓
SI15. Creation of marketed creative industries tools, products, services and exploitable IP	✓	✓	✓	-	-	-
SI16. Contribution to wider city region economic development strategies	-	-	-	-	✓	✓

Source: Frontier Economics and BOP Consulting

We present evidence against SI13, SI14 and SI16 in this section as these all contribute to our body of evidence on the impact of the CICP to addressing place-based sector issues. The evidence we have gathered against SI15 (creation of marketed creative industry tools, products, services and exploitable IP) is presented alongside the Theme 1 evidence on the number of creative industry tools, products, or services whose development was supported by CRDPs (see Section 3.6.1 and Table 5).

6.3 SI13 Better understanding of cluster issues and opportunities

6.3.1 Cluster deep-dive case study evidence

The baseline deep dive case studies found that 'key issues and opportunities within the cluster were already well understood by the CRDPs.' Despite this high level of prior knowledge, there is evidence that since the baseline study, CRDP's have deepened this knowledge and the research outputs and project outcomes have been used to inform strategic decision-making.

Stakeholders and partners credited the programme as contributing to a better local understanding of the opportunities – and limitations – of their sectors. ("[*InGAME] really highlighted the lack of understanding and knowledge in the gaming sector that we ourselves had as a generic sector organisation."* – Stakeholder, InGAME, and: "*It has raised awareness of some of the commissioning and distribution challenges [of XR]. What are the factors that influence whether that could work on a commercial basis, how long does a piece need to be,*

how many headsets. They are looking at these questions with some really detailed analysis." – Stakeholder, XR Stories).

All of the CRDPs adapted their delivery models over the course of the programme to meet the needs of the cluster (see CRDP Deep Dive Case Study Annex), however most of the changes were attributed to a better understanding of 'what worked' for individual businesses as opposed to a change in understanding of wider sector or city regional issues and opportunities.

There is also strong evidence of CRDPs informing the strategic decision making of the participating HEIs (see Section 5.1) and evidence of CICP being used to inform local policy decisions (see Section 3.5.2).

6.4 SI14. Applied research projects that unlock creative industries growth

We collected evidence directly from the CRDPs and through our in-depth case studies to understand whether the CICP contributed to unlocking creative growth for the city region and/or sub-sector.

6.4.1 CRDP data evidence

The CRDPs collected data on the number of live research projects each year that were addressing city region and/or issues specific to a particular sub-sector of the creative industries.

Table 13 No. of research projects funded through the CRDPs addressing key issues for the city region and/or sub-sector

Year	2019	2020	2021	2022-23	Average
Number of research projects (All CRDPs)	48	103	187	126	**116**

Source: CRDP management data and Frontier Economics and BOP Consulting analysis
Note: Event attendance is the total number of attendees, not the unique number of individuals attending events.

Table 13 shows that on average the CICP ran 116 research projects each year that were focussed on addressing issues within the CRDPs' city regions and/or sub-sectors. The number of live research projects addressing issues for a city region rose year on year until 2021 and then fell slightly to 126 for the final 2022-23 year of the programme. Two of the CRDPs accounted for 53% of the total number of projects.

CRDPs reported that they see addressing city region and creative industry sub-sector issues as a key responsibility and requirement for their projects, and this was built into their programme design. One CRDP conducted analysis to identify key barriers to cluster growth prior to designing its delivery programme.

Research project examples

InGAME completed 73 R&D initiatives in 2022-2023 which aimed to address R&D challenges in the City and wider sector.

B+B awarded four businesses 'Here + There' prototype funding, 11 business inclusion test R&D funds and 12 Trailblazer R&D funding in 2022.

6.4.2 Cluster deep-dive case study evidence

At baseline, CRDPs identified issues that they needed to address in order to unlock creative industries growth for the city region and/or sub-sector. These issues, and evidence on to what extent they were addressed, are described in detail for each CRDP as part of the Deep Dive Case Study Annex.

All CRDPs could demonstrate progress in addressing issues within the city region and or sub-sector in which they were operating. However, given many of the issues identified were large, structural challenges that take years to address (i.e. challenges around successful business models, commercialisation and IP retention, reputational and perceptions issues), none of the CRDPs felt the programme had 'solved' the issues for the city region, or unlocked the maximum growth potential.

CRDPs also expressed fears that the momentum and progress established through CICP would be slowed when the programme came to an end (although legacy programmes and initiatives are identified).

6.5 SI16. Contribution to wider city-region economic development strategies

6.5.1 Cluster deep-dive case study evidence

Section 3.4 outlines the different ways in which CRDPs have influenced policy locally and nationally, however from these examples, the only CRDP which has evidence of contributing to city region economic development strategies is Clwstwr.

In Cardiff, the City Council reported that the cluster support model is now 'formally policy' while Cardiff Capital Region have used Clwstwr data and evidence in their industry development propositions. The only area of misalignment reported in Cardiff was in relation to Clwstwr's international work: city region policymakers reported that they would have preferred a greater focus on commercial/investment potential in the international activities and connections that were developed.

In Yorkshire, it was acknowledged that regional development strategies centred on the Cultural and Creative Industries (CCIs) are early on in their thinking (*"Our LEP is the city of*

York – they are so early on in the track of understanding how they can pull together a CCIs cluster". – Delivery team, XR Stories*),* although there is potential for future impact when it comes to the priorities of the newly formed North Yorkshire combined authority ("*It's also been interesting to see as the LEP kind of heads towards becoming a combined authority with authority, how they have begun to take more of a focus particularly on the creative sector, in terms of their sector development work*." – City of York).

As the York example illustrates, the city region governance context in which the CRDPs are based varies significantly. In England, local government re-organisation and the piecemeal devolution arrangements that have developed sporadically since 2010 have left an uneven patchwork of authorities and powers. Combined with over a decade of cuts to local government expenditure in England, the evidence from the deep dives suggests that this has significantly impaired the ability of city region policymakers in England to actually engage meaningfully with important but still small and sub-sectoral entities like the CRDPs. The clusters themselves report that this is not just a question of resources, but also about skills and capacity at this level.

This stands in contrast to the experience of the devolved nations, where it has been possible for CRDPs to find interlocutors on the policy side, at both city region and devolved nation level. Indeed, of the deep dive case studies, three clusters in Scotland and Wales (Clwstwr, Creative Informatics and InGAME) already had strong connections with policymakers at baseline, particularly Clwstwr at both Welsh and Cardiff level, and Creative Informatics, through their City Deal Data-Driven Innovation programme.

7 Theme 5 Generating economic and social benefits

7.1 Key findings

The final evaluation theme considers the longer-term impacts of the CICP. It has a sub-sector focus which considers whether the programme led to screen-related and fashion and textiles businesses becoming more sustainable, equitable and competitive; and a cluster level focus which explores whether supported businesses were more able to attract funding and finance, invest in R&D and more generally grow and make an increasing contribution to city region economies.

Supported screen and fashion and textiles businesses appear to have de-prioritised sustainability and equity considerations for data or technology-led investment decisions over the course of this programme (note, this does not speak to all aspects of investment decision making)

The business survey shows that the proportion of supported businesses taking 'reducing environmental impact' and 'addressing socio-economic barriers and inequalities' into account as a highly important factor in their data and technology-led investment decisions, fell slightly over the programme period. The proportion of businesses stating that environmental impacts were a highly important factor for their data and technology-led investment decisions fell from 58% to 47% and the proportion of businesses reporting reducing socio-economic barriers and inequalities as a highly important data or technology-led investment decision factor fell slightly from 68% to 61%. This suggests that when making investment decisions, factors *other* than the environmental impact of the project or its potential to reduce socio-economic barriers or inequalities have been increasingly prioritised over the course of the programme.

We looked at this at a sub-sector level for the fashion and textiles and screen-related industries. We found this de-prioritisation of reducing environmental impact for data driven or technology led investment to be even more pronounced for fashion and textiles businesses. The proportion of fashion and textiles businesses reporting environmental impact as a highly important data or technology-led investment decision fell from 86% in 2020 to 45% in 2023.

For reducing socio-economic barriers and inequalities, the de-prioritisation appears more pronounced for screen-related businesses. The proportion of surveyed screen-related businesses citing this as a 'highly important' data and technology-led investment factor fell from 66% in 2020 to 58% in 2023. This is in contrast to the investments made by the CRDPs, who used the design of their funding calls as a lever to support sustainability, often making this a condition of funding, either as a supplementary criteria, or in some cases, as a challenge call that asked SMEs to directly address these issues through their applied research projects. While significant efforts were made by CRDPs to ensure the cohort of businesses and projects they supported were sustainable and equitable, the delivery teams acknowledged that the issues of inequality and sustainability are systemic and long term, and progress within the wider sector happens slowly. The survey evidence suggests that CRDPs have influenced

screen-related businesses in this way for their data and technology-led investments, with those that have had significant engagements with their CRDP more likely to cite reducing environmental impacts (39%) and socio-economic barriers (64%) as highly important than those that had had light engagements (29% and 47%, respectively).

Business access to funding and finance has improved and more businesses are investing in 2023 than was expected in 2020

Compared with businesses that had only light engagements with their CRDP, businesses that had significant engagements were more likely to report improved access to private funding (56% reported a benefit). There is also evidence that investment outcomes have exceeded expectations: in 2020, 70% of businesses stated they would be investing more in three years' time; in 2023, 80% of surveyed businesses said they were investing more than three years ago. Our analysis of CRDP data suggests that supported businesses were able to leverage £57 million of co-investment or follow-on funding or investment from public and private sources over the course of the programme.

The qualitative research found that bespoke support to apply for R&D funding was a key feature of the CRDPs' offer to SMEs, and CRDPs reported that SMEs they worked with went on to secure first-time funding from UKRI or other funding sources outside of CICP. We also found evidence that participating businesses in some city regions were more willing to invest in the skills and knowledge base locally because of their participation. Finally, the institutions and partnerships that comprised the CRDPs have also had success in securing follow-on funding.

Awareness of overseas opportunities has improved but accessing international markets remains a significant barrier

In 2023, 36% of surveyed supported businesses were exporting. Businesses that had engaged significantly with their CRDP were more likely to attribute a better awareness of overseas opportunities to the support (43%) than those who had only engaged in a light touch way (14%). However international market access remains a significant barrier for some businesses, with the proportion not changing much between 2020 (20%) and 2023 (23%).

For most CRDPs, developing trade links and overseas showcasing was not highlighted as a major part of their activities and offering, although the case studies found some evidence and examples of overseas showcasing and networking building.

There is early evidence of business creation and growth resulting from CRDP support

CRDPs reported a total of 107 spin-outs, start-ups and scale-ups over the course of the programme and total employment creation or safeguarding of 3,413 FTE employees. This statistic represents self-reported employment creation by the CRDPs across all the support they provided. It does not consider whether these jobs displaced jobs at other businesses, nor the extent to which at least some of these jobs may have been created without CRDP support.

The business survey suggests that 19% of supported businesses increased employment over the period (62 surveyed businesses). Of these 19%, 26% reported that this definitely would not have happened without CRDP support, suggesting strong or full additionality for this 26%, a further 29% states that the change in employment probably wouldn't have happened, 31% stated that some of the employment may have happened and finally 15% stated that the change in employment probably would have happened but it would have taken longer. This suggests some degree of additionality for these remaining businesses.

The survey asked businesses how many FTE employees they had and to estimate the employment increase that had resulted from their CRDP engagement. 51 businesses were able to report this information and reported a total employment increase of 365 FTE employees. 11 of these 51 businesses (22%) stated that their employment increase definitely wouldn't have happened without CRDP support. These businesses had created 112 FTE employment posts over the period 2019-23 (31% of total reported employment increase). We assume partial additionality for the remaining reported employment increase (see main section of report for full methodology).

Overall, we estimate that as a result of CRDP engagement, the 51 reporting businesses increased their employment by 270 FTE employees. This gives us a conservative estimate of realised employment creation that can be attributed to CRDP support based on a business survey that received an 11% response rate. This is likely to overstate the true value of net employment creation because it does not consider whether these jobs displaced jobs at other businesses.

Unfortunately we do not know enough about the 11 non-reporting businesses whose employment also increased, or the 89% of businesses that didn't respond to this survey to be able to scale this result up to the population of CRDP supported businesses.

37% of surveyed SME businesses stated that their turnover had increased as a result of CRDP support and of these, 21% stated that the change in turnover definitely wouldn't have happened. Just nine of these businesses were able to report their turnover change for the period and so we don't attempt to estimate the turnover impact for the programme (because of the small sample size and the relatively short time period that will have elapsed since CRDP support finished).

7.2 Introduction

This section sets out the evidence on the CRDPs' baseline and early impacts for the fifth evaluation theme: *generating economic and social benefits*.

The indicators and evidence sources for this theme are shown in Figure 22.

Figure 22 Theme 5 indicators and evidence sources

CRDP Success Indicator	CRDP data	Bui-ness survey	Research case studies	Placement case studies	Cluster case studies	Stakeholder interviews
Generating economic and social benefits						
SI17. Business creation and growth.	✓	✓	✓	-	✓	✓
SI18. The UK screen, screen-related and fashion & textiles industries are more sustainable and equitable	-	✓	✓	-	✓	✓
SI19. More competitive UK screen, screen-related/ fashion & textiles industries.	✓	✓	✓	-	✓	✓
SI20. Increased investment and funding within the cluster/sector.	-	✓	✓	-	✓	-
S21: Developing trade links.	-	✓	-	-	✓	-

Source: Frontier Economics and BOP Consulting

SI18 and SI19 have a sub-sector focus picking up specific intended benefits that align with the activities of CRDPs and creative industry sub-sectors. SI18 focusses on sustainability and equity for UK screen-related and fashion and textiles industries. This reflects the strategic focus of the two fashion and textiles clusters (BFTT and FFF) on delivering sustainable innovation and the focus of some of the screen-related clusters on tackling social exclusion and inequality (FSNI) and generating social impact (Clwstwr). SI19 focusses on UK screen-related and fashion and textiles industry competitiveness reflecting that two of the CRDPs (InGAME and FFF) have structured and strategic international trade development activities as part of their programmes.

The remainder of this section sets out the evidence gathered for this theme.

7.3 SI17. Business creation and growth

This success indicator examines the extent to which the CRDPs support the creation and growth of a diverse mix of socially responsible inclusive and innovative creative businesses which collectively make an increasing contribution to city region economies.

It is informed by evidence from CRDP data, the business survey and the research and cluster case studies.

7.3.1 CRDP data evidence

CRDPs collected data on the number of business start-ups, spin-outs and scale-ups generated by the CRDPs over the course of the programme, and (self-reported) data on the number of jobs created or saved as a result of CRDP support (note, we requested data on additional jobs although it is not clear whether full CRDP additionality is reflected in the data). This contributes to our understanding of the extent to which the CRPDs supported the creation and growth of innovative creative businesses.

Table 14 Number of start-ups, spin-outs and scale ups and number of jobs created or saved

Year	2019	2020	2021	2022-23**	Total
Number of start-ups, spin-outs or scale-ups (all CRDPs)	1	46	40	20	**107***
Number of jobs created and saved (7 CRDPs)	229	201	1,534	1,449	**3,413**

Source: *CRDP management data and Frontier Economics and BOP Consulting analysis*

Note: **CRDPs reported this to the best of their knowledge. These figures may underestimate the actual number of businesses starting or scaling up because some CRDPs did not provide data for all years.*

*** We requested and received data from CRDPs covering the period from January 2022 up until end March 2023 in line with our expectations around delivery period end.*

Table 14 shows that the programme generated 107 spin outs, start-ups and scale-ups since 2019. Three CRDPs generated just over three quarters of these (77%). This total includes company creation as well as companies that have significantly changed their strategic direction or established a Joint Venture (JV). There were 95 new business and JV creations over the programme period. 2020 and 2021 were peak years for business creation. Fewer businesses were created in the final year of the programme, it is not clear whether this is linked to the pandemic or the nature of programme delivery activities in its final year.

Table 14 also shows self-reported data from our management data request. Employment creation or safeguarding data was provided to us by seven of the CRDPs. Collectively these reported that 3,413 jobs were created or saved as a direct result of CRDP support, with larger numbers in the final years. This represents total job creation and safeguarding by the programme. It is not clear the extent to which CRDP additionality has been able to be taken into account by the CRDPs when gathering this data (the fact that some of these posts may have been realised/realised at a later date if CRDP support hadn't been received). Neither

does this estimate take into account the plausible hypothesis that some or all of these jobs were displaced from other businesses.

Examples of business spin-outs, start-ups and scale-ups

Creative Informatics has supported a total of 29 start-ups or spin-outs since 2019. This includes 'pivots' (for example changing a business model or the focus of research), as well as 17 joint ventures and new company creations. Recent 2022 company creation examples include:

- A challenge project led a company to create a separate stage-focussed analytical company to help the Edinburgh Fringe maximise the value of reviews of artists and audiences.
- A Resident Entrepreneur project resulted in the creation of 'Dreadnoise', a company that produces motion controlled audio-visual controllers for performers to wear on-stage.

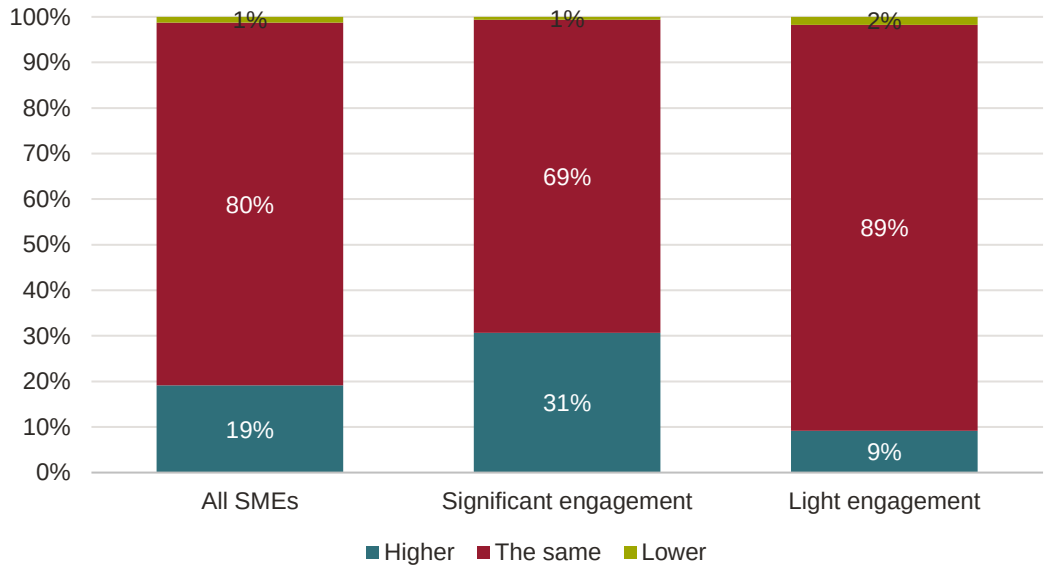
Future Fashion Factory reports a total of 11 new business creations to December 2022, three of which were registered new companies in 2022 (SAGES London, Ltd, Floks Home Ltd, and DyeRecycle Ltd).

7.3.2 Business survey evidence

Employment impacts

19% of surveyed businesses reported a full time equivalent (FTE) employment increase as a result of engaging with their CRDP (80% reported no change, and 1% reported a decrease in employment). Those engaging most significantly with their CRDP were most likely to have experienced an employment increase (31% compared with 9% of businesses who had had light engagement) (Figure 23).

Figure 23 % businesses reporting a change in their employment as a result of engaging with a CRDP

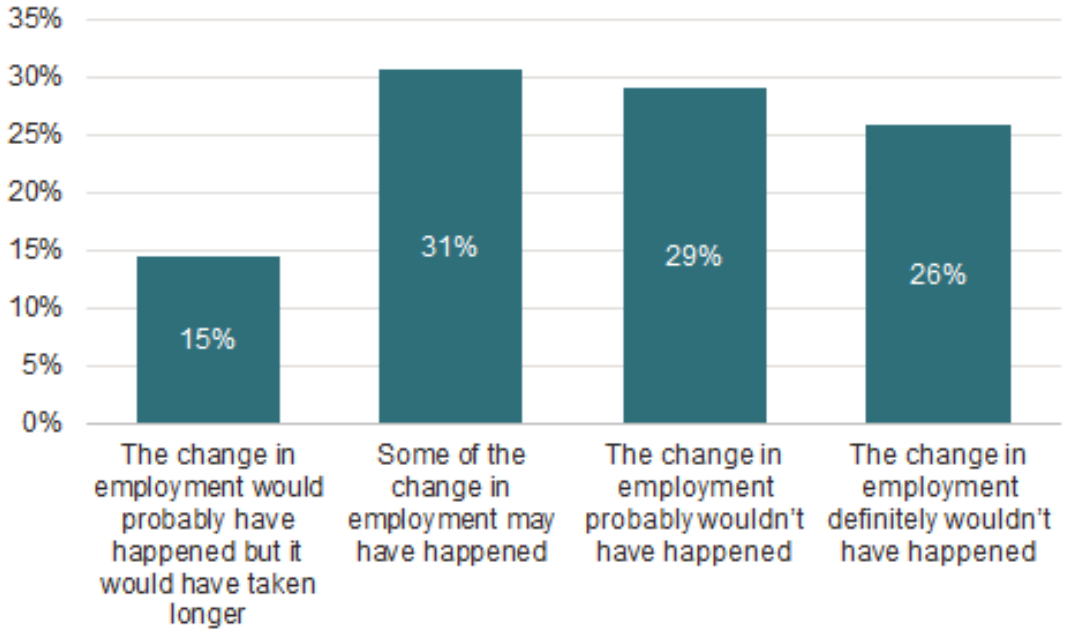


Source: *Frontier Economics and BOP Consulting*

Note: *Derived from responses to the 2023 survey question: As a result of your engagement with [CRDP] do you think your current employment is higher or lower that it would otherwise have been? Base = 326 businesses*

Although the survey question asked businesses to report the employment change that resulted from CRDP support, to be sure that all of the reported employment increase is fully attributable to the CICP we asked whether this employment would have definitely or probably happened, or whether only some of this would have happened or alternatively whether the employment probably would have happened but at a later date (Figure 24).

Figure 24 % business stating that the increase in employment would(n't) have happened without CRDP support



Source: *Frontier Economics, BOP Consulting and SRI analysis*

Note: *Derived from responses to the 2023 survey question: " And if you hadn't engaged with the CRDP which of the following would have happened?". Base = 62 businesses (including 11 that couldn't estimate their employment increase)*

These responses help us understand the extent to which any employment increase would be fully or partially attributable to CRDP support. They show that:

- 16 (26% of responding businesses whose employment had increased) stated that employment definitely wouldn't have increased;
- 18 (29% of all businesses whose employment was higher) stated that employment probably wouldn't have increased;
- a further nine businesses (15% of businesses whose employment had increased) stated that the employment would have been created without CRDP support, but over longer timescale; and finally
- 19 (31% of businesses whose turnover was higher) stated that just some of the employment would have been created without CRDP support.

It is difficult to estimate what this means in terms of total employment creation as we received only a 11% response rate to the survey and not all businesses were able to estimate their employment increase. We focus now on businesses that were able to estimate their employment increase to estimate this.

51 of the 62 businesses where employment had increased provided an employment increase estimate. Overall these 51 businesses created 365 FTE employment posts. Of these 365 posts:

- 112 FTE posts definitely wouldn't have been created;
- 27 FTE posts probably wouldn't have been created;
- 36 FTE posts would have been created, but over a longer timescale; and
- some of the 90 remaining jobs would have been created.

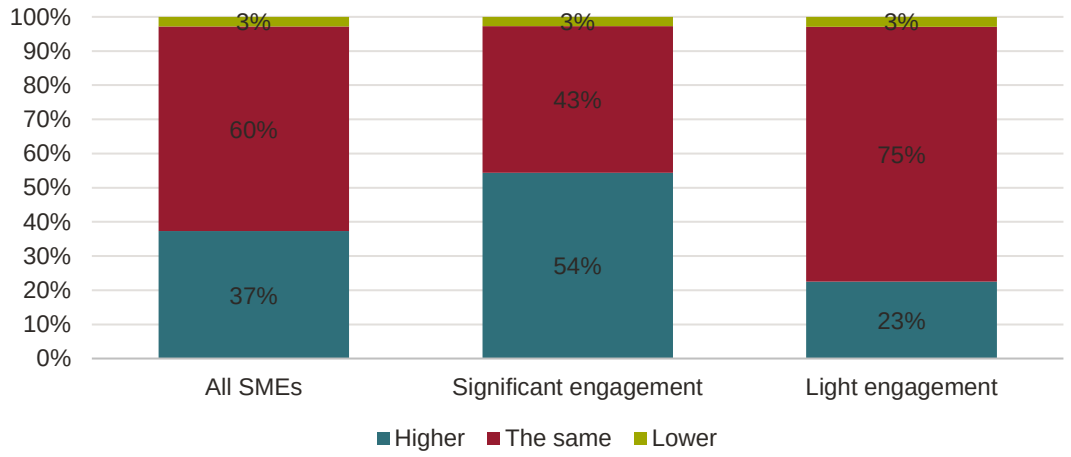
We have applied additionality weights to this data[16]. This adjustment for deadweight leads to an estimate of 270 FTE additional posts being created as a result of CRDP support (without accounting for possible displacement of jobs from other businesses) by the 51 reporting businesses. Unfortunately we do not know enough about 11 non-reporting businesses whose employment also increased, or the 89% of non-responding businesses to this survey to be able to scale this result up to the population of CRDP support businesses.

Turnover impacts

Businesses were asked whether as a result of engaging with their CRDP, their turnover was higher, the same or lower than three years ago. Businesses were most likely to report no change (60% of all businesses), but a significant proportion (37%) of all respondents stated that their turnover was higher as a result of engaging with their CRDP (Figure 25). Businesses that had engaged significantly were more likely report higher turnover levels (54% of businesses) than those that had had light engagements (23% of businesses).

16 We applied additionality weights of 50% where some employment increase would have been realised or at a later date, 75% where the employment increase probably wouldn't have been realised and 100% where the employment increase definitely wouldn't have been realised.

Figure 25 % of businesses reporting a change in turnover as a result of their engagement with the CRDP by level of engagement

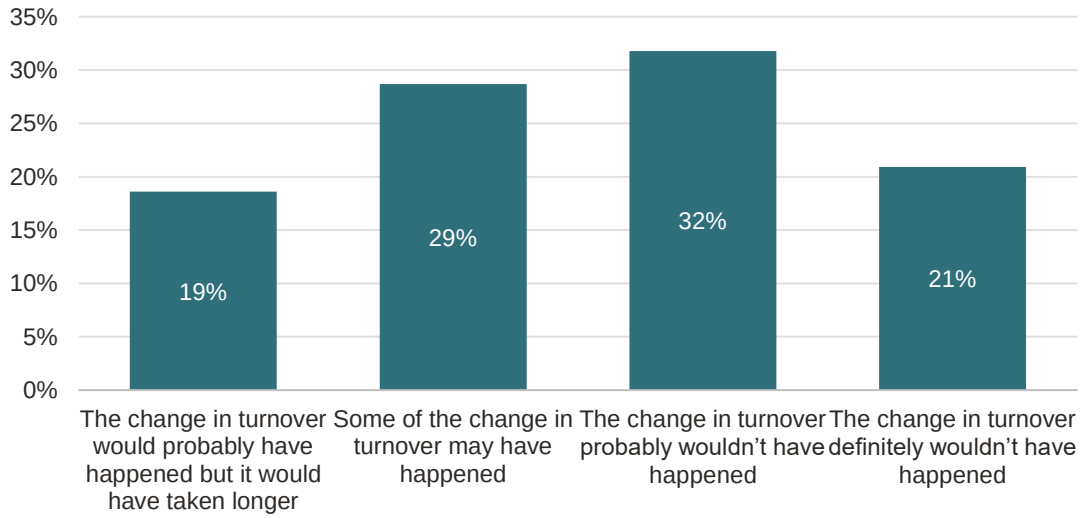


Source: *Frontier Economics, BOP Consulting and SRI analysis*

Note : *Derived from responses to the 2023 survey question: As a result of your engagement with [CRDP] do you think your current turnover is higher or lower than it otherwise would have been?" Base = 322 businesses (149 significant engagement,173 light engagement)*

The survey then explored with businesses who had said their turnover had increased as a result of CRDP engagement whether this increase was indeed fully attributable to CRDP support (Figure 26).

Figure 26 % business stating that the increase in turnover would(n't) have happened without CRDP support



Source: *Frontier Economics, BOP Consulting and SRI analysis*

Note: *Derived from responses to the 2023 survey question: "And if you hadn't engaged with the CRDP which of the following would have happened?". Base = 129 businesses (all those stating that turnover was higher as a result of CRDP engagement)*

21% of respondents (27 businesses) indicated that without CRDP support their turnover definitely would not have happened, suggesting impacts can be fully attributed to the programme.

Just nine of these 27 businesses were able to report their turnover change for the period. This is a very small number of businesses and so we do not attempt to estimate the turnover impact of CRDP support. Even if we had been able to this would only have provided us with a short term estimate – typically turnover impacts take several years to feed through and this estimate allows for a maximum of 2 years for turnover impacts to be realised (assuming that the earliest support projects will have been delivered over the period 2020-21).

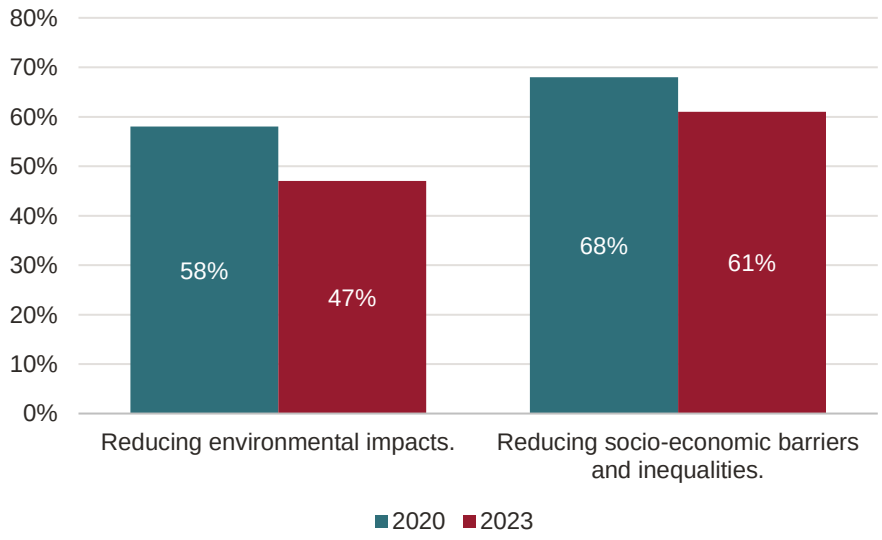
7.4 SI18. Sustainable and equitable industries

This success indicator is informed by evidence from the business survey, the research and cluster case studies and stakeholder interviews.

7.4.1 Business survey evidence

To explore whether the programme had impacted creative businesses' sustainability or helped them reduce socio-economic barriers and inequalities, we asked businesses in 2020 and in 2023 whether they considered these two factors to be important when making investment decisions regarding data or technology-driven innovation.

Figure 27 % businesses for whom environmental and socio-economic impact are highly important data/technology invesmtent factors



Source: *Frontier Economics, BOP Consulting and SRI analysis*

Note: *Derived from responses to the 2020 and 2023 survey question: "How important are the following factors in your decision to invest in data and / or technology-driven applied research?" Base (2020) = 364 businesses (environmental & socio-economic), Base (2023) = 156 (environmental), 155 (socioeconomic).*

Figure 27 shows that the proportion of businesses interacting with a CRDP that consider reducing environmental impact and socio-economic barriers to be a highly important investment factor when considering data or technology-driven applied research has fallen over the course of the programme. The result does not provide evidence that it is the programme itself driving this effect, only that businesses appear to have become less concerned about these factors when making investment decisions. Further analysis (shown in Annex B shows that this trend applies across all business size groups.

Similar analysis is presented in Annex B (Figure 64 to Figure 67) for screen-related businesses and fashion and textiles businesses. The proportion of respondents in these sectors who considered environmental impact an important investment factor in data and/or technology driven applied research was much smaller in 2023 (45%) than in 2020 (86%). The proportion citing reducing socio-economic barriers and inequalities as a highly important investment factor with regard to data and/or technology driven applied research fell from 66% to 58% between 2020 and 2023).

7.4.2 Project case study evidence

The collaborative applied research case studies include some top-level evidence around the extent to which activities undertaken by CRDPs have a wider positive effect on overall sector behaviour in adopting socially responsible practices.

Evidence of SME contribution to sustainable and equitable practice

XR Stories/ Creative technology company: The project focused on making a flagship product of a major media corporation more accessible to users with a range of access needs.

SF / Healthcare charity: The project aimed to support young people as they transition to the adult medical care system, although it was ultimately not rolled out beyond the prototype.

FSNI / Immersive screen business: The CRDP and supported SME saw the role of the cluster and HEIs involved as central in the process of democratisation of access to infrastructure and labs, and to technical and business-related knowledge.

7.4.3 Cluster deep-dive case study evidence

The deep dive case studies found that CRDPs made significant efforts to design mechanisms and approaches that support diversity and sustainability in their city regions and beyond. In particular, CRDPs used the design of funding calls as a lever to support sustainable and equitable practice, often making this a condition of funding, either as supplementary criteria, or in some cases as a call that asked SMEs to directly address these issues through their projects.

CRDPs also made efforts to fund a diverse cohort of businesses through 'wraparound' support offered to applicants during the process as well as initiatives to simply the application process. In Cardiff, for example, Clwstwr modified the language they were using on their application materials, which they found significantly increased the proportion of applications from women-led businesses.

There are also examples in which the CRDPs' approaches to these issues have been adopted elsewhere: Creative Informatics ethics statement has been adopted by the Science Museum and their EDI policy has influenced Innovate UK policy, and FFF has contributed to Leeds City Council's Net Zero policies.

While these issues played a key part in the design and delivery of the CRDPs, the delivery teams acknowledged that the issues of inequality and sustainability are systemic and long term, and progress happens slowly. (*"Long term we'd like to have an impact on the sector – but in the short-term we focused on making our own cohort more diverse."* - Clwstwr delivery team).

Other examples of how sustainability and equity were embedded in programme design identified in the case studies include:

- InGAME ran an inclusive design accelerator to make creative immersive content more accessible to those with permanent lived experience of disability;
- FFF ran a sustainability and circular economies funding call;
- Clwstwr incorporated a series of targeted measures to increase the diversity of their cohort;
- XR Stories embedded BFI Diversity Standards within all funding calls; and
- Multiple CRDPs included EDI/sustainability criteria on applications forms.

7.5 SI19. More competitive industries

7.5.1 Cluster deep-dive case study evidence

The baseline study deep-dives found that the competitiveness of the clusters through applied research and innovation is at the centre of the CRDP activities, although competitiveness could be understood through many dimensions, not just in terms of greater penetration of international markets and supply chains (though this is clearly important).

Broadly speaking, the screen CRDPs covered in the deep dives (Clwstwr, XR Stories, InGAME) aimed to upgrade their competitive position in the screen industries from being service providers and locations, to generators of innovative products and services and holders of original IP. In addition to the quantitative evidence above and in Section 5.3, the qualitative research found evidence of CRDPs contributing to more resilient, innovative and efficient sectors.

Clwstwr highlighted their internal evaluation report, which found that "*patents, copyrights and general intellectual property levers and opportunities increased by 650%, as a result of the work that that Clwstwr undertook,*" although stakeholders recognised that "*commercialisation is an ongoing challenge"* for the sector in Wales nationally.

In Dundee, InGAME's specific contribution to the sector's competitiveness and resilience is difficult to discretely identify in the context of a gaming industry that underwent a global boom as a result of Covid. That said, stakeholders felt that the CICP had made the core gaming industry in the city region "*less vulnerable"* to previous booms and bust (usually associated with the transition to new gaming devices, platforms and channels, as well as macro-economic factors such as exchange rates and tax regimes).

For FFF, the key objective was to use digital technologies to upgrade the quality and performance of textiles and to generate improvements in the production process. The competitive pressure to innovate is clear: competition from international firms operating in much lower cost locations.

The deep dive case study found that FFF catalysed greater coordination and knowledge-sharing between different businesses within the fashion and textile supply chain in West Yorkshire, ultimately leading to supply chain improvements: "*This [FFF] brought everyone around the table. Everyone understood that actually, if that part of my supply chain is able to do that a lot much quicker and better for my competitor, then they're probably also able to do it for me as well."* – Industry stakeholder, FFF.

7.6 SI20. Investment and funding

7.6.1 CRDP management data

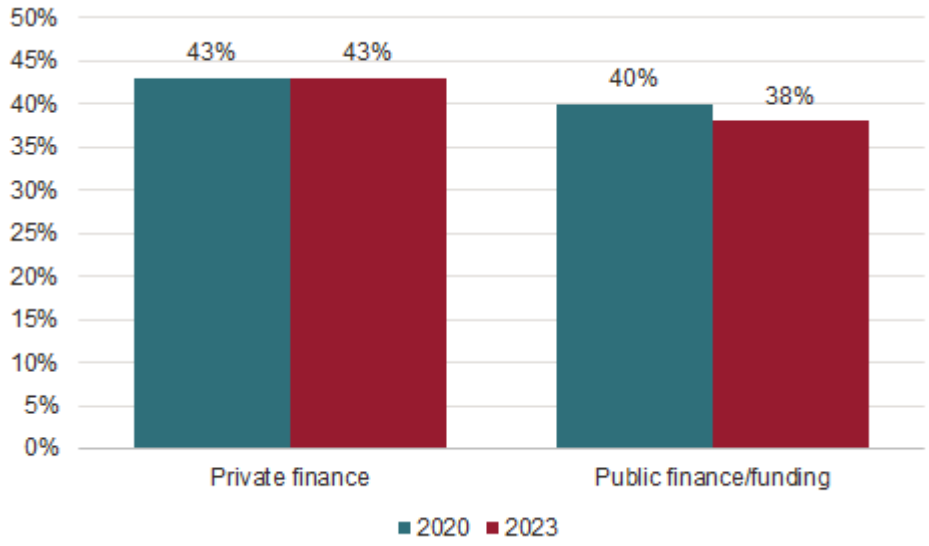
Our analysis of CRDP data suggests that businesses supported by a CRDP were able to leverage at least £57 million of co-investment or follow-on funding or investment from public and private sources over the course of the programme. This estimate should be only be treated as indicative as it was difficult to compare or combine the data on co-investment and leverage that was received from the CRDPs as each interpreted this differently. For example, one CRDP provided co-investment information including CRDP-leveraged funding, while another limited this to only post-CRDP project follow-on investment from private sources. Note, this SI assesses supported businesses' ability to raise funding and investment, rather than the CRDPs' ability to raise co-investment. The £57 million reported above only includes funding or finance provided to supported businesses where this was clear in the data provided, it does not include any finance or funding that was leveraged directly by the CRDPs or where the data was not clear. Separately, AHRC analysis reports that the CRDPs themselves raised a total of £276.8m in co-investment.

7.6.2 Business survey evidence

The 2020 and 2023 business surveys asked businesses that had interacted with a CRDP about the extent to which accessing private funding/finance or public funding were barriers to them conducting applied data or technology driven applied research. Comparing these responses enables us to explore whether these barriers have reduced over the course of the programme.

As Figure 28 shows, the survey evidence suggests there has been no significant change in business's perceptions concerning access to private finance and access to public funding as a significant barrier to carrying out applied research. In both the 2020 and the 2023 surveys, 43% of businesses stated that access to private sources of finance represented a significant barrier. Similarly, in the recent 2023 survey 38% of businesses stated this to be a significant barrier compared with 40% in the 2020 survey.

Figure 28 % businesses stating that access to private finance and public finance/funding for applied research is a significant barrier - 2020 vs 2023.



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the 2020 and 2023 business survey question: I'd now like to understand more about the barriers your business faces today when considering or carrying out applied research. I'll read out some factors that could restrict your business's ability or motivation to carry out applied research: Access to public sources of finance or funding for applied research; Access to private sources of finance for applied research". Base (2020): 400 businesses (private & public); Base (2023): 329 (private finance), 314 (public finance) businesses*

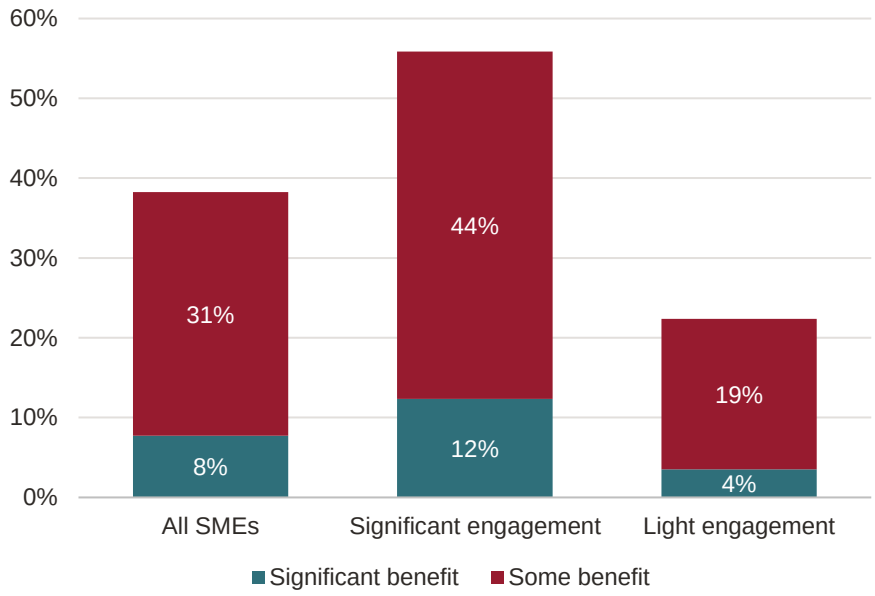
Our analysis by business size suggests that sole traders, micro enterprises and other small businesses all face similar access to funding and finance barriers for applied research. The only noticeable difference was for access to private finance where the responses suggest that businesses employing 50 or more employees face significantly lower access barriers than smaller businesses (e.g., 11% of responding businesses with 50+ employees stated they

faced significant access to private finance barriers, compared with 47% of sole traders; see Annex B Figure 68).

Despite these remaining significant barriers to research, businesses indicated that the programme has improved their access to private finance and funding (Figure 29) as well as public funding (Figure 30).

Figure 29 shows that 39% of all supported businesses benefitted from improved knowledge or ability to access to private funding or finance and those with significant CRDP engagement were more likely to benefit in this way (56% of businesses) than those who had had light CRDP engagement (23% of businesses).

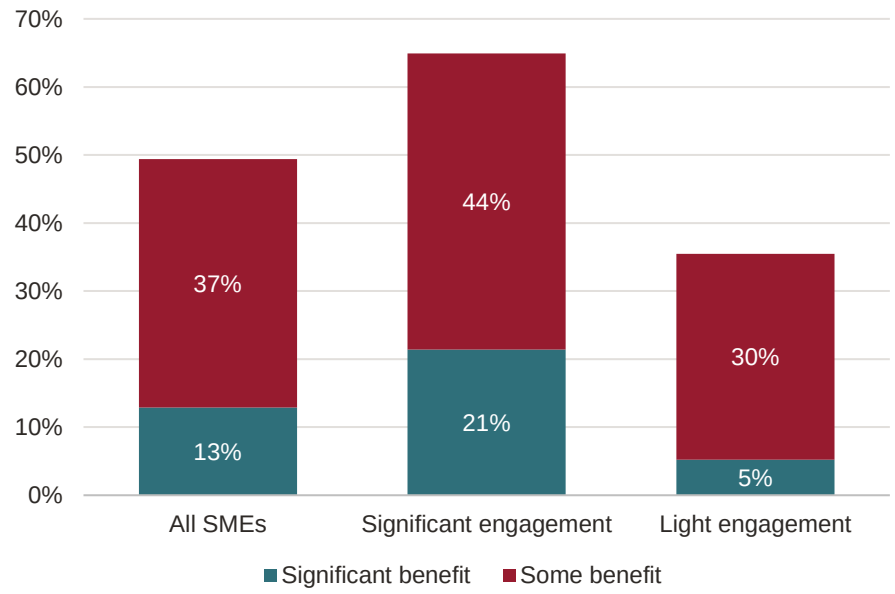
Figure 29 % businesses stating that CRDP engagement improved knowledge of or ability to access to private funding or finance



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the 2023 survey question: "As a result of all of your interactions with [CRDP], please tell me if the following benefits were relevant to your engagement and whether you obtained a significant, slight or no benefit: Improved knowledge of or ability to access private investment or finance" Base = 324 businesses (154 significant engagement, 170 light engagement)*

Figure 30 % businesses stating that CRDP engagement improved knowledge of or ability to access public funding



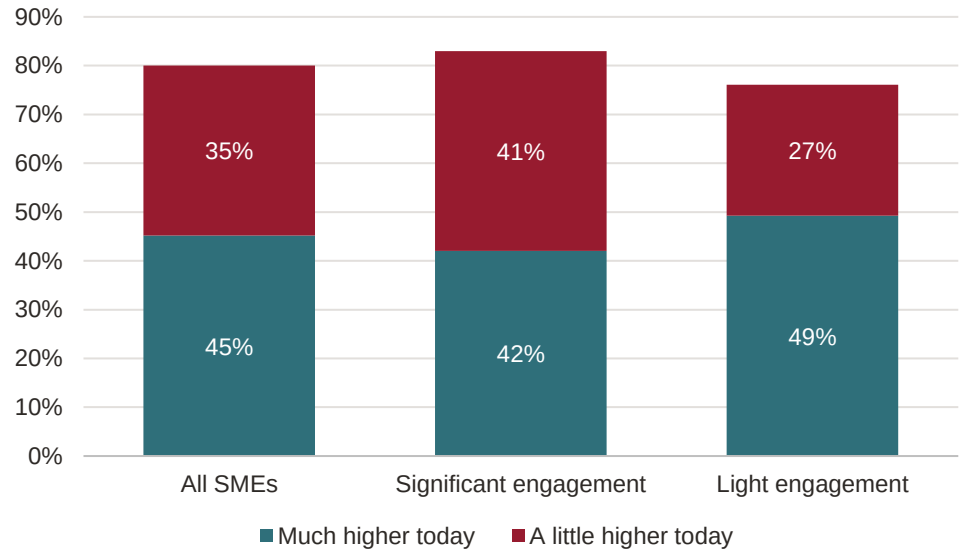
Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the 2023 survey question: "As a result of all of your interactions with [CRDP], please tell me if the following benefits were relevant to your engagement and whether you obtained a significant, slight or no benefit: Improved knowledge of or ability to access private investment or finance" Base = 326 businesses (154 significant engagement, 172 light engagement)*

(Figure 30) shows that 50% of all supported businesses benefitted from improved knowledge or ability to access to public funding and those with significant CRDP engagement were more likely to benefit in this way (65% of businesses) than those who had had light CRDP engagement (35% of businesses).

Figure 31 suggests that overall, 80% of engaged businesses were investing more than three years ago. This is higher than the 70% of businesses that said they would be investing more in the 2020 baseline survey. The results also suggest that intensity of engagement with a CRDP is not linked to propensity to invest: light engagement businesses were more likely (49%) to state that their investment levels were 'much higher' than intensively-engaged businesses (42%).

Figure 31 Comparison of businesses' applied research investment levels in 2020 and 2023



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the 2023 survey question: "Compared with around three years ago, would you say that your organisation's investment in applied research is much higher today; a little higher today; around the same; a little lower today; much lower today?". Base = 155 businesses (88 significant engagement, 67 light engagement)*

Our analysis of reported investment levels by business size from the survey (Annex B Figure 69) suggests that surveyed medium sized businesses had increased investment levels over the last three years. It also shows that after medium businesses, sole traders were most likely to state their investment levels were 'much higher today'. This could be explained by sole traders' starting level of investment being extremely low, so any increase would be seen as 'much higher'. Our sector analysis (Annex B Figure 70) shows that all surveyed AI and data analytics businesses and computer games businesses were investing more than three years ago.

7.6.3 Cluster deep-dive case study evidence

As outlined in previous sections, bespoke support to apply for R&D funding was a key and somewhat unique feature of the CRDPs' offer to SMEs, whether this was diagnostic (helping businesses to identify the problem they were trying to solve), interpretive (helping businesses to navigate the language of R&D funding calls) or constructive feedback (helping businesses to understand why they were unsuccessful).

The CRDPs reported that SMEs they had worked with had secured first-time funding from research councils or other funding sources outside of CICP (*"We wanted to make the creative sector more resilient and leverage opportunities with data. We've seen success from some of our companies applying for Innovate or creative catalyst funding."* – Delivery team, Creative Informatics).

In addition to research funding for businesses, FFF reported that local businesses are reinvesting in the skills base following their involvement in CICP ("*Companies are weighing in with lucrative scholarships and placements for the first time as a direct response to working with FFF. They trusted the Uni, they know what we need. I didn't anticipate that we'd get as far as that at the beginning. The (industry-funded) Institute of Fashion and Textiles have developed new apprenticeships schemes using FFF case studies and partnerships."* – Delivery team, FFF.

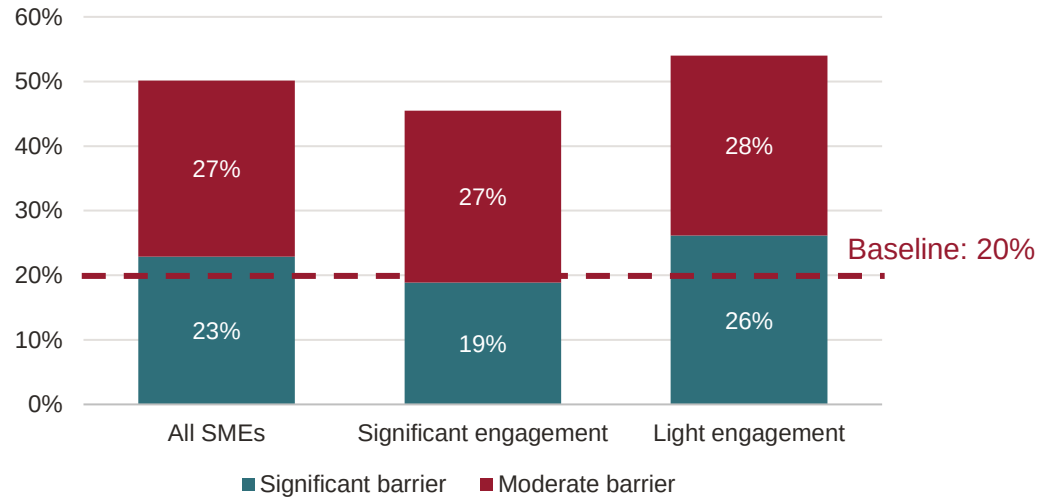
There is also strong evidence that the CRDPs themselves were more successful at attracting investment as a result of their involvement with CICP, particularly through the CoSTAR programme, which CRDPs viewed as a key legacy of the programme attributable in part to the partnerships, knowledge and competence developed through CICP ("*Would CoSTAR [Abertay's network grant] have happened without InGAME? Having a big project has so many reputational and network benefits."* – Abertay University).

7.7 SI21. Trade links and exports

7.7.1 Business survey evidence

The survey evidence suggests that access to international markets remains a significant barrier. In 2019, 20% of responding businesses considered this a significant barrier; in 2023 a slightly higher proportion (23%) of businesses considered this a significant barrier. However, there is some evidence that the programme is helping to alleviate barriers. Businesses that engaged lightly with the programme were more likely to indicate international market access as a significant barrier (26%) than those that engaged significantly with the programme (19%) – although this finding could also be being driven by systematic differences across the two groups due to for example, programme selection criteria (Figure 32).

Figure 32 % businesses for whom access to international markets was a significant barrier

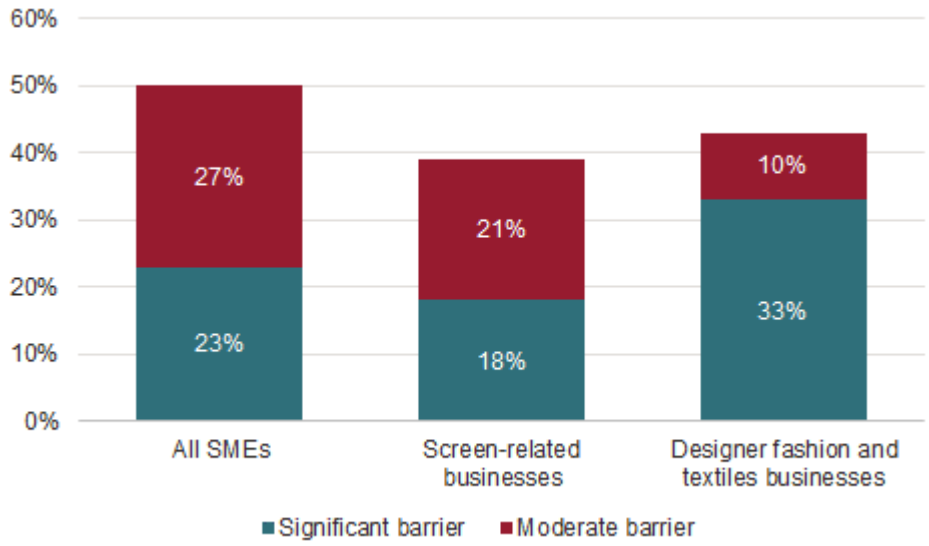


Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the 2023 business survey question: "I'll read out some factors that could restrict your business's ability or motivation to carry out applied research. For each, please indicate whether this is a significant barrier, a moderate barrier ..". Base = 319 businesses (143 significant engagement, 176 light engagement)*

Sector analysis for the screen-related industries and the design, fashion and textiles industries suggests that international market access barriers are lower than average overall (39% of screen-related businesses and 43% of fashion and textiles businesses face at least moderate barriers (compared with 50% of all surveyed businesses). In contrast, when we consider only those business stating they face a significant international market access barrier, this analysis suggests that a higher than average proportion of fashion and textiles businesses face significant international market access barriers (33% of these businesses reported this compared with 23% of all surveyed businesses) (Figure 33).

Figure 33 % businesses for whom access to international markets was a significant barrier (screen-related and fashion and textiles)



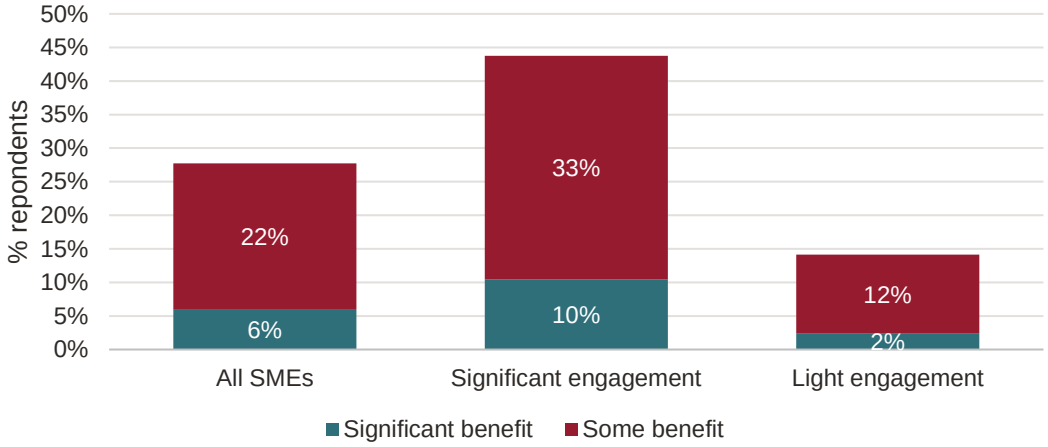
Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Derived from responses to the 2023 business survey question: "I'll read out some factors that could restrict your business's ability or motivation to carry out applied research. For each, please indicate whether this is a significant barrier, a moderate barrier ..". Base = 319 (all SMEs), 107 (film sector), 49 (design and apparel) businesses*

Further analysis presented in Annex B Figure 72 shows that international market access barriers may have reduced over the last three years for businesses employing 10 or more FTE employees, but are largely unchanged for sole traders and micro enterprises.

While barriers remain in place, the programme itself appears to have improved businesses' awareness of overseas opportunities (Figure 34). Intensively engaged SMEs were more likely to report that participation had increased their awareness of overseas opportunities (10% significantly, 33% to some extent) than lightly-engaged (2% and 12%).

Figure 34 CRDP's impact on creating better awareness for overseas opportunities – significant vs light engagement (2023)



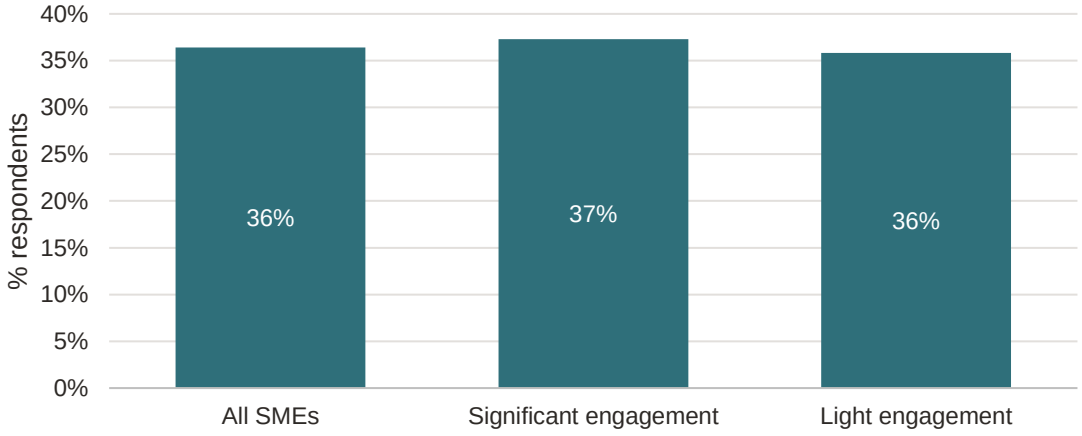
Source: *Frontier Economics, BOP Consulting and SRI analysis*

Note: *Derived from the 2023 business survey question: "As a result of all of your interactions with [CRDP], please tell me if the following benefits were relevant to your engagement (Better awareness of overseas market opportunities) and whether you obtained a significant, slight or no benefit. Base = 314 businesses (144 significant engagement, 170 light engagement)*

These results are broken down by business size in Annex B Figure 73. This analysis shows that only sole traders and micro-enterprises reported receiving a significant benefit in terms of being made better aware of overseas opportunities by the programme. 8% of sole traders and 7% of micro enterprises reported significant awareness benefits, and 20% of sole traders and 32% of micro-enterprises reported at least some awareness benefits.

The 2023 survey responses also suggest that a significant proportion (36%) of businesses that interacted with the programme are exporting (Figure 35).

Figure 35 % of firms reporting overseas sales - level of engagement (FY2022-23)



Source: *Frontier Economics, BOP Consulting and SRI analysis*

Note: *Derived from responses to the 2023 business survey question: "What proportion of your turnover in this year was from international sales?". Base = 305 businesses (118 significant engagement, 187 light engagement)*

However the analysis in Figure 35 suggests that the degree to which a business engaged with their CRDP did not influence whether or not that business is exporting: 37% of businesses that significantly engaged with the programme were exporting in the last financial year compared with 36% of those that only had light engagement with the CICP.

We explored whether businesses of different sizes were more likely to be exporting. The business size analysis shows that sole traders were least likely to be exporting (13% reported overseas sales in the last financial year) and small businesses employing 10-49 FTE employees were most likely to be exporting (69% reported overseas sales in the last financial year).

We also looked at whether the proportion of businesses reporting overseas sales in 2023 had changed since our baseline survey in 2020. Our analysis for fashion and textiles businesses shows that a higher proportion of businesses (50%) had overseas sales in 2023 than in 2020 (36%). We did not observe the same increase in the proportion of exporting businesses for the screen industries which rose only slightly from 32% in 2020, to 34% in 2023. Annex B shows the full results of this analysis (see Figure 74 to Figure 76).

7.7.2 Project case study evidence

There was little evidence of case study research projects exploring international markets (beyond the Belfast-based immersive screen business, who had pre-existing international industry connections and did not rely on connections made through the CRDP), although this is likely because not all of the projects successfully commercialised their product, even for the domestic market.

7.7.3 Cluster deep-dive case study evidence

For most CRDPs, developing trade links and overseas showcasing was not highlighted as a major part of their activities and offering. This may be down to several factors. The first, and most significant, is the pandemic, which severely disrupted international travel for two years during programme delivery. Beyond this, developing international trade links is more resource intensive than creating trade links in the UK and may have required bandwidth the CRDPs did not have while focused on stimulating R&D and business growth within their city-regions. It is also noted that the return horizon on international activity is longer than that of UK activity.

A national programme stakeholder saw the relatively small investment made by the CICP as a 'missed opportunity': (*"If you were doing it again, I would say that should be a key element of activity, that the clusters fund businesses and then support them to showcase internationally. Especially the markets and the opportunities for the sectors that the programme was supporting. They are predominately small companies that have much less opportunity to go international – it's insane that they didn't do more."* – National Programme Stakeholder.*)*

That said, there were examples of CRDPs participating in international showcasing and networking activities. This includes participations in international delegations, a CICP showcase at SXSW, and some projects under a UK-China umbrella. Although, as noted above, it can take years for the benefits of international networking to be realised, one stakeholder gave the example of a company who, "*secured a £2m contract from their participation at SXSW*".

Clwstwr was perhaps the strongest example of this, as the CRDP made 'International' one of three key strands of their activity ("*I think they did some great outreach internationally with clusters, not necessarily ones on our radar*." - Stakeholder, Clwstwr, and: *"It was a great moment for us when NBC Universal came to our Showcasing. What's going on in Wales is as exciting as anything I've seen from all over the world*." – Delivery team, Clwstwr).

8 Conclusions on impact and Value for Money

This section brings together our assessment of the impact of the CICP and extends this into an assessment of the Value for Money (VfM) of the CRDP component of the CICP.

8.1 What do we mean by Value for Money?

VfM is concerned with the optimal use of public money. HM Treasury defines VfM as a judgment which compares the benefits and costs of an intervention or policy in 'present value' terms, recognising that costs and benefits can occur over long periods. As well as costs and benefits which can be monetised, a balanced approach to VfM also considers benefits which can be quantified but which are hard to monetise; and benefits which cannot easily be quantified but can be described qualitatively.

Conducted as part of an evaluation exercise, VfM can be thought of as an additional evaluation question (did benefits exceed costs?) which draws on evaluation evidence, rather than a new evaluation in and of itself.

In this context, a value for money assessment of the CICP assesses whether the overall benefits reported in the previous sections of this report at least outweighed its costs (in this case the £57.8m of public grant funding awarded by AHRC and UKRI to the CRDPs[17]).

We have assessed the value for money of the CICP using the following approach:

- Identifying the key economic, social and environmental benefits from the impact evaluation framework for this programme;
- Reviewing the evidence from the final impact evaluation on these benefits; and
- Comparing the evidence on CICP benefits against its £57.8m grant funding costs.

8.2 Identifying the key economic social and environmental benefits

We start by identifying the key intended benefits of the CICP using the impact evaluation logic model (Annex D). This identifies the following:

- **Economic impacts**: Improved competitiveness of UK screen-related and fashion and textiles industries; increased contribution of creative industry clusters to city region economies.
- **Wider social impacts**: Improved sustainability and equity of UK screen-related and fashion and textiles industries.
- **Innovation system impacts**: Extent to which HEI-led applied research partnerships are a key part of regional innovation systems of the creative industries.

[17] The total value of funded allocated by AHRC to the nine CRDPs in 2019 was £57.8m. This excludes funding from non-AHRC sources.

8.3 Reviewing the evidence

8.3.1 Economic impacts

The CICP was funded over the period 2018-23 and delivery by the CRDPs began in earnest in 2019. Table 3 (Section 3) describes a gradual 'ramp up' of CRDP activity in terms of the number of businesses and academics engaged, with business and academic engagement peaking in 2021[18]. CRDPs spent their first delivery year researching key issues for the cluster and/or the relevant creative industry sub-sector and development of their delivery plans. CRDP activities started in earnest in the second year of the programme (2020-21) only to be disrupted by the onset of the Covid pandemic, particularly where CRDPs were planning infrastructure investment and any planned face to face engagement was moved online wherever possible. As a result, in the final year of the delivery period (2023), several CRDPs applied for and were granted no-cost delivery extensions by AHRC in order to complete planned delivery.

This activity timeline suggests that as CRDP delivery is only just coming to a full close, it is likely also that many supported businesses are only just realising the full potential impact of the support they received. Our assessment of realised impacts can therefore only properly draw on the evidence on realised outcomes (for which we gathered significant evidence) and early indications of longer-term impacts.

The evidence presented in the sections above suggests that the CRDPs have delivered against their intended outcomes in terms of raising awareness and capacity to conduct R&D, despite the ongoing wider challenges of growing a business during a pandemic, keeping abreast of technological change and navigating the complexities of becoming an export focussed business post-Brexit. There is also evidence that suggests supported businesses leveraged £57 million of investment or follow-on finance or funding (from public and private sources) over the programme period[19].

We have also reviewed the evidence on initial employment impacts across the programme (rather than at the sub-sector level). We consider employment impacts because these are most likely to be realised more readily than turnover impacts. Businesses may hire additional employees in response to scaling up R&D and marketing activity (in anticipation of translating these into increased sales). We do not limit our assessment to screen-related and fashion and textiles businesses to maximise the amount of data available to us.

Self-reported CRDP data suggests that 3,413 FTE employment positions were created or safeguarded as a result of CRDP support to cluster businesses, though the scale of additionality is unclear. The business survey, which captured around 11% of the population of

[18] Overall, each year the programme engaged an average of 482 businesses and academics through their applied research projects . Peak engagement occurred in 2021 (664 engaged businesses and academics).

[19] See Frontier Economics and BOP Consulting, Final phase assessment of the CICP management data (unpublished), 23 June 2023.

supported SMEs, found evidence (from 51 of the 62 surveyed businesses reporting higher employment levels from CRDP support) that these 51 businesses had employed 365 more FTE employees as a result of their CRDP engagement. Of these, 112 FTE employees definitely wouldn't have been hired. Our analysis applied additionality weights to employment gains that were less certain and this suggests that the surveyed businesses generated a total of 252 FTE employment posts as a result of CRDP support. We do not recommend scaling this result up to represent all supported businesses (our survey received a 11% response rate) because not enough is known about the full population of supported businesses. Note also that this estimate does not attempt to estimate the scale of displacement of jobs from other businesses.

Both these pieces of evidence provide quantitative early evidence that the programme is starting to deliver economic impacts. This estimate cannot be monetised because we do not know the productivity (or wages) of this new employment and published creative industry data is not sufficiently granular to be used for an estimate of the productivity increase generated by employment creation in creative industry SMEs at cluster level.

Looking beyond CRDP-supported businesses, the LinkedIn workforce data gathered for the deep-dive case study analysis shows the sector workforces in all of the defined cluster geographies (funded and counterfactual clusters) has grown since the baseline assessment in 2019. In four out of the five counterfactual pairs, the growth of the sector workforce within the CRDP host city region was greater than that of the matched counterfactual area. The uplift in workforce growth across those four clusters was small (although consistent), which is to be expected given the CRDP's interventions are relatively small compared for the size of workforce in the defined geographical areas.

Two of the CRDPs estimated the value they added to their city region as part of their completion reporting and two further CRDPs estimated additional turnover and employment impacts[20]. Although a cluster level assessment lies outside the scope of this evaluation we include these estimates here as further evidence of the impact generated by the CICP:

- Bristol + Bath estimated that its activities led to the creation of 82 new jobs;
- Clwstwr estimated that every £1 of direct funding to businesses generated £4.55 GVA (based on data captured from funded and non-funded businesses);
- InGAME estimated that its activities will generate additional value of £84.7m for the Scottish economy over the next ten years; and
- XR Stories estimates its direct employment impact to be 134 additional employees and £1.7m in additional turnover revenue.

[20] Clwstwr analysis compares funded with non-funded businesses to explore the counterfactual.

8.3.2 Wider social impacts

We reported qualitative evidence suggesting that some aspects of the CICP have delivered social change – influencing best practice on ED&I for the creative industries and funding projects by businesses that can demonstrate sound ED&I policies. There is also evidence that the fashion and textiles specific CRDPs have focussed on funding projects to improve sector sustainability. There is not yet evidence of the wider business community (based on evidence from our business survey) having changed their overall investment attitude to prioritising ED&I and sustainability, this may reflect the scale of the challenge outweighing the allowed time frame and scale of investment to tackle this, and changes in the overall economic environment since the start of the programme. But this suggests that social impacts are so far more limited for the CICP.

8.3.3 Regional and cluster innovation system impacts

The programme logic model articulates two types of wider innovation system long term impact:

- that HEI applied research partnerships are a key part of regional innovation systems for the creative industries; and that
- creative industries innovation policy and interconnection with regional economic development is better articulated and supported.

The evaluation provides compelling evidence to suggest that the CRDPs did become a considerable new resource in city region innovation systems for the creative industries. CRDPs worked hard to engage creative businesses that do not normally engage in applied research, optimised their delivery structures and processes through iteration – adapting to the needs of local businesses – countered negative perceptions of the usefulness of universities to the creative sector, and have had wider effects within their own HE institutions in terms of the development of curricula and new research institutes, as well as on how universities think about engaging with businesses and fulfilling their civic role more broadly. Lastly, the HEIs were also successful at leveraging additional money to complement the core CICP investment from AHRC. Total co-investment for the programme is reported by AHRC as being £276.8m.

At city region level, the articulation between the CRDPs and regional economic development policy has been somewhat patchy, though this appears to be much more driven by the differing political systems that exist in different parts of the UK than a particular failing on the part of the CRDPs. Nevertheless, where existing support and collaboration from city region and devolved policymakers existed, it has been deepened. Where it did not exist – specifically in some city regions in England – policymakers report that the CICP has still been successful in raising the profile of the creative industries and pushing it further up the policy agenda.

Nationally, there has been great interest in the broad CICP “model”. Specifically, this is the original idea contained within CICP that universities should be the key actors in local creative industries clusters, funding applied research via a devolved funding mechanism in which the national funder (in this case the AHRC) provides autonomy instead trusting the universities

to establish 'what works' for each geography and for each self-defined industry cluster. That the model is seen to have been tested and works is evidenced by the fact that Treasury and DSIT have backed a second iteration of the CICP, to be run along the same principles focused on CRDPs. Arguably, it is also evident in the decision to greenlight the new AHRC CoSTAR network and base it around university-industry consortiums, three of which have a regional location and role, and which includes many HEIs and partners that participated in CICP.

8.4 Comparing the evidence on benefits against costs and key conclusions

The total value of the public funding allocated by AHRC to the nine CRDPs in 2019 was £55m,. covering the programme delivery period. This excludes funding from non-AHRC sources.

We have gathered evidence on the economic impacts generated to date by the CICP. This suggests that the programme has delivered expected interim economic impacts concerning raising the awareness and capacity of cluster business to invest in and conduct applied research. It is too early to report on the longer-term economic impacts of the programme although there is early evidence of additional employment creation, even when we take a very conservative view.

While there is less evidence of social impact generation by the programme, there is significantly more evidence that the programme has delivered on another key aim: to explore and develop understanding of different potential models of regional and local creative industry HEI led innovation, and to inform future decisions on creative industry innovation investment. Each CRDP developed a markedly different delivery model and demonstrated success in engaging businesses in HEI-led research.

Our research also shows that overall, cluster stakeholders within HEIs and national and devolved national policy makers view the CRDPs as a success. This has been translated into a number of tangible impacts including UKRI committing to fund a second phase of the CICP, as well as the sustainability of many of the CRDPs funded through this first phase. Some have been awarded CoSTAR funding to design, develop and create state-of-the-art facilities, resources and expertise to underpin the long-term competitiveness of the UK's screen and performance sectors. Another example is Clwstwr, which in 2022 secured £22m from the UKRI Strength in Places Fund, £3m Cardiff Capital Region funding and £1m of Welsh Government funding (as well as £23m match funding from industry and university partners) to create the four-year Media Cymru programme which builds upon their Clwstwr CICP project. Similarly, some of the partners in the Bristol + Bath CRDP have also been funded by the UKRI Strength in Places Fund via the £30m MyWorld project.

Although there is less evidence on monetised long-term impacts, our evaluation has gathered a substantial body of statistical and qualitative evidence on delivered economic and regional and cluster innovation system impacts. Despite being a challenging five-year period, the CICP has delivered against all of the intended impacts defined in this framework. In particular we

have noted key benefits in terms of the demonstrated sustainability of many of the CRDPs, the viability of the creative industries cluster model, and the early indications of supported businesses' success (such as evidence on raised awareness on the benefits of conducting applied research, supported businesses' ability to leverage funding or raise follow-on funding and investment, and early indications of businesses increasing employment as result of CRDP support). Overall, based on best practice guidance set out by HM Treasury, and our evaluation of the benefits of this programme, our assessment is that based on the available evidence, the decision to allocate £55m of funding to the CICP represents value for money.

9 Lessons learned

Our lessons learned reflect our experience delivering this evaluation and are intended to inform the design of any future evaluation of a creative industries cluster programme.

Our first lesson learned concerns the timing of evaluation design and baselining. This evaluation was commissioned after programme launch when the CRDPs were already well established. This meant that our baseline assessment was conducted in 2020-21 rather than in 2019-20 at programme outset. This may have affected the accuracy of some of our reporting which relied on stakeholders' ability to report their views and opinions from a year or more ago.

Another lesson learned concerns data capture by CRDPs and the timing of any longer term impact studies. Our quantitative research relied heavily on management data provided by the CRDPs and business contact data to inform a business survey and to investigate longer term economic impacts. We prepared detailed data requests for the CRDPs to complete. We found that CRDPs found it challenging to prepare consistent data returns for this evaluation. CRDPs reported against our metrics in different ways making it difficult to aggregate results at programme level. A significant amount of resource from the evaluation team and from AHRC went into collecting and analysing this data. The data has proved valuable and we would recommend similar data is collected for any future evaluation. But we recommend that to improve the efficiency of this data collection process, that a standard set of core metrics are defined at programme inception which align with the evaluation framework and that CRDPs integrate this into their standard data collection and reporting frameworks.

This assessment investigated the feasibility of conducting a business level analysis of employment and turnover impacts. In line with one of the CRDPs also investigating the feasibility of different analytical approaches, we relied on business survey data for this assessment. Ideally, a full impact assessment would rely on estimating business level impacts using statistical analysis of ONS business microdata. This requires several years of post-intervention data and information on ideally accurate information for all of the businesses that have received support including company name, Companies House Reference Number (CRN), the date when support commenced and ideally information on the duration (number of months) and intensity of support (value of funding). We recommend that any future clusters programme requires all funded CRDPs (or similar) to report this data for all supported businesses and that a business level impact study is commissioned a year or so after the end of the funding period to enable the longer term impacts of the programme to be realised and for data to become available (there is a significant lag of one to two years for employment and turnover business microdata reporting by ONS).

While we acknowledge that for the AHRC the evaluation budget was significant, in reality resources were quite stretched, because the CRDP programme on its own was a big, complicated programme of nine distinct multi-year projects, even without considering the PEC. We flagged this at bidding stage and sought ways to work around the constraint, which were

partially successful. In particular, we agreed that there would effectively be no Interim Report (we reported only on management data analysis at programme mid-point) and we also cut back on the number of company case studies that we undertook. Of these workarounds, having no Interim deliverable (plus a programme of work related to this) had the greatest impact as it meant that there was no real opportunity for us to take stock of how CRDPs themselves had changed and to make adjustments to the evaluation framework. This is important because the CRDPs spent much of the first two years iterating and adapting their programmes – not just because of the Covid pandemic, but also because of discovering what worked in terms of driving engagement and impact. This meant that certain areas of work that had seemed to be a priority at the outset (e.g. objectives around international activity or placements), became a much lower priority across the nine CRDPs as a whole, but we still had indicators to report on these. Relatedly, as the CRDPs iterated their programmes in light of their target sectors and geographies, they became more distinct from each other (as the deep dives show). The increasing heterogeneity within the overall CICP 'intervention' meant that the small number of company case studies was insufficient to cover the breadth of work and approaches taking place across the CRDPs.

The corollary of this is that the decision taken by UKRI/AHRC at the outset of the evaluation to not just fund the CRDP deep dives, but also to fund an additional fifth deep dive, has paid off. It has enabled us to produce detailed accounts of the mechanisms and approaches used by more than half of the CRDP cohort, and also to place this within a wider urban and regional development and innovation policy lens, while also providing us with valuable contextual insight to designing and supporting the interpretation of data from the business survey (e.g. what exactly the difference is between 'strong engagement' and 'light engagement').

What the deep dives do not (yet) provide is conclusive quantitative evidence of the efficacy of the CICP in the wider city-region clusters. It is always challenging to robustly evidence the wider place-based effects of a specific, time-limited intervention in a given territory and industry cluster – i.e. beyond the direct beneficiaries of the intervention – and more so when attempting to benchmark clusters against comparators,[21] and CICP is no different in this regard. The business survey demonstrates that most of the benefits of the programme were gained by those businesses that engaged strongly (i.e. were funded through the programme or actively took part in skills or training opportunities, or used kit and equipment). This pattern of engagement-to-benefits is suggestive of a 'threshold effect' that in itself provides strong evidence of the additionality of CICP for beneficiaries. The 'matched pair' deep dives were intended to look beyond this – to examine the effects that CICP was having at the cluster level, in comparison with a matched city-region cluster without a CRDP.

In addition to looking at the mechanisms and approaches used by the CRDPs themselves, the qualitative element of the deep dives uses an institutional analysis to focus on the degree to which CRDPs have brought about changes in terms of interactions and relationships between stakeholders, as well as internal changes in priorities, processes and policies of

[21] See, for instance, Nelles, J. et al (2023) Understanding Cluster Growth Potential, Innovation Caucus report for UKRI.

relevant ecosystem actors and stakeholders across the clusters. The accompanying quantitative element of the deep dives used experimental statistics to see if it was possible to already be able to discretely identify a wider ripple effect within the CRDP city region geographies, when compared with the counterfactual geographies, by using one measure (employment).

The qual work in the deep dives does provide evidence of how the CRDPs have had an impact on the city region ecosystems for the relevant creative industries. However, at this limited point in time, the quant labour market data does not show conclusively that the chosen sector/geographies in the CRDP interventions outperformed the counterfactual matched areas. Rather, it shows that the specific creative labour market mix of sub-sectors and skills was growing across all the areas examined in the evaluation, both intervention and counterfactual. This suggests that the CRDPs had the right sectoral / skills foci. But the extent to which the impact of the programme has already been felt at the wider cluster level (when looking specifically at the labour market) – above and beyond what would have otherwise happened – will emerge in due course.

Employment is a lagging indicator and it will take time for the skills, capacities and innovations built up through those businesses that engaged the most with the CRDPs to diffuse through cluster and sub-sectoral networks. This is also the case for the institutional learning gained by stakeholders through CICP to be translated into revised and upgraded routines, activities and policies that will then impact their clusters. How long these revisions in institutional practices, priorities and relationships persist, and moreover the degree to which they can be evolved to match ongoing changes in the needs of the clusters - beyond the lifetime of the funding provided through the CICP programme - remains an open question. Equally, as the qual work for the counterfactuals ably demonstrates, evidencing how a cluster behaves in comparison to what would otherwise have happened without the intervention is difficult because there are so many other factors that have a bearing on the outcomes of clusters across different territories. The counterfactual qualitative research therefore enables us to place the CICP findings within a wider context that allows for a more nuanced understanding of the factors at play in places and how these affect regional economic development and innovation systems.

However, the utility of the deep dives does not lie in being able to provide conclusive evidence of the efficacy of the CICP in the relevant city region geographies. It remains very difficult to measure the wider place-based effects of a specific, time-limited intervention in a given territory – outside of the direct beneficiaries of the intervention. The business survey demonstrates that most of the benefits of the programme were gained by those that engaged strongly (i.e. were funded through the programme or actively took part in skills or training opportunities, or used kit and equipment). The usefulness of the ‘matched pair’ approach to the deep dives is that it provides evidence that does not contradict this finding. That is, at this limited point in time, the data does not show conclusively that the chosen sector/geographies in the CRDP interventions outperformed the counterfactual matched areas. Rather, it shows that the specific creative labour market mix of sub-sectors and skills was growing across all the areas in the evaluation, both intervention and counterfactual.

Annex A – Survey contact data base and respondent characteristics analysis

A.1 Response rate and representativeness

The 2023 survey received 389 complete responses from SMEs, equivalent to a response rate of 10.8%.

The survey was initially launched as a telephone only survey (in line with our original tender specification) but after receiving a high number of email only contacts from some of the CRDPs (overall 57% or 1,951 of the 3,423 contacts we were provided with were email only) and a significant number of refusals in the first week of the telephone survey, we agreed with AHRC to launch an online version of the survey to capture the additional email only contacts.

As this is a programme level evaluation we do not present or compare results for individual CRDPs. We collected contact data from all of the CRDPs and asked all businesses the same set of questions. Our analysis of this data is at programme level. As Table 15 shows, we received a lot of contacts and responses from some CRDPs and relatively few from others. Without knowing the size and characteristics of the full population of engaged businesses it has not been possible to weight and scale the responses to gain a representative view of the programme. This was also the case for the 2020 baseline survey. We therefore report our analysis of the responses we received, noting that our findings will tend to reflect the views and impacts experienced by high response CRDPs than others where we had access to fewer contacts and gained fewer responses.

Table 15 Business survey contacts and responses

CRDP	No. contacts	% email only	No. complete SME responses	Response rate
B+B	141	99%	15	11%
BFTT	167	16%	24	14%
Clwstwr	1,577	82%	100	6%
Creative Informatics	498	5%	118	24%
FFF	297	46%	32	11%
Future Screens NI	113	1%	36	32%
InGAME	54	87%	13	24%

CRDP	No. contacts	% email only	No. complete SME responses	Response rate
Story Futures	359	52%	26	7%
XR Stories	412	69%	45	11%
TOTAL	**3,618**	**59%**	**389**	**11%**

Source: Frontier Economics, BOP and Strategic Research and Insight analysis

A.2 Respondent characteristics

Our analysis distinguishes between business size, whether a business describes its activities as largely creative, largely tech-focussed or a mix of both, creative industry sub-sector. To help us understand additionality we distinguish between:

- significantly engaged businesses (this includes businesses that stated they were very familiar and had significantly engaged with their CRDP and acts as our treatment group – 41% of respondents); and
- lightly engaged businesses (this group covers all that had lightly engaged through say reading a paper or attending an event (49% of respondents) and those that had had no interaction at all (10% of respondents) and acts as our control group)[22].

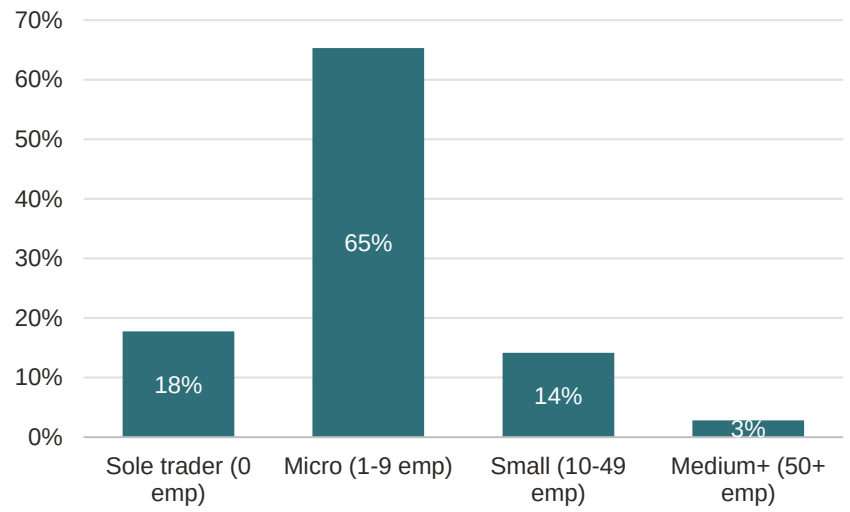
All of this information was provided to us by the respondents through the survey.

Business size

We group businesses according to the number of people they employ and differentiate between sole traders (no employees), micro-enterprises (between one and nine employees), small businesses (between 10 and 49 employees) and medium+ businesses (50+ employees). As Figure 36 illustrates, the majority of businesses responding to the survey were micro-enterprises (65% of respondents). Very few were medium+ businesses (3%).

[22] Based on respondent businesses view on whether it was 'very familiar - my businesses engaged significantly with [CRDP]' – these businesses were classed a significantly engaged (41% businesses); quite familiar - my business engaged to some extent (for example read a paper or attended an event'; heard of - but no interaction to date; 'Never heard of this organisation' – these businesses were collectively classed as lightly engaged (light to no engagement).

Figure 36 Distribution of businesses by number of employees.

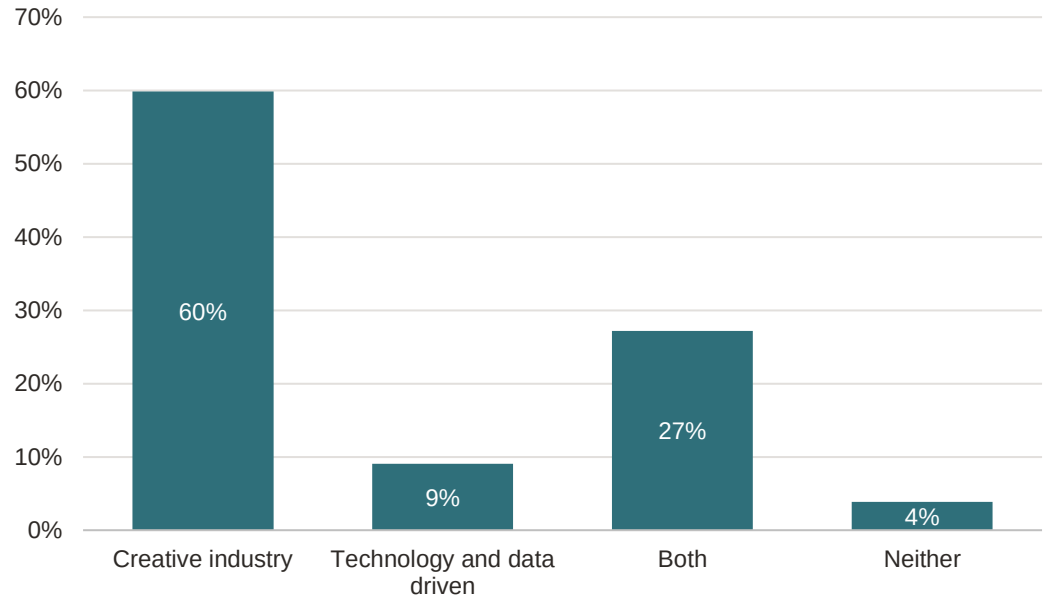


Source: Frontier Economics, BOP Consulting and SRI analysis.
Note: Base = 389 businesses

Creative vs. tech businesses

An important objective for the programme was to drive technology or data driven innovation (DDI) activity in the creative industries and to enable creative industry businesses to upskill or increase their capacity to conduct technology or DDI. To enable us to examine the impact of the programme on businesses that are already data or technology focussed and those that are not we asked respondents to classify themselves according to whether they considered themselves to be purely creative, purely technology or data driven or a mix of both (or neither of these). Figure 37 shows that 60% of respondents considered themselves to be a purely creative business, 9% considered their business to be purely technology and data focussed and 27% a mix of both.

Figure 37 Distribution of businesses by sector (creative or technological)

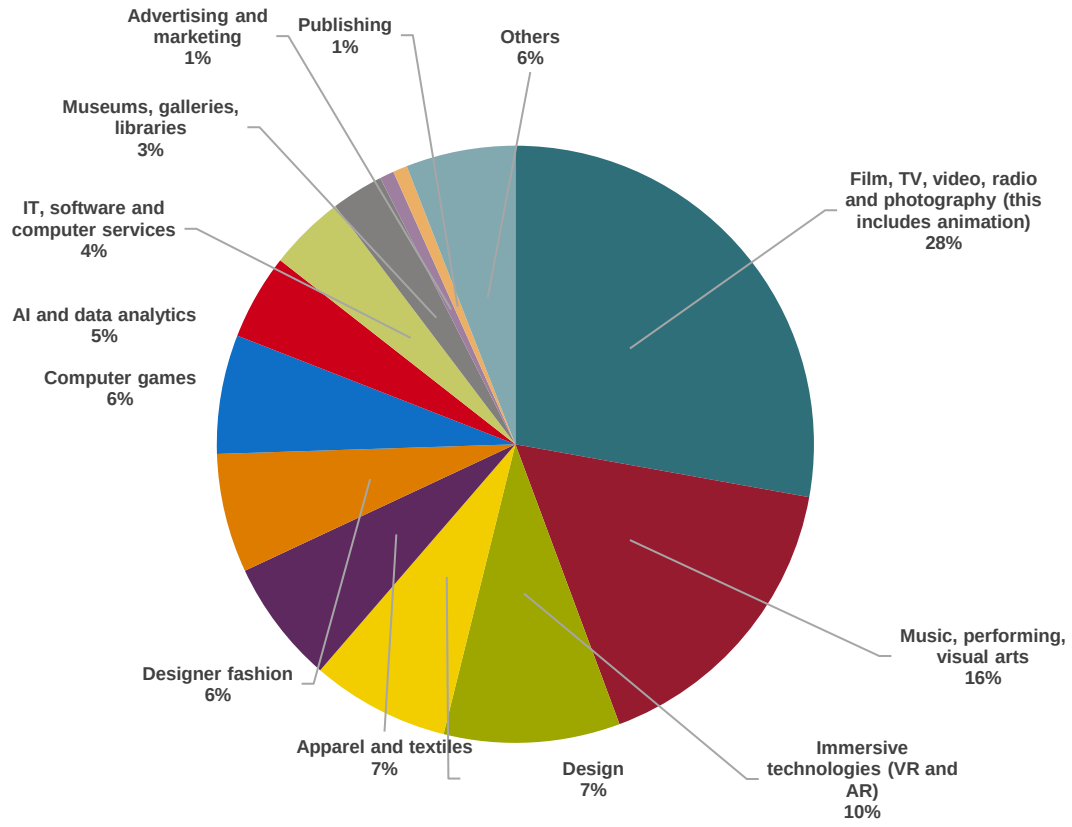


Source: Frontier Economics, BOP Consulting and SRI analysis.
Note: Base = 386 businesses. 3 businesses responded "Don't know".

Creative industry sub-sector

The analysis also distinguishes between survey respondents' self-reported creative industry sub-sector. We received a large number of responses from creative industry sub-sectors aligned with those CRDPs that provided us with a large number of contacts and so the responses are spread proportionately across the CRDPs, nor are they representative of the UK creative industry population. We did however receive a sufficiently large number of responses for some key creative industry sub-sectors such as textiles and fashion (11%) and the screen industries (27%) to be able to examine the responses provided by these businesses and identify any impacts that are specific to these businesses. Their impact is reported against specific sector-focussed indicators later in this report.

Figure 38 Distribution of businesses by creative industry sub-sector*



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

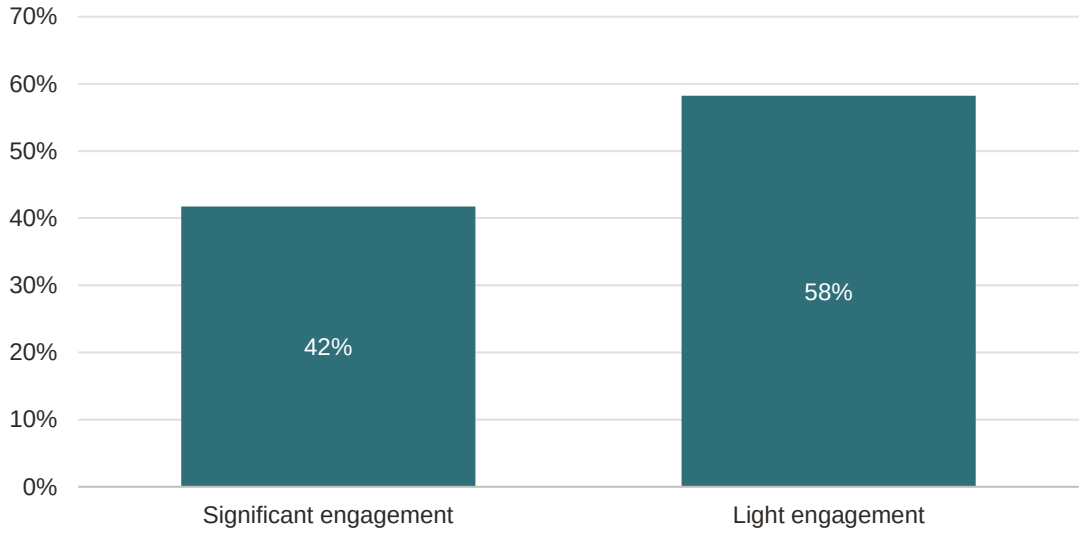
Note: *Base = 388 businesses. 1 business responded "Don't know" ; We have defined some additional sub-sectors in line with the responses recorded by respondents who indicated they were part of another industry sub-sector outside of those defined by DCMS. These include AI and data analytics and Immersive Technologies.*

Significant vs light engagement

The 2023 survey asked businesses to classify according to their level of engagement and familiarity with their CRDP. Businesses could opt between 'Very familiar – my business has engaged significantly with [name of CRPD]' Quite familiar - my business has engaged to some extent (for example, read a paper, attended an event); Heard of – but no interaction to date; 'Never heard of this organisation'. Our analysis classifies businesses as significant engagement businesses if they responded very familiar – my business has engaged significantly with the CRDP (we use this as our treatment group for some of the survey analysis contained in the following sections) and light engagement businesses for all other responses (we use this as the control group, recognising that the businesses in these two groups are not matched in any way and so our analysis is not a fully robust treatment and control analysis as it cannot control for all external causal factors, but if offers one way of exploring programme

additionality)[23]. Figure 39 shows that 42% of responding businesses are categorised as significant engagement businesses and the remaining 58% as light engagement businesses.

Figure 39 Distribution of businesses by level of engagement with the CRDP



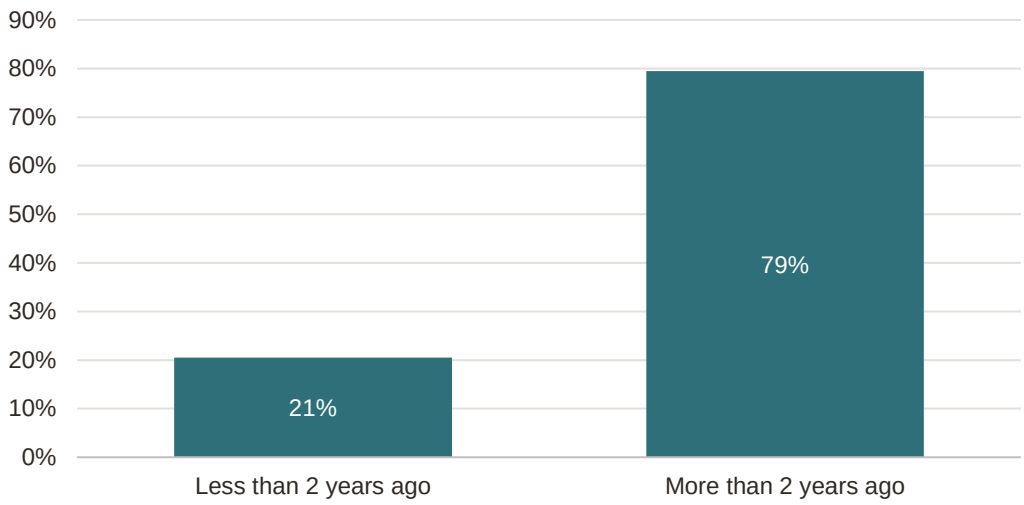
Source: Frontier Economics, BOP Consulting and SRI analysis.
Note: Base = 388: 1 business was unable to answer this question.

Time since CRDP support started

We distinguish between businesses for whom CRDP support started more than two years ago (21% of responses) and those for whom supported started within the last two years (79%) (Figure 55). This result suggests that a largely different set of businesses responded to this impact survey compared with those that responded to the 2020 baseline survey. It also limits our ability to draw strong conclusions on longer term impacts of the programme. We contacted all previous baseline survey respondents as part of this survey, the low response rate suggests perhaps a lack of interest/ motivation to respond because of time elapsed since the support, survey fatigue (unwillingness to engage in more than one evaluation survey), or unwillingness to engage because their recall of the support they received was diminished or perhaps because they felt that they had nothing additional to report beyond their responses in 2020.

[23] Note, the six respondents who indicated they had never heard of their CRDP were included in the initial set of 'light engagement' businesses but due to the nature of many of the questions which ask for opinion on CRDP impact, will be naturally screened out of many of the questions and analysis in the main report.

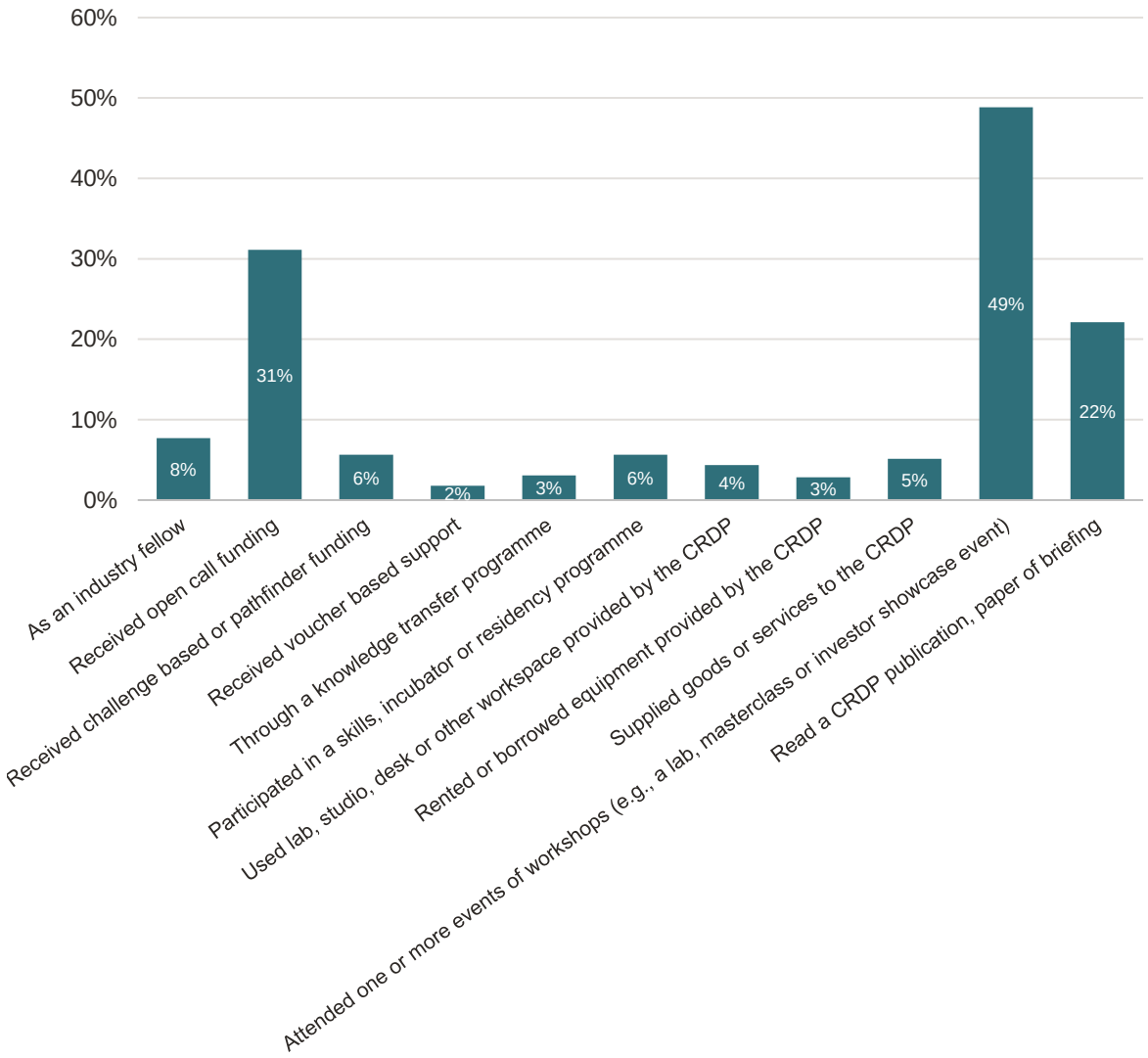
Figure 40 Distribution of businesses by date of first engagement with the CRDP.



Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 351 businesses*

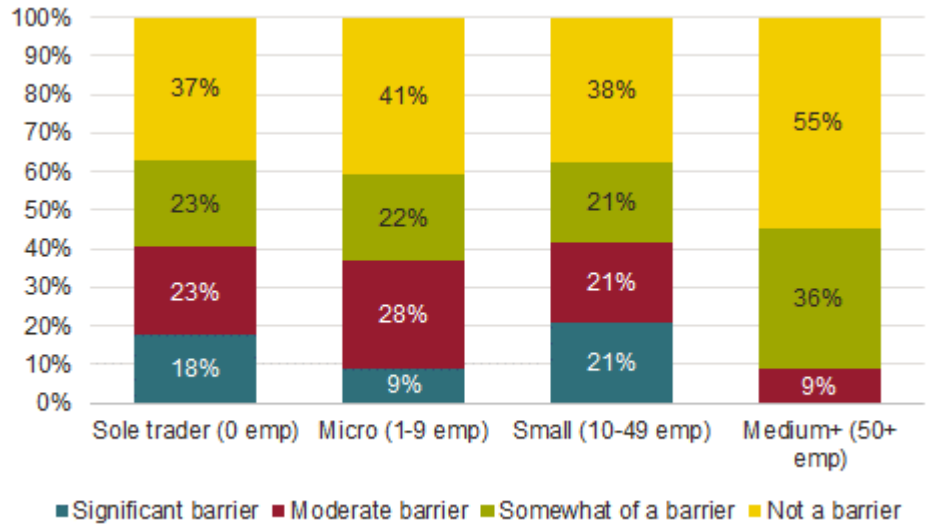
Annex B Additional survey analysis

Figure 41 Businesses' nature of engagement with their CRDP



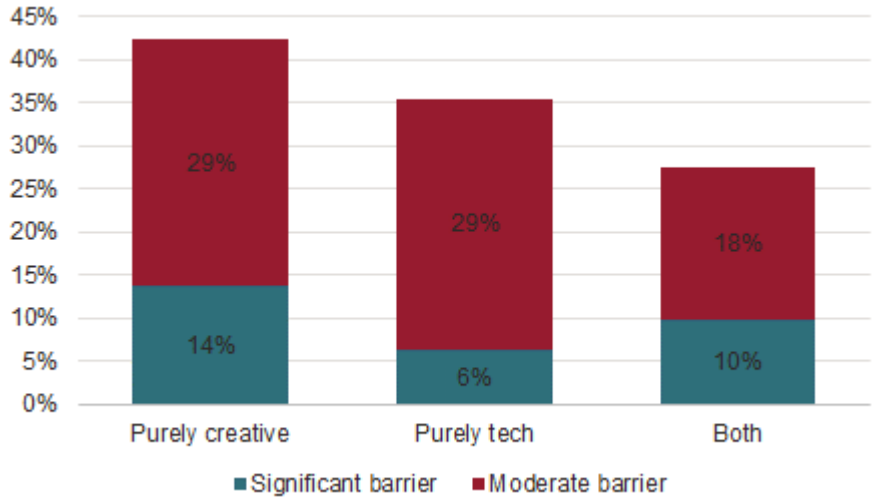
Source: *Frontier Economics, BOP Consulting and SRI analysis*
Note: *Base=389 businesses*

Figure 42 % businesses considering access to equipment and research facilities a barrier that could restrict ability or motivation to carry out applied research



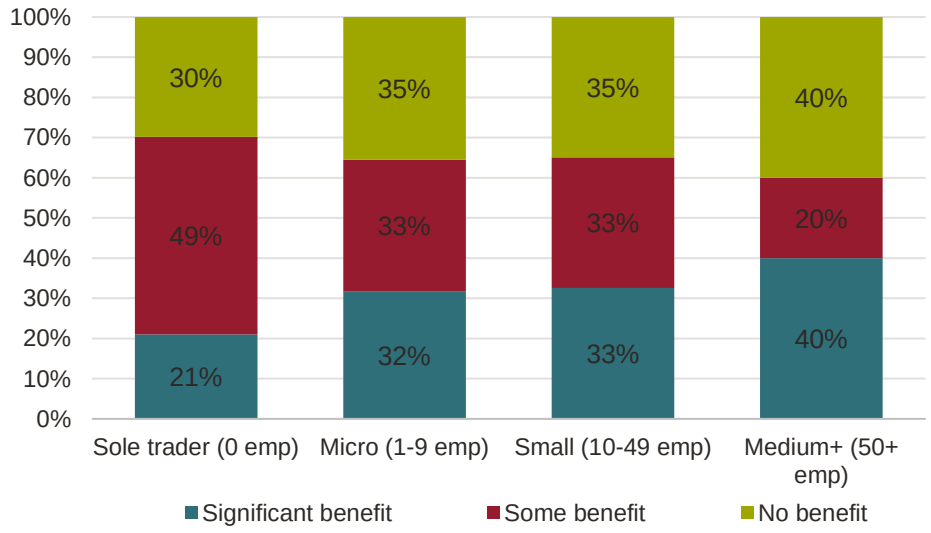
Source: *Frontier Economics, BOP Consulting and SRI analysis*
Note: *Base=324 SMEs: Sole trader (57); Micro (208); Small (48); Medium (11).*

Figure 43 % businesses considering access to equipment and research facilities a barrier that could restrict ability or motivation to carry out applied research – creative vs. tech



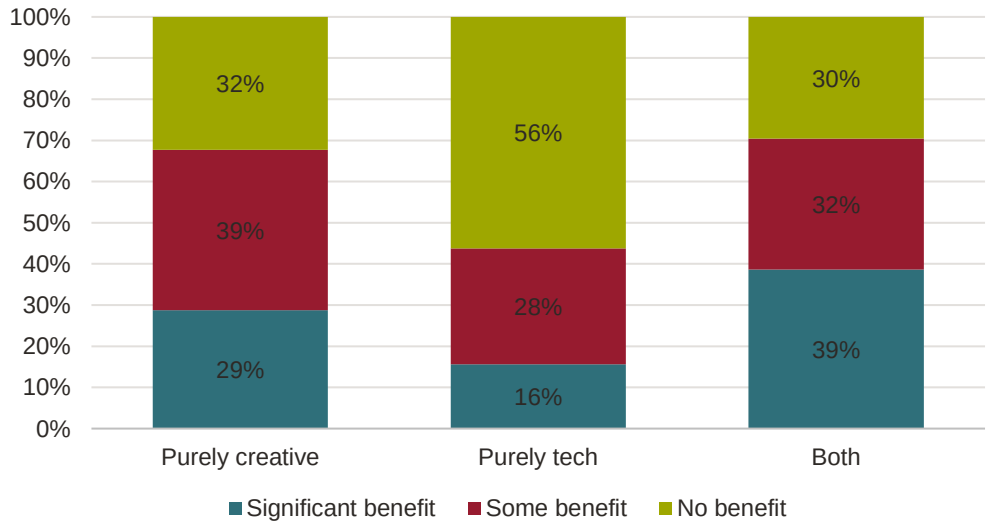
Source: *Frontier Economics, BOP Consulting and SRI analysis*
Note: *Base=324 SMEs: Sole trader (57); Micro (208); Small (48); Medium (11).*

Figure 44 % respondents with a better awareness of the benefits of carrying out data or technology-driven applied research as a result of the CICP – business size



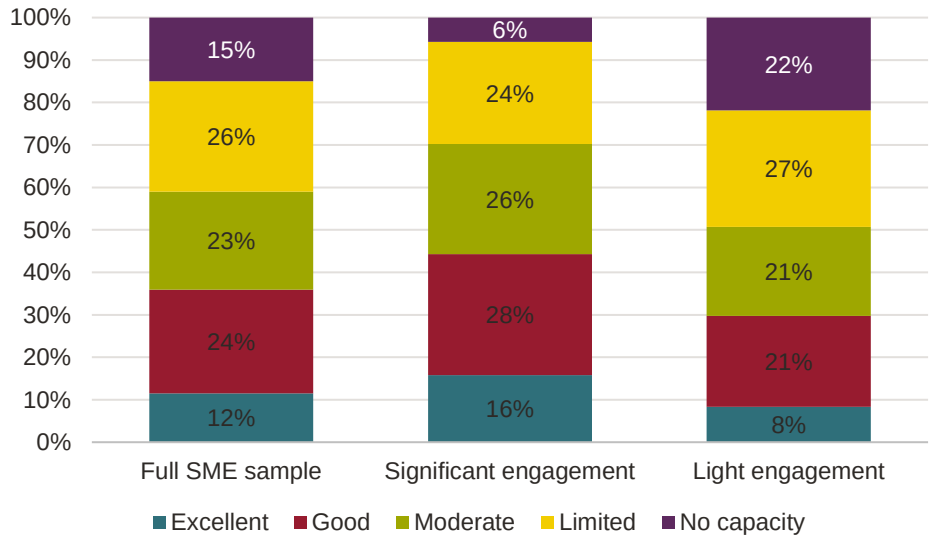
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 327 businesses (57 sole trader, 217 micro, 43 small, 10 medium+)*

Figure 45 % respondents with a better awareness of the benefits of carrying out data or technology-driven applied research as a result of the CICP – creative vs tech focus



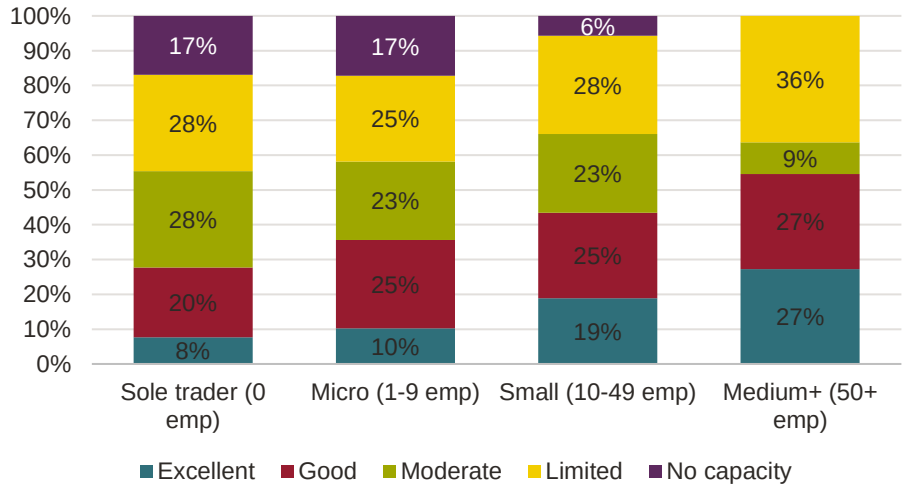
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 315 businesses (195 purely creative, 32 purely tech, 88 both).*

Figure 46 Capacity of respondent businesses to engage in data or technology-driven applied research, November 2023 - significant vs light engagement



Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 373 businesses (158 significant engagement, 215 light engagement)*

Figure 47 Capacity to engage in data or technology driven applied research (% respondents) – business size

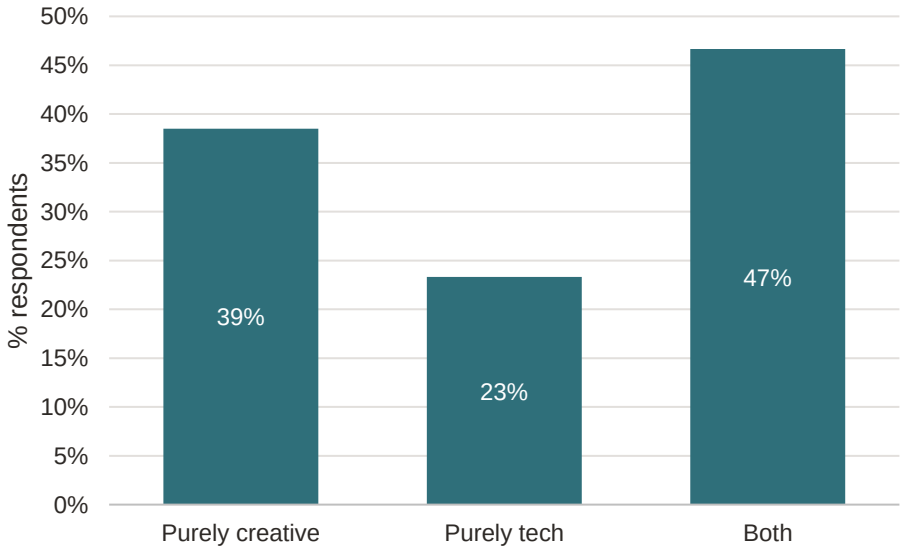


Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 373 businesses (65 sole trader, 244 micro, 53 small, 11 medium+)*

Figure 48 Capacity of respondent businesses to engage in data or technology-driven applied research, November 2023 - creative vs tech focussed

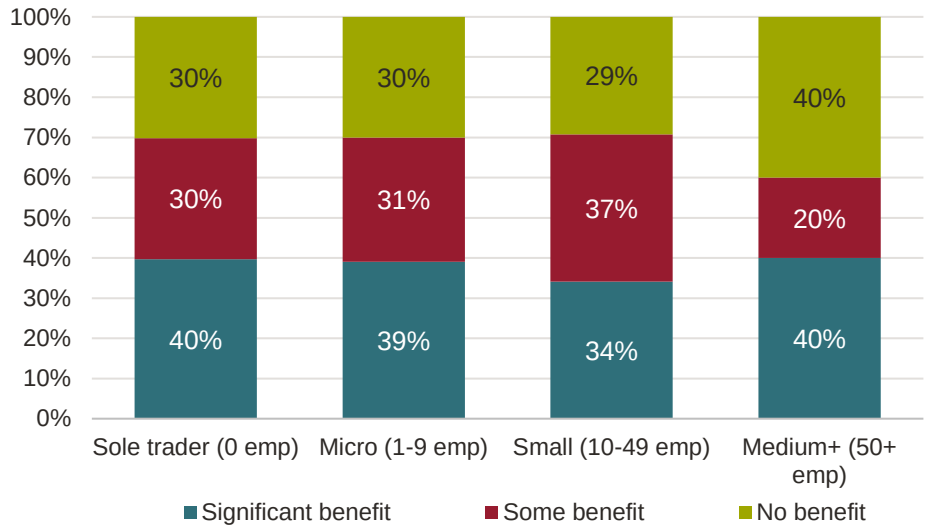
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 373 businesses (222 purely creative, 33 purely tech, 101 both)*

Figure 49 Did your interactions with your CRDP deliver a significant benefit in terms of having a wider network of research collaborators? – creative vs. tech



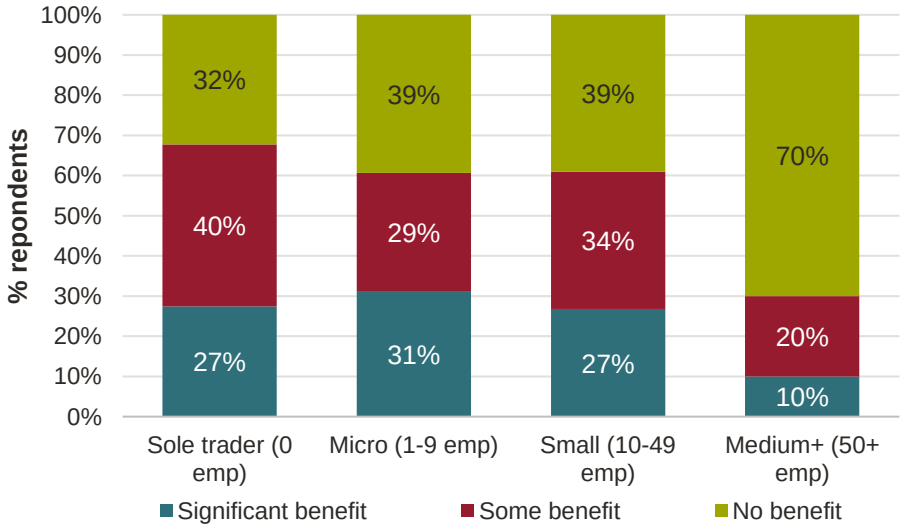
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Result based on those responding significant. Base = 320 businesses (200 purely creative, 30 purely tech, 90 both)*

Figure 50 Impact of the CRDP on creating a wider network of research collaborators by number of employees.



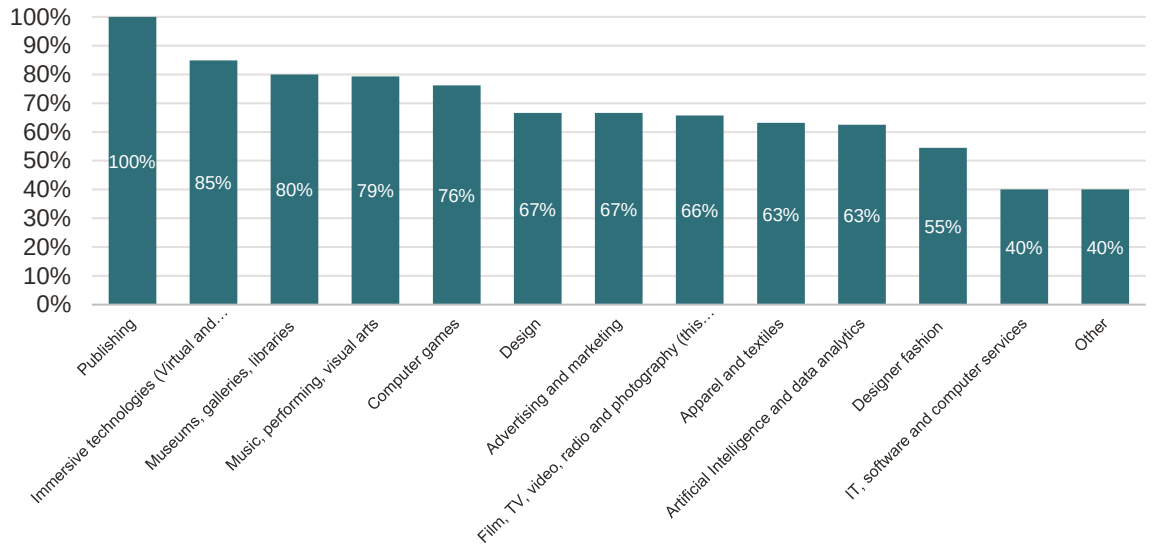
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 334 businesses (63 sole trader, 220 micro, 41 small, 10 medium+)*

Figure 51 Impact of the CRDP on creating a wider network of production/technical/digital specialists by number of employees.



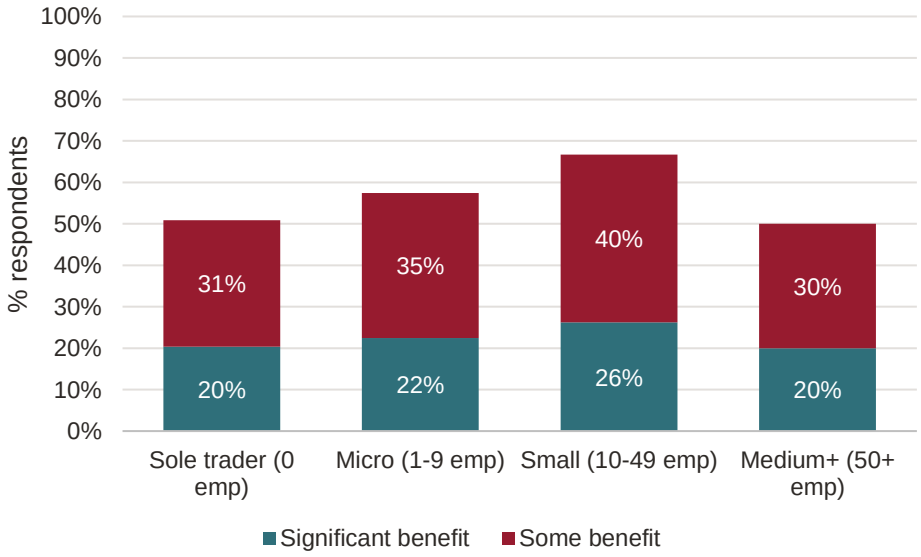
Source: *Frontier Economics, BOP Consulting and SRI analysis*
Note: *Base = 334 businesses (62 sole trader, 221 micro, 41 small, 10 medium+)*

Figure 52 Did your interactions with your CRDP deliver a benefit in terms of having a wider network of research collaborators? – by sector



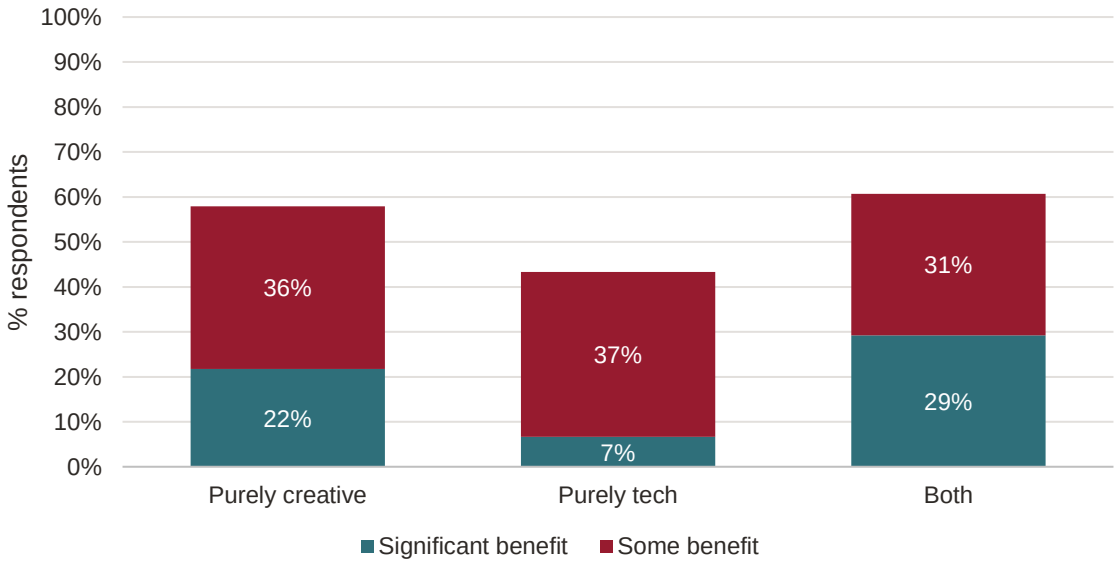
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 341 businesses.*

Figure 53 As a result of all your business's interactions with your CRDP have you benefitted from improved technical or data skills? – business size



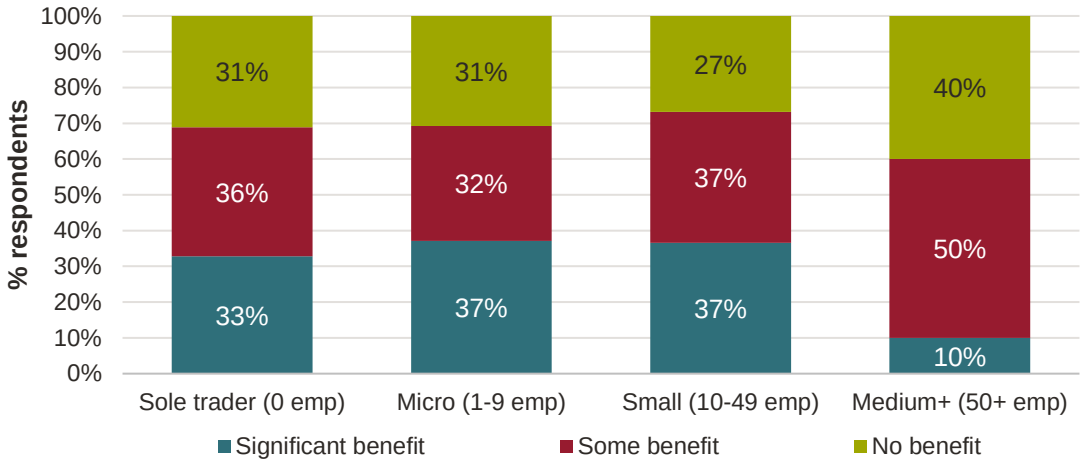
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 334 businesses (59 sole trader, 223 micro, 42 small, 10 medium+)*

Figure 54 As a result of all your business's interactions with your CRDP have you benefitted from improved technical or data skills? – creative vs tech



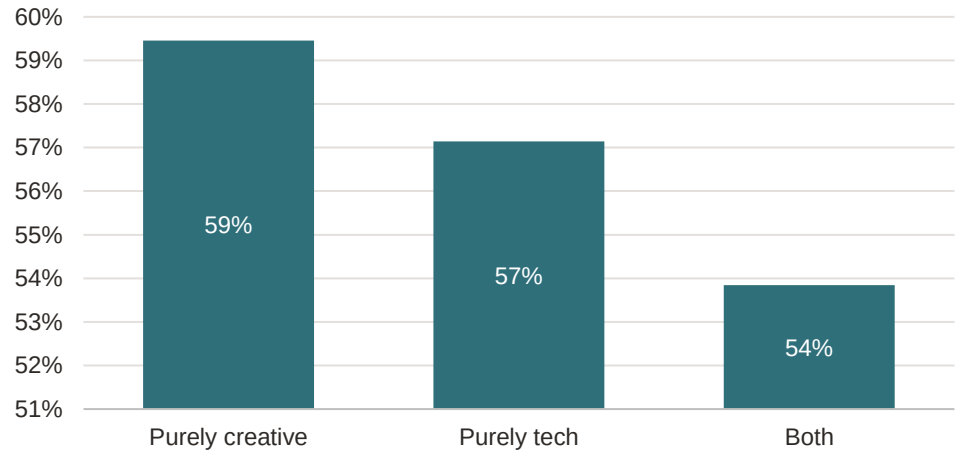
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 321 businesses (202 purely creative, 30 purely tech, 89 both)*

Figure 55 As a result of all your business's interactions with your CRDP have you been inspired from showcasing success and new ideas? – business size



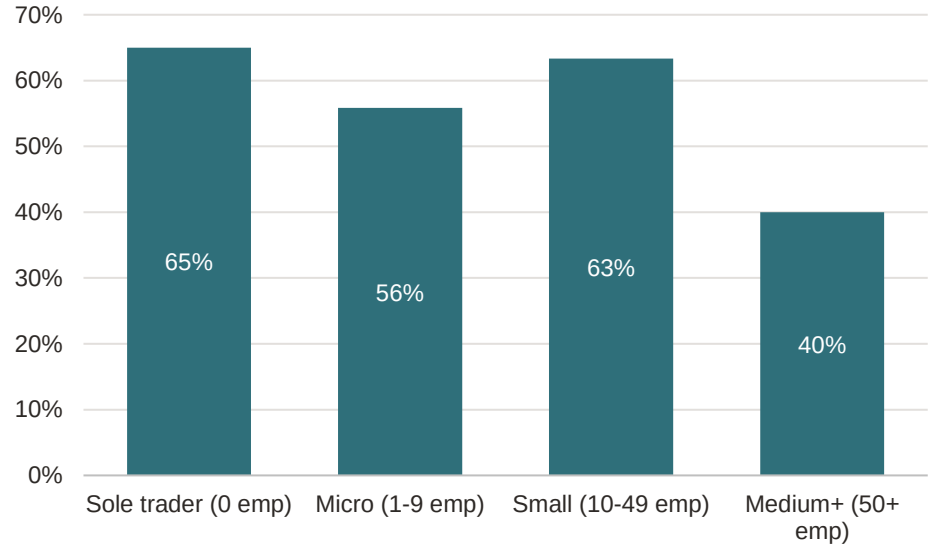
Source: *Frontier Economics, BOP Consulting and SRI analysis*
Note: *Base = 333 businesses (61 sole trader, 221 micro, 41 small, 10 medium+)*

Figure 56 Share of businesses who conducted the majority of their research in collaboration by type of business.



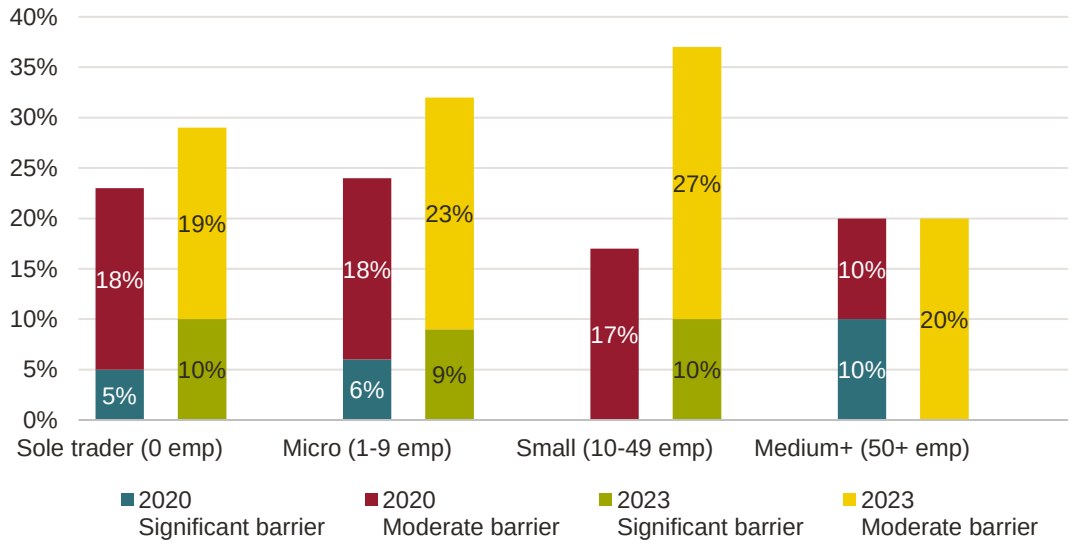
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 155 businesses (74 purely creative, 14 purely tech, 65 both)*

Figure 57 Share of businesses who conducted the majority of their research in collaboration by number of employees.



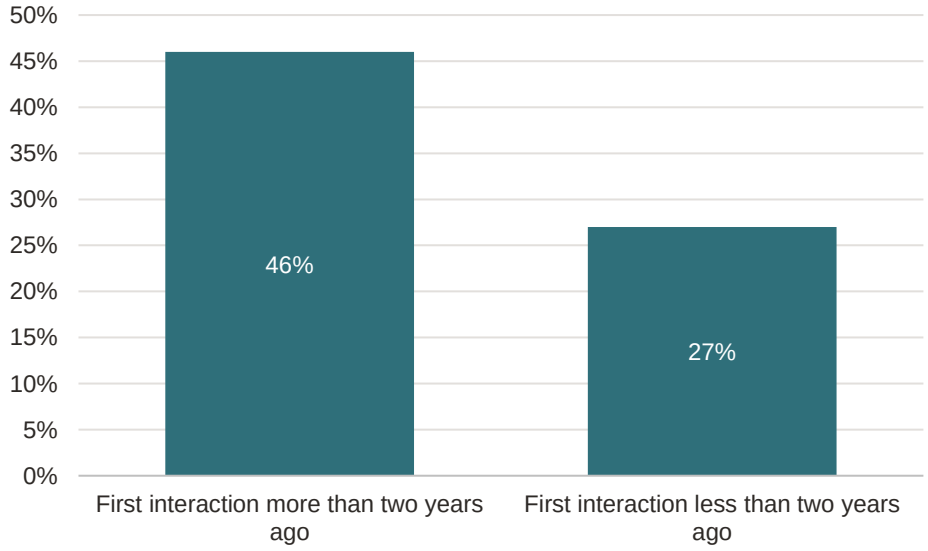
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 155 businesses (20 sole trader, 120 micro, 30 small, 5 medium+)*

Figure 58 All SMEs stating technical skills as a significant or moderate barrier by number of employees, 2020 vs 2023



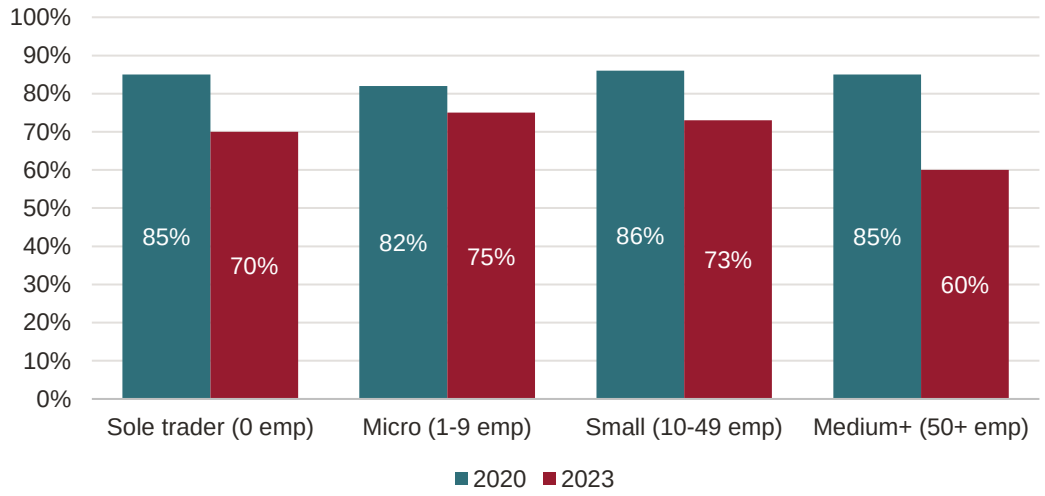
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 342 businesses (2023)*

Figure 59 All SMEs stating technical skills as a significant or moderate barrier by first interaction with the CRDP



Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 314 businesses (251 more than, 63 less than)*

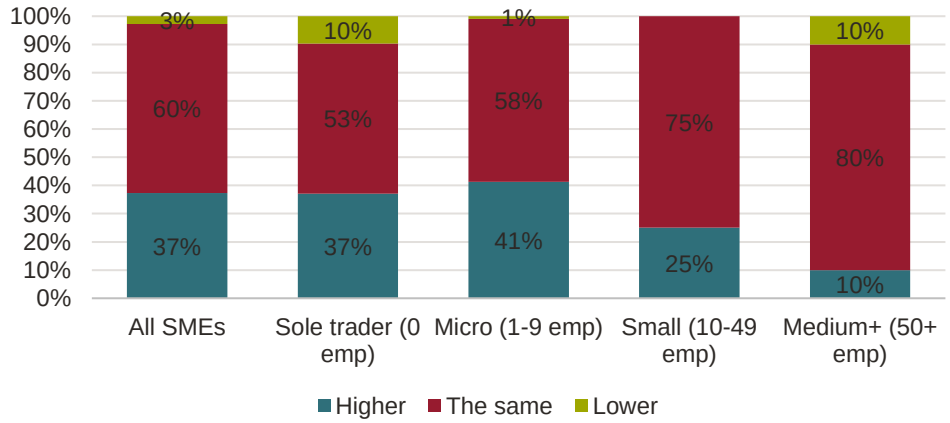
Figure 60 How important are reducing environmental impacts and reducing socio-economic barriers and inequalities to your decision to invest in data and/or technology-driven applied research? – 'highly important' by business size



Source: *Frontier Economics, BOP Consulting and SRI analysis*

Note: *2020 Base = 364 businesses (that had carried out data or technology-driven applied research in the last 12 months). Samples sizes for the size groups are: Sole traders (53), Micro (242), Small (49), Medium and Large (20).*

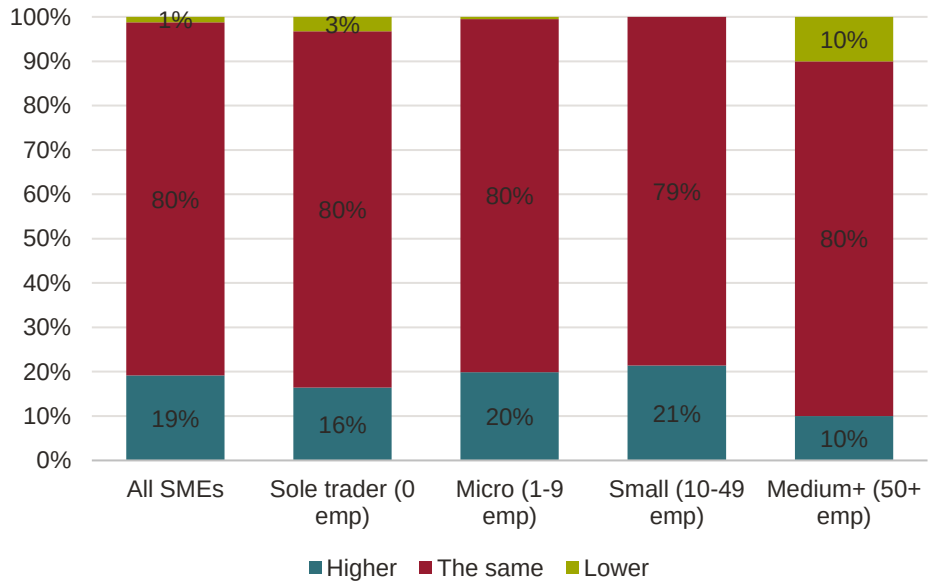
Figure 61 % of businesses reporting a change in turnover as a result of their engagement with the CRDP - business size



Source: *Frontier Economics, BOP Consulting and SRI analysis*

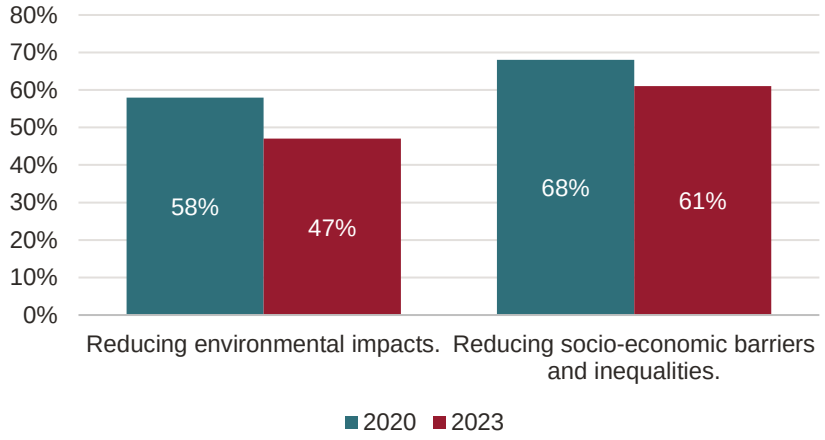
Note: *Base = 322 businesses (62 sole trader, 206 micro, 44 small, 10 medium+)*

Figure 62 % businesses reporting a change in employment as a result of engagement with the CRDP – business size



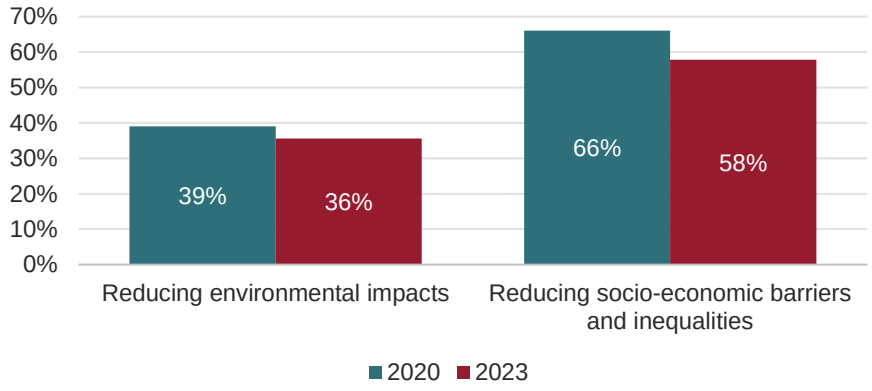
Source: *Frontier Economics, BOP Consulting and SRI analysis*
Note: *Base = 324 businesses (61 sole trader, 211 micro, 42 small, 10 medium+)*

Figure 63 How important are reducing environmental impacts and reducing socio-economic barriers and inequalities to your decision to invest in data and/or technology-driven applied research? all sub-sectors– 'highly important'



Source: *Frontier Economics, BOP Consulting and SRI analysis*
Note: *Base = 156 (environmental), 155 (social) – 2023.*

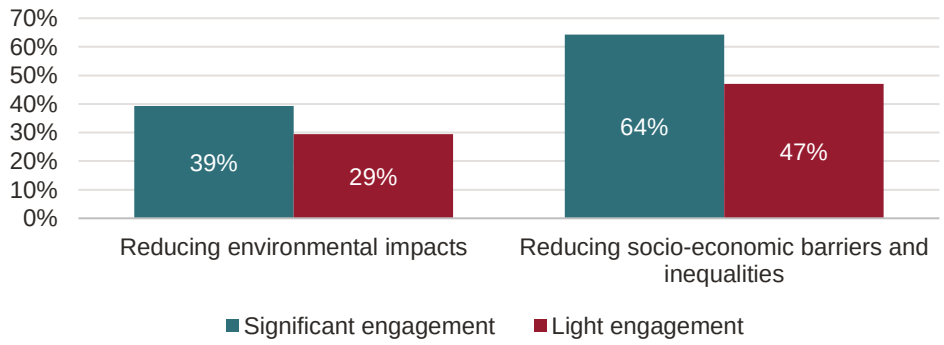
Figure 64 How important are reducing environmental impacts and reducing socio-economic barriers and inequalities to your decision to invest in data and/or technology-driven applied research? - Screen-related, 'highly important'



Source: *Frontier Economics, BOP Consulting and SRI analysis.*

Note: *Base = 45 businesses within the sector Film, TV, video, radio and photography (this includes animation) and "Computer games".*

Figure 65 How important are reducing environmental impacts and reducing socio-economic barriers and inequalities to your decision to invest in data and/or technology-driven applied research? - Screen-related, 'highly important', signifiicant vs light engagement



Source: *Frontier Economics, BOP Consulting and SRI analysis*

Note: *Base = 45 businesses within the sectors "Film, TV, video, radio and photography (this includes animation)" and "Computer games" (28 significant engagement, 17 light engagement).*

Figure 66 How important are reducing environmental impacts and reducing socio-economic barriers and inequalities to your decision to invest in data and/or technology-driven applied research? - Fashion and textiles, 'Highly important'

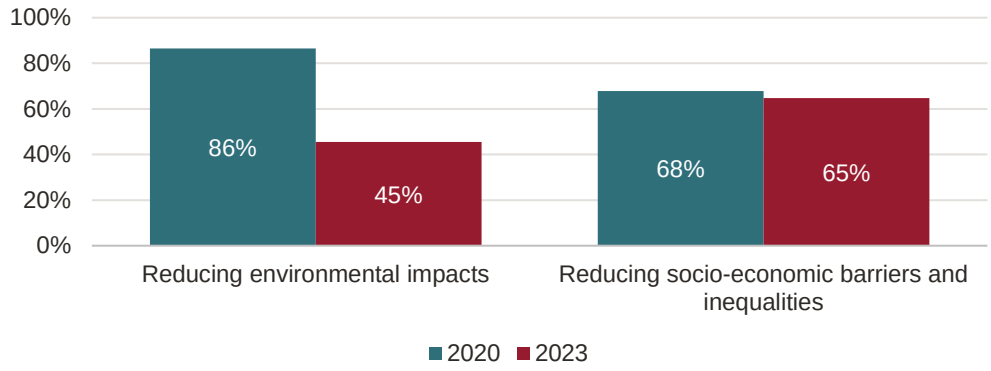
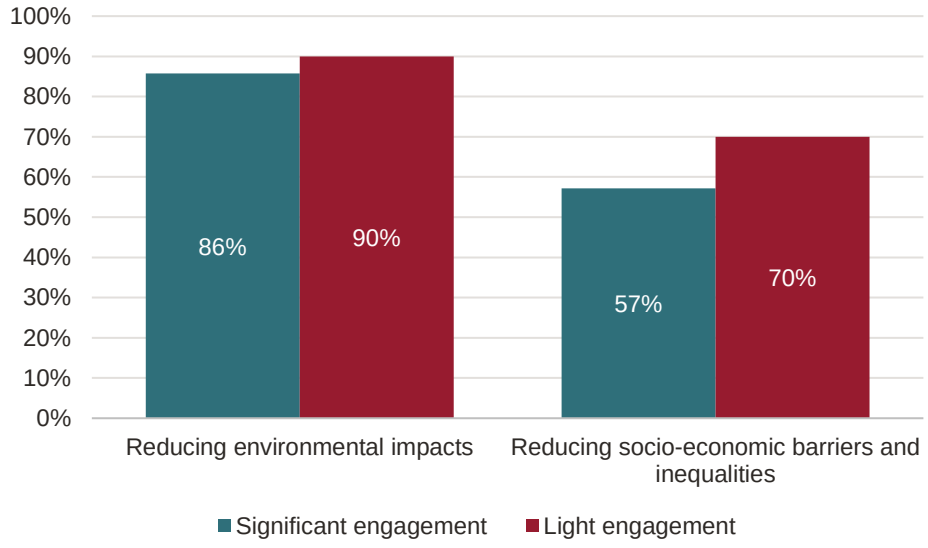
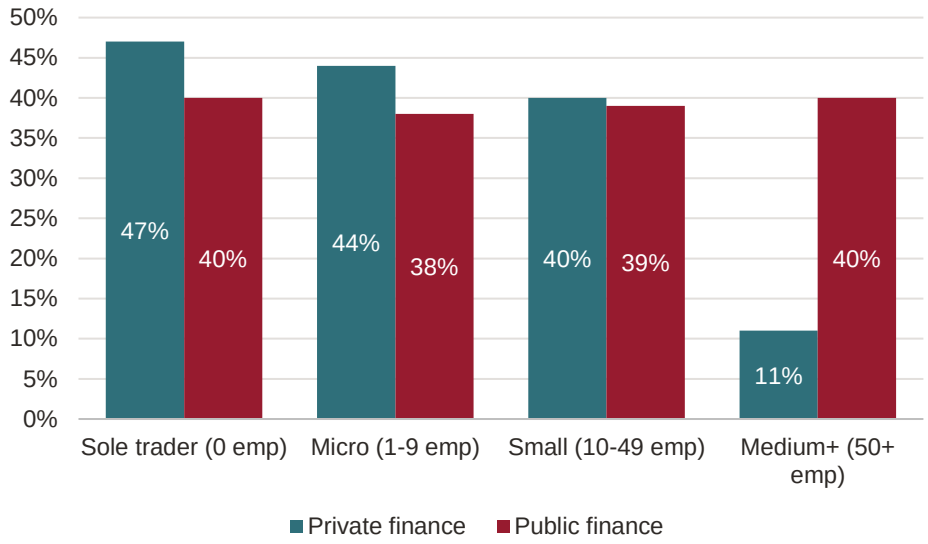


Figure 67 "How important are reducing environmental impacts and reducing socio-economic barriers and inequalities to your decision to invest in data and/or technology-driven applied research?" - Fashion and textiles, significant vs light engagement



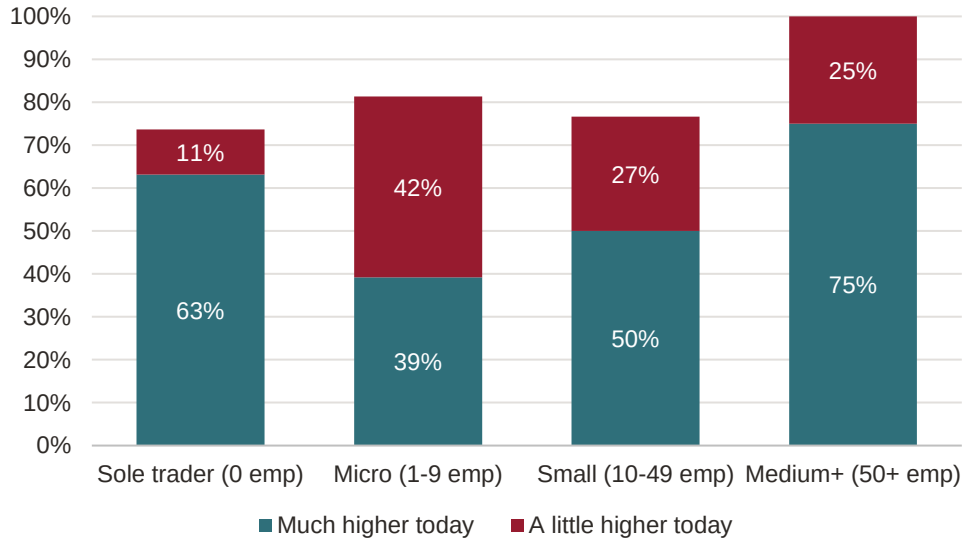
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 50 businesses within the sectors "Apparel and textiles" and "Designer fashion"*

Figure 68 % businesses stating that access to private finance and public finance/funding for applied research is a significant barrier – business size



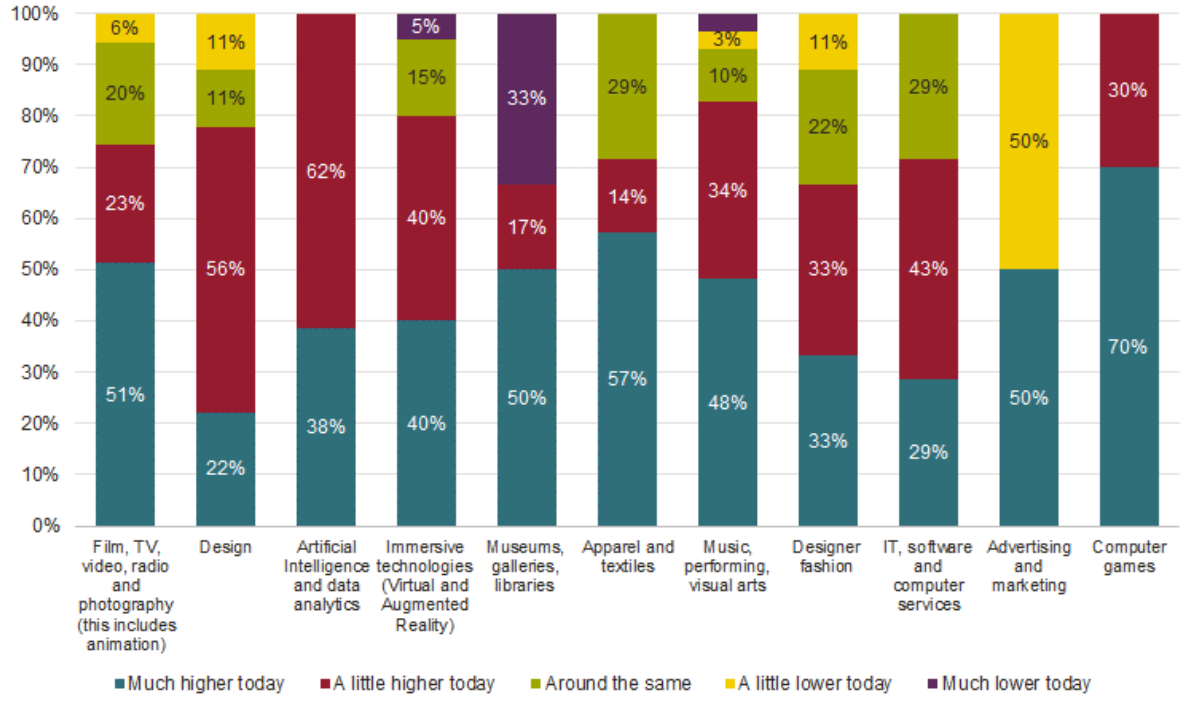
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 55 / 57 sole trader, 203 / 213 micro, 47 / 49 small, 9 / 10 medium+ for private / public finance.*

Figure 69 Investment levels vs. 3 years ago by size



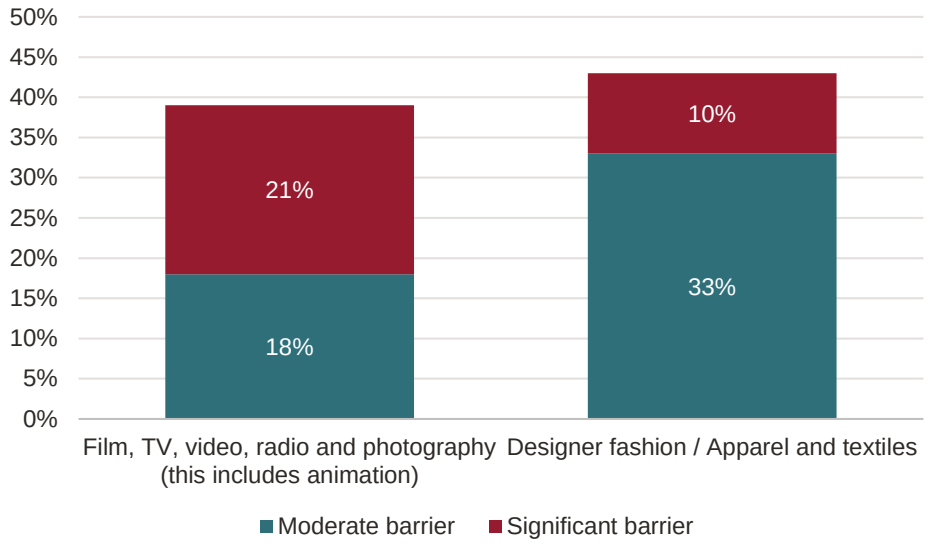
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 155 businesses (19 sole trader, 102 micro, 30 small, 4 medium+)*

Figure 70 Investment levels vs. 3 years ago by sector



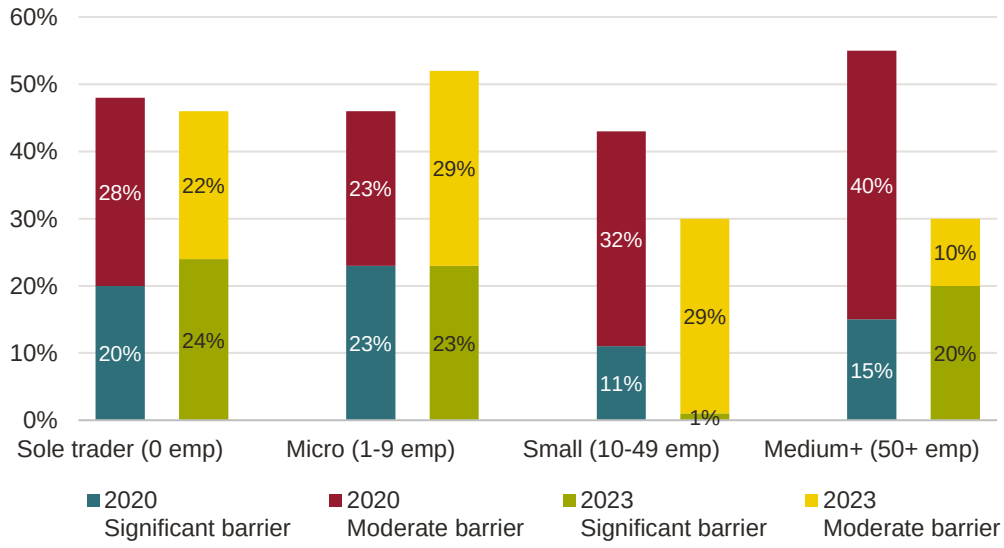
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 155 businesses.*

Figure 71 Access to international markets was a significant barrier by sector (2023)



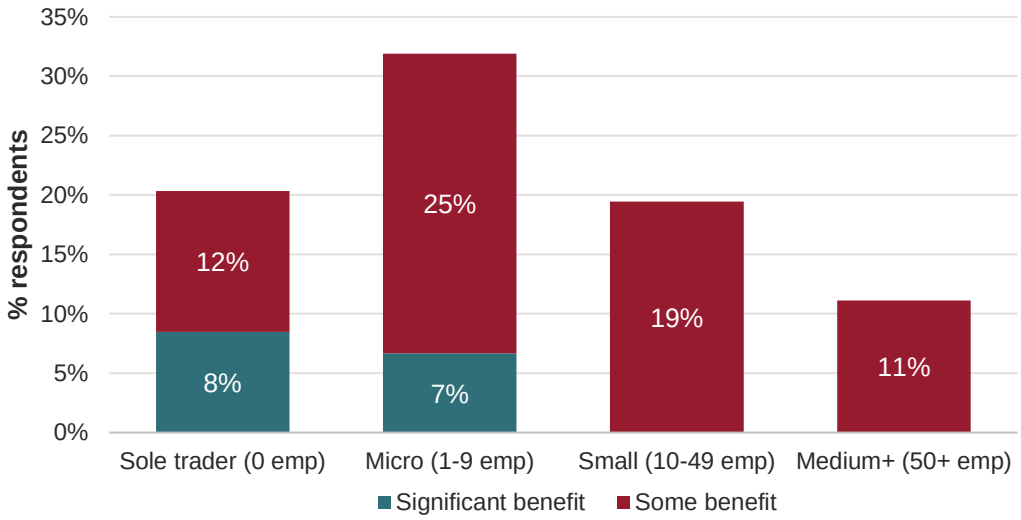
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 107 (film sector), 49 (design and apparel) businesses*

Figure 72 Access to international markets was a significant barrier by size, 2020 vs 2023



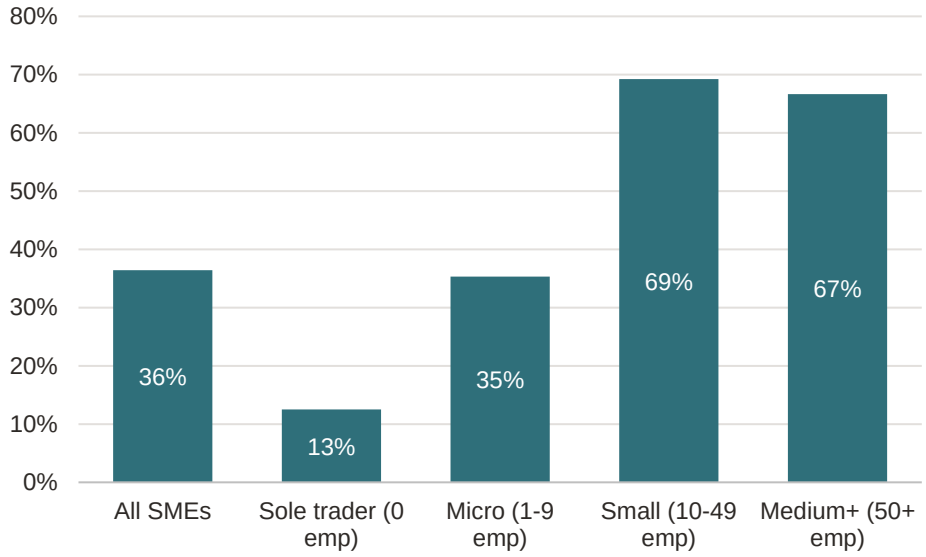
Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 319 businesses (2023)*

Figure 73 CRDP's impact on creating better awareness for overseas opportunities - business size (2023)



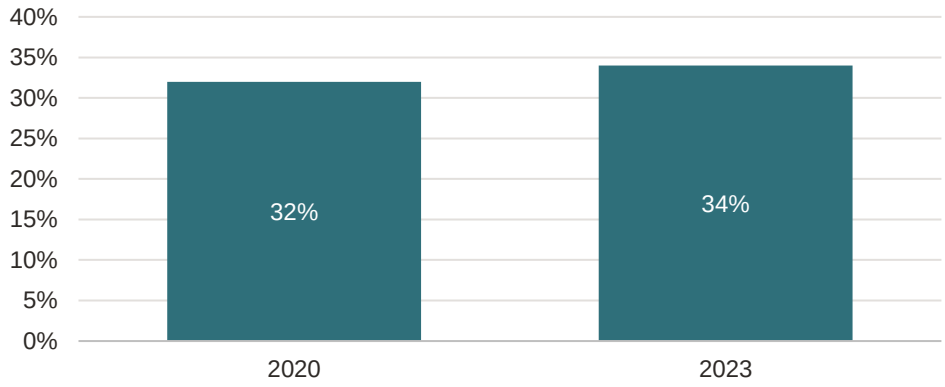
Source: *Frontier Economics, BOP Consulting and SRI analysis*
Note: *Base = 314 businesses (59 sole trader, 210 micro, 36 small, 9 medium+)*

Figure 74 % of firms reporting overseas sales by size of company (FY 2022-23).



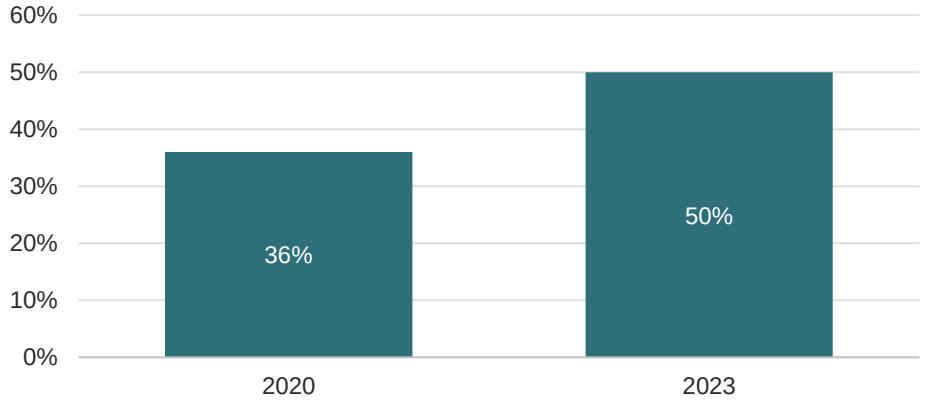
Source: *Frontier Economics, BOP Consulting and SRI analysis*
Note: *Base = 305 businesses (56 sole trader, 201 micro, 39 small, 9 medium+)*

Figure 75 % of firms reporting overseas sales in the film sector, inc. computer games, 2020 vs 2023



Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 103 businesses (2023), 83 in the film sector and 20 in the computer games sector*

Figure 76 % of firms reporting overseas sales in the fashion and apparel sector, 2020 vs 2023



Source: *Frontier Economics, BOP Consulting and SRI analysis.*
Note: *Base = 40 businesses (2023)*

Annex C The evaluation indicators and metrics

These tables are repeated from the Phase One evaluation framework report. They present the 21 evaluation success indicators and 58 metrics by theme.

Figure 77 Theme 1 metrics – creating an environment for new and experimental creative content, products, services and experiences

Success Indicator	Metric (quantitative)	Metric (qualitative)
SI1. Cluster businesses and researchers have a better understanding of the benefits of engaging in applied research in the creative industries, and are better equipped to engage in future applied research	1. No. of businesses and academics taking part in CRDP applied research projects and events	2.Cluster business and researcher awareness and understanding of the new models of applied research being trialled and promoted by the CRDPs and evidence that this is incentivising CI researchers and businesses to invest in more applied research
SI2. CRDPs, UKRI, AHRC and their stakeholders are more aware of, and have a better understanding of, what successful models of collaborative applied research and innovation in the creative industries look like	-	3. CRDPs, UKRI and AHRC identify and develop successful models of creative industries collaborative applied research and innovation
		4. There is broad awareness amongst CRDP, UKRI and AHRC stakeholders of the different models of CI applied research developed through the CICP
SI3. The CRDPs inform and influence CI innovation, skills, collaboration and growth policy decisions at the city region/ devolved nation and UK level [note: city region level evidence from this SI will also inform Theme 4 (addressing key place-based sector issues through applied research programmes)]	5. No. policy relevant research and publications produced by the CRDPs and citations in government publications.	*6.Evidence that the data supplied to the PEC by CRDPs is being used to generate CI insights – NOTE – this is no longer relevant and, as agreed with AHRC, will be removed from future evaluation phases.*
		7. Evidence that the CRDPs are informing and influencing government investment and policy decisions at city region, devolved nation and national level, and that as a result there is a clearer link between CI applied research and regional growth policies
		8. Evidence that there is a clearer link between CI applied research and regional growth policies as a result of CRDP policy influence
SI4. The programme stimulates and supports emerging creative industries markets (e.g., by demonstrating the commercial viability of new products, tools and services) that incentivise innovation within the clusters	9. No. CI related innovative MVPs developed through the CRDP programmes 10. No. innovative CI related MVPs or services that are supported through to market by the CRDP programmes	11. Cluster business (including challenge setters and potential beneficiaries) and researcher opinion on the role and additionality of the CRDPs in stimulating and supporting new markets for innovative CI products and services (within and outside of the CIs)
SI5. The clusters are recognised by a broad range of national and international stakeholders as leading locations for CIs and related research		12. National and international stakeholder opinion on the role of the CRDPs promoting the clusters as leading locations for CIs and related research

Source: Frontier Economics and BOP Consulting

Figure 78 Theme 2 metrics – Generating long-term strategic applied research partnerships

Success Indicator	Metric (quantitative)	Metric (qualitative)
SI6. CRDPs provide creative industries researchers and entrepreneurs with improved access to the infrastructure and assets they need to collaborate and innovate	13. Value of CRDP investment + leveraged investment in shared collaboration workspaces, specialist facilities, technical assets and services	15.User assessments of the value added by the CRDP infrastructure/asset investments
	14. No. creative researchers accessing/using the collaboration workspaces, specialist facilities, technical assets and services that the CRDPs have invested in	
SI7. CRDP programmes generate new applied research partnerships driving the overall number and diversity of long-term intra-cluster B2B and HEI-industry collaborations	16. No. of new long term applied research partnerships generated by the CICP between CI businesses, HEI, other stakeholders (including international)	19. Comparison over time of the composition of new long term applied research partnerships (e.g., in terms of B2B, HEI-industry, linking small and large businesses, inter-CRDP, links with overseas).
	17. No. of cross-CRDP applied research partnerships generated by the CICP	
	18. No academic publications reporting CRDP research and no. citations received	
SI8. HEIs are recognised as being instrumental in driving the creation of new, productive applied research partnerships within the creative industries	*[Note – metric 16 'No. of new long term applied research partnerships generated by the CICP between CI businesses, HEI, other stakeholders (including international)' will also inform this success indicator]*	20. Stakeholder opinion on the role and success of the CRDP HEIs in driving the creation of new, productive, applied research partnerships within the creative industries

Source: Frontier Economics and BOP Consulting

Figure 79 Theme 3 metrics – Improving creative and digital enterprises' ability to access skills, knowledge and expertise

Success Indicator	Metric (quantitative)	Metric (qualitative)
SI9. The CRDPs arrange training, mentoring, and HEI placements that provide creative industries entrepreneurs with new creative and digital cross-disciplinary skills which enable them to carry out technical/data driven innovation	21. No. of businesses/individuals trained or mentored through the CICP	24. Business / researcher opinion on whether skills, knowledge and expertise acquired through the CRDPs is enabling businesses and researchers to carry out (more) technical/data driven innovation [Note – this information will inform SI9 and SI10]
	22. No. of creative industries entrepreneurs involved in secondments or placements organised through the CICP	
	23. % supported businesses/individuals acquiring new and valuable specialist/cross-disciplinary skills from the CRDPs which enable them to carry out technical/DDI	
SI10. Researchers and HEI students acquire new knowledge around creative and digital innovation through new courses designed by HEIs and through industry placements	25. No. researchers and HEI students benefitting from new course designs / course components that were informed by the CICP	27. Researcher/student opinion on the creative and digital knowledge gained through the new course designs
	26. No. researchers/ HEI students benefitting from industrial placements	28. Researcher/student opinion on the creative and digital knowledge gained through industry placements
SI11. New knowledge created by the programme is disseminated in a wide range of forms throughout the clusters in a way that is valuable and accessible by creative and digital enterprise (in the cluster/sector)	29. No. reports and datasets shared by the CRDPs and no. people accessing these	32. Stakeholders opinion on whether reports, datasets, events are accessible, valuable and equip them to carry out applied research
	30. No. new/repeat businesses, individuals and researchers attending CRDP events	33. Stakeholder opinion on whether the CICP has led to greater amounts of knowledge and idea sharing within and across clusters and the value of this
	31. % researchers and businesses that are more aware of the research and collaboration opportunities (with other SME and larger businesses/HEI) within their clusters	34. Stakeholder opinion on level of awareness of research collaboration opportunities within the clusters amongst HEI researchers/CI entrepreneurs/ CI larger firms located within the clusters
SI12. The clusters become increasingly attractive as a place to set up a business and work for people with cross-disciplinary creative and digital skills	35. No. individuals with inter-disciplinary creative-technical skills working in the city region/CI sub-sector	36. Stakeholder opinion on whether the CRDP is making the cluster more attractive to highly skilled technical creatives as a place to work or establish a business
		37. Stakeholder (cluster CIs) opinion on whether access to digital/creative skills within the city region/sector is improving and can be attributed to CRDP activity

Source: Frontier Economics and BOP Consulting

Figure 80 Theme 4 metrics – addressing key place-based sector issues through applied research programmes

Success indicator	Metric (quantitative)	Metric (qualitative)
SI13. CRDPs demonstrate better understanding of cluster issues and opportunities and feed this into their strategic decision making	-	38. Stakeholder opinion on whether CRDPs have more understanding of the key issues and opportunities within individual clusters and are able to make more informed strategic decisions
SI14. The CRDPs commission applied research projects that succeed in addressing key issues to unlock creative industries growth for the city region and/or the sub-sector	39. No. of research projects funded through the CRDPs addressing these issues for the city region and/or sub-sector 40. Evidence of project success in terms of meeting CRDP pre-defined project objectives and unintended costs/benefits	41. Stakeholder opinion on whether the outputs of these projects are effective in addressing the issues for the city region and/or sub-sector
SI15.The applied research projects result in the creation of creative industries tools, products, services and exploitable IP that are marketed or shared both nationally and internationally	42. No. and % of CRDP funded research projects that produce novel creative industries tools, products, services, exploitable shareable IP 43. No. and % of the research projects where the products, services, tools and IP they create are still being developed or have reached market	-
SI16. The clusters' programmes and economic outcomes are aligned with, and contribute to wider city region economic development strategies (e.g. LIS / LES, Inclusive Growth Strategies).	*[Note: metrics 46-50, and 55-58 are relevant to this SI]*	44. Stakeholder and documentary evidence that the CRDPs' aims and outcomes contribute to wider sustainable city region growth strategies

Source: Frontier Economics and BOP Consulting

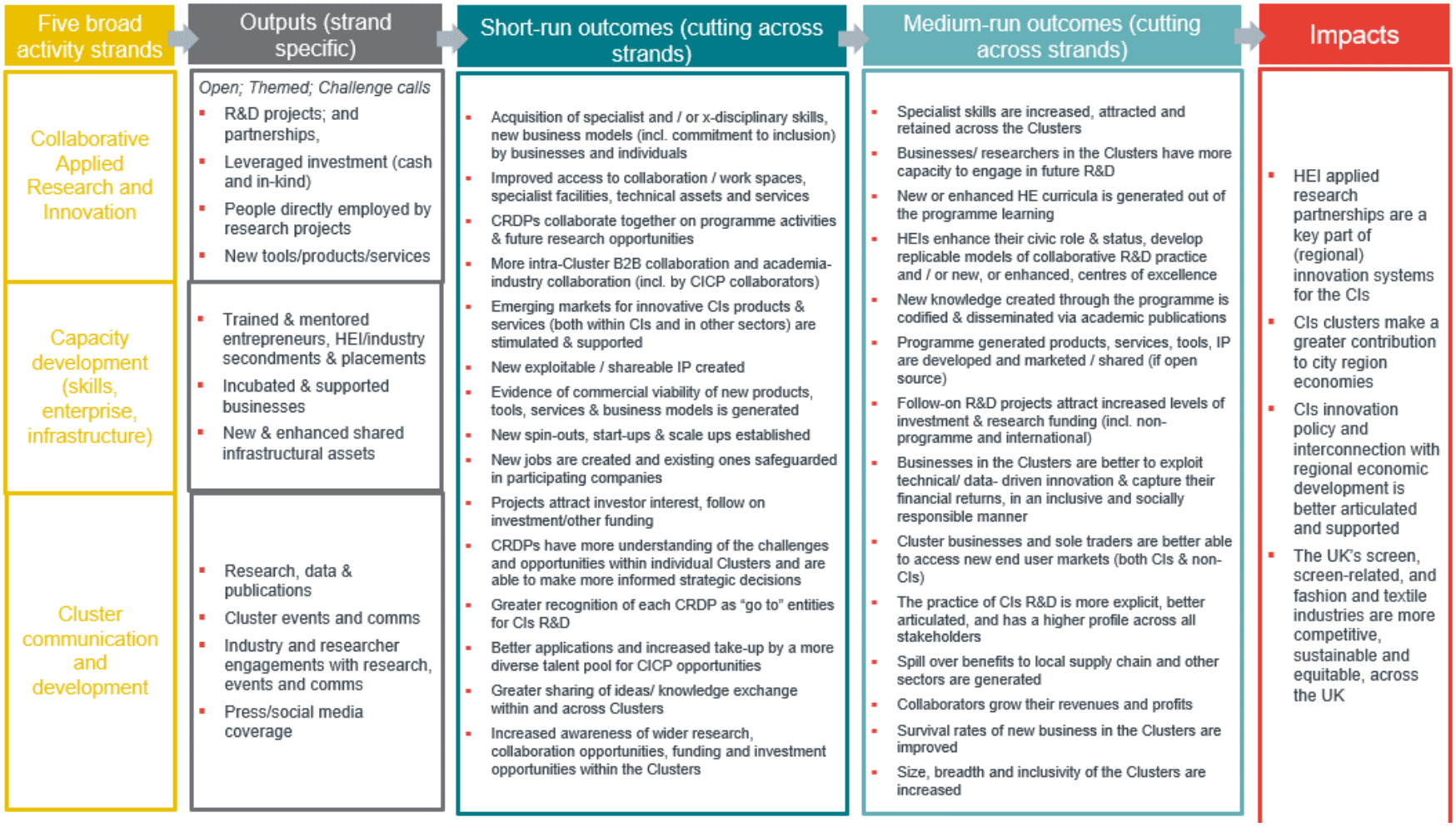
[Insert Notes]

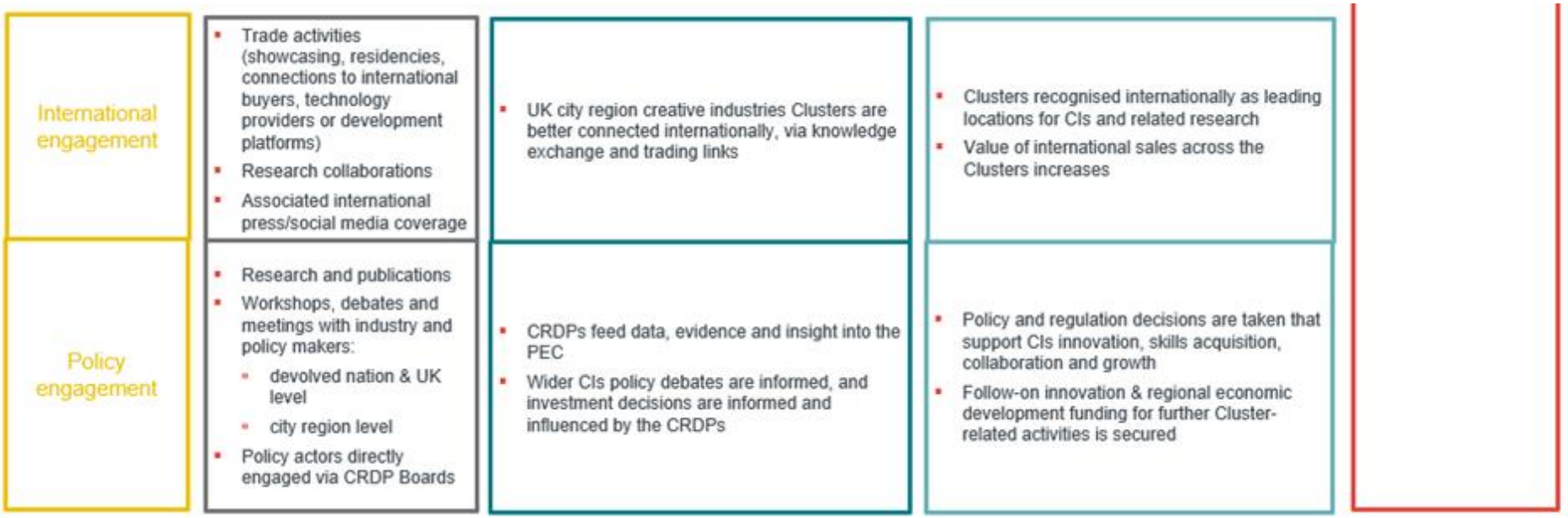
Figure 81 Theme 5 metrics - generating economic and social benefits

Success indicator	Metric (quantitative)	Metric (qualitative)
SI17. The CRDPs support the creation and growth of a diverse mix of socially responsible inclusive and innovative creative businesses which collectively make an increasing contribution to city region economies.	45. No. business spin outs, start-ups, scale-ups resulting from CRDP activity in the relevant cluster CI sub-sectors and areas (city region, sector…)	48. Evidence of an increasingly diverse mix of businesses in the Clusters (in terms of the characteristics of the people employed or leading the businesses; and/or the nature of the businesses themselves)
	46. Performance (employment, turnover, survival rate) of CI businesses created/ supported through CRDP programmes	49. Evidence of CRDP-supported businesses adopting socially responsible practices (e.g., by producing outputs that address environmental challenges or issues of social equity/justice)
	47. % city region turnover, employment, GVA accounted by CIs (relevant city region focused CRDPs only)	50. Evidence of CRDP-supported businesses adopting socially inclusive and responsible HR practices (e.g., avoiding zero-hour contracts, unpaid internships, and hiring people from disadvantaged backgrounds)
SI18. The UK screen, screen-related and fashion & textiles industries are more sustainable and equitable.	-	51. Stakeholder evidence of a more representative workforce and entrepreneurial base within the UK screen, screen related and fashion and textiles industries and on the diffusion process
		52. Stakeholder evidence of a more environmentally efficient UK screen, screen-related and fashion industry as a result of CRDP activities and on the diffusion process
SI19. The UK screen, screen-related and fashion & textiles industries are more competitive.	53. Value of international sales across the CRDPs for the UK screen, screen related and fashion and textiles industries (c.f. metric 58)	54. Stakeholder evidence that the UK screen, screen related and fashion and textiles industries are becoming better connected internationally
SI20. Cluster businesses are better informed and connected with potential investment and (non-CICP) funding sources, resulting in increased levels of CI investment and funding within the cluster/sector (depending on cluster)	55. Value of investment and other funding (not including CICP funding) received by business supported by the CRDPs, including follow on investment after leaving the programme	56. Cluster business' opinion on how well informed the community is on investment and wider funding opportunities, how to access these, and the role of the CRDPs in providing this information
SI21. The CRDP successfully develops trade links which enable cluster businesses to start exporting to new markets and for international sales to increase across the clusters	57. Value of international sales across the CRDPs for the relevant sub-sectors/geographies	58.Stakeholder evidence on the creation and strengthening of trade links between city regions and clusters and international markets and the role of the CRDPs

Source: Frontier Economics and BOP Consulting

Annex D The CICP CRDP impact evaluation logic model




International engagement
Trade activities (showcasing, residencies, connections to international buyers, technology providers or development platforms)
Research collaborations
Associated international press/social media coverage
UK city region creative industries Clusters are better connected internationally, via knowledge exchange and trading links
Clusters recognised internationally as leading locations for CIs and related research
Value of international sales across the Clusters increases
Policy engagement
Research and publications
Workshops, debates and meetings with industry and policy makers:
devolved nation & UK level
city region level
Policy actors directly engaged via CRDP Boards
CRDPs feed data, evidence and insight into the PEC
Wider CIs policy debates are informed, and investment decisions are informed and influenced by the CRDPs
Policy and regulation decisions are taken that support CIs innovation, skills acquisition, collaboration and growth
Follow-on innovation & regional economic development funding for further Cluster-related activities is secured