



## Cornwall and Isles of Scilly 2007 - 2013 ERDF Convergence Programme

# Thematic Evaluation

Innovation and Research and Development  
Theme Report

May 2015

Cornwall and Isles of Scilly 2007-2013 ERDF Convergence Programme evaluation supported by ERDF Convergence through the Convergence Support Team project, Cornwall Council and Cornwall and Isles of Scilly Local Enterprise Partnership



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## Thematic Evaluation

### Innovation and Research and Development Theme Report

**May 2015**

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This document including appendices contains 47 pages  
Ref: K:\CLIENTS\Cornwall Council\Thematic Programme Evaluation ERDF Convg\Deliverables\FINAL  
REPORTS\Innovation060515PS.docx

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## Executive Summary

This evaluation focuses on 19 projects involving total expenditure of £163.0 million and ERDF support of £108.1 million (an average intervention rate of 66.3%) which have been classified as primarily as Innovation and R&D projects. Most of these projects are included under 'Priority Axis 1: Innovation and Research and Development', although one project is from 'Priority Axis 2: Enterprise and Investment' and three are from 'Priority Axis 3: Transformational Infrastructure'.

The projects involved have been classified under five priority axis strands: Stimulating R&D; Supporting ideas, innovation and knowledge; Innovation and incubation; Environmental goods and services; and 'other'. A further two projects were classified as having 'Innovation and R&D' as a secondary theme, although these have been included under the business support theme.

The Convergence Programme has sought to address some of the limitations for innovation in Cornwall and the Isles of Scilly including: the historic lack of university and research institutions in the county; a relatively low proportion of local businesses involved in innovation and R&D activities; and relatively low levels of R&D expenditure. It has aimed to build on the previous Programme and enable Cornwall and the Isles of Scilly to compete as a centre for creativity, innovation and R&D by identifying and supporting areas where Cornwall and the Isles of Scilly can develop specialist areas of expertise and knowledge that are capable of attracting investment and talented people and that build upon existing strengths.

A broad range of niche and more generic projects have been funded, with a particular focus on large-scale capital investments, which has significantly increased the innovation asset base in Cornwall. Consultations have suggested that these investments have been responsible for helping to attract academics, students and funding opportunities that would not otherwise have come to Cornwall, whilst also providing important workspace in innovation centres to support the development of innovation amongst local SMEs. Other projects have been focused on the development of knowledge transfer activities to encourage and support innovation amongst local entrepreneurs and businesses.

The extent of collaborative working between innovation projects has been varied. There were some examples of strong linkages, particularly amongst the cluster of projects at the Penryn campus, but there was not comprehensive coverage across all projects. The loss of Business Link has created a gap in diagnostic and signposting services associated with the provision innovation and business support services. The research highlighted that there could be closer alignment and greater cohesion between the innovation and business support projects, while there is also a perceived lack of good quality, follow-on space for businesses graduating from incubation workspace and innovation centres.

The implementation of the Programme has faced major challenges associated with organisational changes, in particular the closure of SWRDA and the winding up of the Business Link service. The ensuing hiatus and change of approach was reported to have caused frustration for some projects. However, these changes were outside the control of local partners and were not isolated to Cornwall and the Isles of Scilly. The process of claiming EU monies was described by some projects as being fraught, time consuming and bureaucratic, although many of the reported issues did not appear overly unusual for complex projects of this scale and nature.

Businesses were generally satisfied with the support received from the innovation and R&D projects. A beneficiary survey found that: 74% of respondents said the support was relevant to the needs of their business; 82% said they found the services easy to access; and 79% said they were satisfied with the quality of the advice received. Those who were less satisfied provided a range of different reasons including: the provision and/or knowledge of the provider not being relevant for their sector or their specific business activities; difficulties contacting providers; not receiving the support that had been discussed with the provider; poor continuity of care after the initial support had completed (this perhaps related to the 12 hour support criteria for a business assist); and excessive paperwork requirements.

The Operational Programme stated that activities under Priority Axis 1 would focus on quality rather than quantity, with an emphasis on helping businesses to access the highest quality business advice and expertise. However, the achievement of outputs, results and impacts has been mixed. Most output targets are forecast to be achieved by the end of the Programme but projects are struggling to meet some targets, particularly those relating to business assists, patents and Intellectual Property Rights (IPRs), and the number of SMEs launching new or improved products. Contracted targets relating to the creation of new jobs and additional GVA have proven particularly challenging and are unlikely to be met. The achievement of outputs, results and impacts has been restricted by a number of factors:

- The economic downturn has had a detrimental impact;
- Absolute increases in GVA and employment have been restricted by the local concentration of micro businesses and relatively small population of high growth businesses;
- Levels of R&D and Innovation have historically been low in C&IoS and it takes time to generate innovation and R&D capacity, processes and relationships within businesses that do not have existing R&D capacity; and
- The '12 hour' targets for business assists have caused competition and lack of referrals between projects.

However, it should be noted that there are a number of gaps in the data and forecasts of progress against contracted targets may well be underestimated. Consultees also suggested that the ERDF outputs and results are relatively narrow and do not fully capture the breadth and depth of delivery by the innovation and R&D projects. For example, the results of the beneficiary survey provided evidence of a range of impacts of the innovation and R&D projects: 47% of respondents had introduced new products/services; 29% had introduced new production processes; 49% had sought to develop new markets; 30% had introduced efficiency measures; and 6% had undertaken other initiatives (e.g. securing new investment in the business; taking on apprentices; expanding operations; and switching focus between products).

The quantification of impacts for innovation and R&D projects is further complicated by the significant time lags before the impacts of many such projects are fully realised. Many of the innovation and R&D projects are likely to deliver further results and impacts beyond the Convergence Programme reporting deadline. There are also additional impacts of the innovation and R&D projects which are not captured in the estimates of additional GVA and employment and would not have occurred without the Convergence Programme. For example, the collective

reputation and increasing scale of innovation and R&D projects and facilities in Cornwall, and the increasing presence and involvement of Plymouth, Falmouth and Exeter Universities, is helping to create a critical mass, which consultees have reported is attracting research staff and innovative businesses to locate and set-up in Cornwall. It was also reported by consultees that Cornwall is creating a niche (in focusing on the environment, renewables, health and creative sectors) that is enabling it to establish and broaden its own 'innovation' offer.

Combining findings from the beneficiary survey with the monitoring data suggests that the interventions under the innovation and R&D theme will have created between 689 and 985 gross additional jobs. The analysis indicates a net impact of between 335 and 479 net additional jobs, with net additional GVA estimated to be between £35 million and £49 million on the assumption that impacts persist on average by three years.

Our estimates suggest that the value for money of the interventions involved in terms of metrics such as benefit:cost ratios and cost per job measures may be rather lower than that indicated by evaluations of analogous interventions elsewhere. A variety of factors may have adversely affected the levels of economy and/or effectiveness that have been achieved by the innovation and R&D projects. These include: the difficult economic climate over much of the Programme period, particular problems in achieving net impacts and the various other problems which the delivery of the Programme has had to confront, as noted above.

A variety of lessons emerge from the experience of the current Programme, including:

- the need to seek greater integration and cohesiveness between interventions and ensure that performance metrics also support a holistic approach;
- the need to fill the current gap in diagnostic and signposting services created by the closure of Business Link to support referrals and raise awareness of the support available;
- the need for the innovation offer of universities needs to be broader, combined with initiatives such as innovation vouchers<sup>1</sup> to enable businesses to buy in expertise from elsewhere, in order to engage a greater number of local businesses;
- the need for targets to be realistic and achievable and take reasonable account of the structure of the local economy and the size of the target group population, but also ensure they capture the full breadth and depth of outputs, outcomes and impacts delivered by innovation and R&D projects; and
- suggested priorities for the next European Programme, which include 'skills', 'encouraging an innovation culture change in businesses', and 'provision of suitable grow-on workspace for businesses "graduating" from innovation centres'.

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<sup>1</sup> The BIG project did include an 'innovation voucher' element

# 1 Introduction

## 1.1 Overview

AMION Consulting, ICF International and Spirul were appointed by Cornwall Council on behalf of the Convergence Programme Local Management Committee (LMC) to undertake a thematic evaluation of the Cornwall and Isles of Scilly European Regional Development Fund (ERDF) Convergence Programme. The evaluation has been structured to focus, in particular, on exploring the impact and difference that the programme has made and its cost effectiveness, in the following four thematic areas:

- Business support;
- Innovation and Research and Development (R&D);
- Workspace; and
- Transport Infrastructure.

In addition the evaluation has also explored a number of more qualitative and process-related issues in relation to the themes above, plus a further two focusing on:

- Regeneration/place-based interventions; and
- Environment.

This document contains the Thematic Report for Innovation and R&D and forms one of six individual thematic reports listed above to accompany the final overall report.

## 1.2 Innovation programme

For the purposes of this evaluation 19 of the projects funded by the ERDF Convergence Programme 2007 - 2013 have been classified under the Innovation and R&D theme<sup>2</sup>. Most of these projects are included under Priority 1 (Innovation and Research and Development), although one project is from Priority 2 (Enterprise and Investment) and three are from Priority 3 (Transformational Infrastructure).

There was considerable overlap between the different themes and many of the Innovation and R&D projects incorporated business support activities with 14 of the 19 innovation projects classified secondarily as business support projects. A further two Innovation and R&D projects had the environment as a secondary theme and another was classified secondarily as a regeneration and place-based intervention. Table 1.1 lists the 19 projects which were classified primarily as Innovation and R&D projects and groups the innovation projects according to their Priority strand.

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<sup>2</sup> This review has excluded analysis of the major investment supported by the Programme in new broadband digital infrastructure as this is subject to a separate evaluation.

Table 1.1: Primary 'Innovation and R&D' Projects			
Priority Strand	Project	Priority	Secondary Theme
Stimulating R&D	Environment and Sustainability Institute	P1	Business Support
	European Centre for the Environment and Human Health	P1	Business Support
	European Centre for Environment and Human Health Phase 2	P1	Business Support
	Knowledge Spa Phase 2	P1	
	Peninsula Research Institute for Marine Renewable Energy (PRIMaRE)	P1	Business Support
	Science and Engineering Research Support Facility	P1	Business Support
Supporting ideas, innovation & knowledge	Design and Innovation for Business Sustainability	P1	Business Support
	Knowledge Escalator SW	P1	Business Support
	SW Innovation Accelerator Project	P1	Business Support
Innovation & incubation	Academy of Innovation Research	P1	Business Support
	Pool Innovation Centre	P1	Business Support
	Tremough Innovation Centre	P1	Business Support
	Wellbeing Innovation Centre	P1	Business support
Environmental goods & services	Wave Hub Construction Costs	P1	Environment
	Wave Hub Development Costs	P1	Environment
Other	Smart Cornwall Business Development Team	P2	Business Support
	CUC SIF Enhancing the Creative Knowledge Base of Cornwall	P3	Business Support
	Knowledge Spa Phase 2 (Priority 3)	P3	
	Widening Participation in HE Dunheved House Launceston	P3	Regeneration & place based interventions

Source: AMION/ICF Classification

The two business support projects that are classified as having 'Innovation and R&D' as a secondary theme were:

- the 'GBI Mojo Maritime Limited' project, which aims to develop a low motion floating platform for the marine renewable energy industry, capable of carrying analysis equipment. This could significantly reduce costs compared to platforms fixed to the seabed; and
- the 'National Solar Centre' project, which aims to develop the UK hub for solar research, development and innovation in St Austell, and use its national status to support the development and growth of Cornwall's solar photovoltaic businesses.<sup>3</sup>

<sup>3</sup> The BIG project included a Business Innovation Fund

## 1.3 Method of approach to the analysis

A standard methodological approach has been adopted in carrying out each of the thematic analyses. In particular, they draw on:

- programme management information on expenditure, outputs and results relative to targets;
- a review of project documentation and other elements of the existing evidence base, including the available project evaluations and the SQW Interim Programme Evaluation (2010)<sup>4</sup>; and
- consultations with key stakeholders and delivery organisations – using structured topic guides. This included a review of the contributions made by a range of agencies to the web based ‘TRELLO’ discussion of programme related issues.

The evaluation of the Innovation and Research and Development theme has involved extensive further primary research involving:

- telephone surveys of 100 beneficiary firms, along with interviews with a control group of non-beneficiary firms;
- a data linking exercise in which longitudinal data on the performance of beneficiaries over time has been extracted from the secondary data sets held within the ONS Virtual Microdata Laboratory; and
- econometric analysis of the resulting datasets to compare the performance of the beneficiary and non-beneficiary firms in order to isolate the impacts of the support provided under the Programme from other influences.

It should be noted that significant difficulties were encountered both in establishing a suitable comparison group and in undertaking the econometric analysis using secondary data. The major issue was the problem in establishing comprehensive data on which businesses have been assisted and when. Difficulties were also encountered in matching the data within the VML records which further reduced the size of the sample which was eventually available for the econometric analysis. The results of the control group survey and the econometric analyses are reported in the Business Support Theme Report<sup>5</sup>.

## 2 The Innovation Strategy and Implementation Approach

### 2.1 The Innovation Strategy

Innovation is a key enabling force of economic performance, by enhancing productivity and output. It is also an important potential contributor to economic transformation, leading to a more knowledge based and higher value economy. The presence of, and ability to access, higher

<sup>4</sup> SQW, October 2010, Programmes Review of European Regional Development Fund in the South West – Convergence Programme

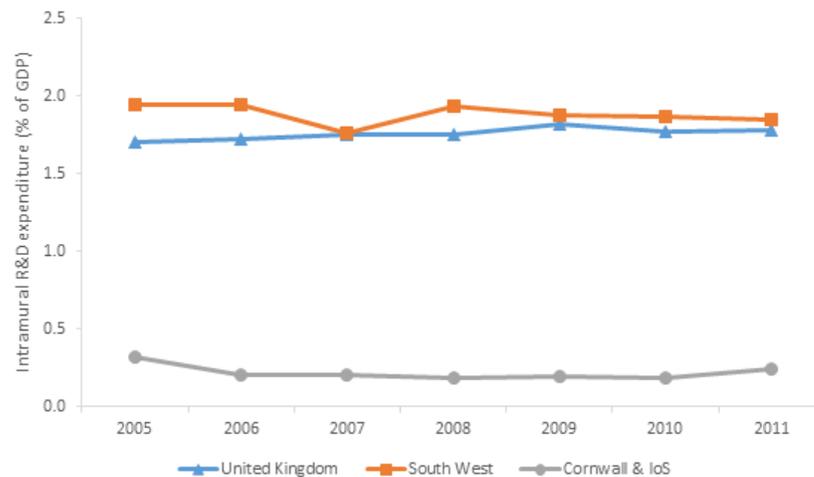
<sup>5</sup> ERDF Convergence Programme - Thematic Evaluation: Business Support Theme (April 2015)

education institutions (HEIs) also plays a key role in developing and maintaining a skill base and providing an innovation ecosystem.

The innovation system in the UK has been characterised by rather low R&D expenditure compared to other global economic powers<sup>6</sup>. Whilst particular strengths can be identified in areas such as university-business collaboration and the quality of higher education, the overall level of investment in innovation by businesses lags behind international competitors. However, the UK's research base continues to top international benchmarks, including its research systems, intellectual assets and academic entrepreneurship. Within this context, public innovation support continues to play a central role. For Cornwall and the Isles of Scilly, the Convergence Programme was set out as a major building block of this public support.

The Operational Programme for Cornwall and the Isles of Scilly was developed to address a number of problems that hold back innovation performance in the area. First, the Programme states that a very low proportion of local businesses are involved in innovation and R&D activities, and levels of R&D expenditure in the area are relatively low<sup>7</sup>. The data presented in Figure 2.1 confirm that total intramural R&D expenditure<sup>8</sup> was equivalent to 0.24% of GDP in Cornwall and the Isles of Scilly in 2011, which was significantly lower than the South West (1.85% of GDP) and UK (1.8% of GDP) averages.

**Figure 2.1: Total intramural R&D expenditure, by area**



Source: Eurostat

Second, there are significant challenges in establishing a strong innovation and research infrastructure and strengthening the role of research-intensive businesses. The low levels of R&D expenditures are largely due to both the historic lack of university and research institutions in Cornwall and the Isles of Scilly, which has restricted opportunities to access expertise in innovation and R&D, and the historic structure of the local economy, which comprises relatively high numbers of self-employed and micro businesses and relatively low levels of employment in

<sup>6</sup> Department for Business, Innovation & Skills (2014): Insights from international benchmarking of the UK science and innovation system. BIS Analysis Paper Number 03.

<sup>7</sup> Cornwall and Isles of Scilly Convergence Operational Programme 2007-13

<sup>8</sup> Total intramural R&D expenditure includes all expenditures for R&D performed in the area, regardless of whether the source of funds was within or outside the specified area.

business activities that invest highly in R&D. The Evaluation Steering Group has advised that that Camborne School of Mines has enabled a number of start-ups in niche markets. There are relatively high proportions of self-employment and micro business units in Cornwall and the Isles of Scilly, but relatively low proportions of employment in knowledge-intensive and high technology industries, compared to the South West and national averages. Consultations undertaken as part of this project have also reported a lack of R&D capacity amongst micro businesses and within the core sectors of tourism, retail, construction and health and social care. This has implications for the application and subsequent impact of Innovation and R&D policies in terms of the challenges in identifying and working with businesses with the ambitions and capacity to absorb and profit from such interventions.

Thirdly, the Cornwall and Isles of Scilly economy is highly focused and dependent upon local markets and the distance from major centres means that local businesses are somewhat sheltered from competitive forces. This, combined with the low levels of innovation and R&D activity, is also reflected in relatively low levels of exports from businesses in Cornwall and the Isles of Scilly. The Cornwall and Isles of Scilly LEP is the lowest of all LEP areas in terms of the share of total employment in export intensive industries, (13.5% in 2010<sup>9</sup>). The LEP evidence base for innovation, R&D and knowledge also states that UKTI data show that the number of exporting businesses in Cornwall and the Isles of Scilly is small, accounting for around 5% of all VAT registered businesses. This is partly due to the large number of micro businesses, as the UKTI suggests that ‘companies need to have achieved 5 or 10 employees before they really have the wherewithal to sustain overseas markets’<sup>10</sup>.

The Operational Programme 2007-2013 sets out the need to diversify the local economy in Cornwall and the Isles of Scilly by encouraging new businesses in high value added sectors and helping existing companies to move in to new markets through product innovation<sup>11</sup>.

The predecessor Objective One Programme had made some progress in terms of accelerating the scale and quality of innovation and R&D in Cornwall and the Isles of Scilly by:

- developing a knowledge asset base (including the Combined Universities in Cornwall involving the University of Exeter, Plymouth University, the then University College Falmouth, the then Truro and Penwith Colleges and Cornwall College);
- developing global markets and promoting the development of higher value activities in Cornwall; establishing a group of innovation focused companies willing to invest in the area; and
- attracting highly skilled people and increasing the pool of young, talented people<sup>12</sup>.

Figure 2.2 provides an overview of the Convergence Programme’s approach to the Innovation and R&D theme. Its aim has been to build on the previous Programme and enable Cornwall and the Isles of Scilly to compete as a centre for creativity, innovation and R&D by identifying and supporting areas where Cornwall and the Isles of Scilly can develop specialist areas of expertise

<sup>9</sup> Cornwall and Isles of Scilly Local Enterprise Partnership (2013) Innovation, R&D and Knowledge - LEP Priority Three: Creating Value out of Knowledge Evidence Base

<sup>10</sup> ibid

<sup>11</sup> Cornwall and Isles of Scilly Convergence Operational Programme 2007-13

<sup>12</sup> Cornwall and Isles of Scilly Convergence Operational Programme 2007-13

and knowledge that are capable of attracting investment and talented people and that build upon existing strengths. The Priority for Innovation and R&D aimed to deliver three strategic objectives which were to:

- 1) Increase the intellectual capital of Cornwall and the Isles of Scilly through investments in the knowledge infrastructure and research capacity in higher education; increasing and where necessary supporting business investment in R&D and increasing HE/business collaboration;
- 2) Improve the productivity of companies through increasing the rate of innovation and the economic benefits arising from the pull through and exploitation of knowledge (R&D and other intellectual assets) including product and process improvements. Building understanding of drivers of innovation and using these to lever increased innovative behaviour by companies; and
- 3) Increase the number of high value added and innovative new start businesses.

The Convergence Programme has funded a broad range of projects across four strands of activity:

- **Stimulating R&D** by building intellectual capital through enhanced research capacity at higher education institutions (HEIs), providing support to encourage the exploration of new ideas and provide 'proof of concept' funding. Specific examples of projects funded under the current Programme include the Environment and Sustainability Institute (ESI) at the University of Exeter's Penryn Campus and the European Centre for Environment and Human Health (ECEHH) projects at the University of Exeter's Truro campus;
- **Supporting ideas, innovation and knowledge** by linking companies to University and HEI expertise and supporting the management and use of knowledge within businesses to generate business-led innovations, and product and process improvements. Specific examples of projects include the South West Innovation Accelerator Project (SWIAP) and the Knowledge Escalator South West (KESW) project;
- **Innovation and incubation** involving the provision of new and enhanced facilities to address the shortage of specialist support available to companies and individuals. Specific examples include the three Cornwall innovation centres<sup>13</sup> (the Pool Innovation Centre, Tremough Innovation Centre and the Health & Wellbeing Innovation Centre based at Treliске in Truro) and the Academy of Innovation Research (AIR) at Falmouth University; and
- **Environmental goods and services** and the development of initiatives particularly focused on Environmental Technologies and Renewable Energy, which could develop a major new industry in Cornwall and the Isles of Scilly. Specific examples of projects include the Wave Hub construction and development projects.

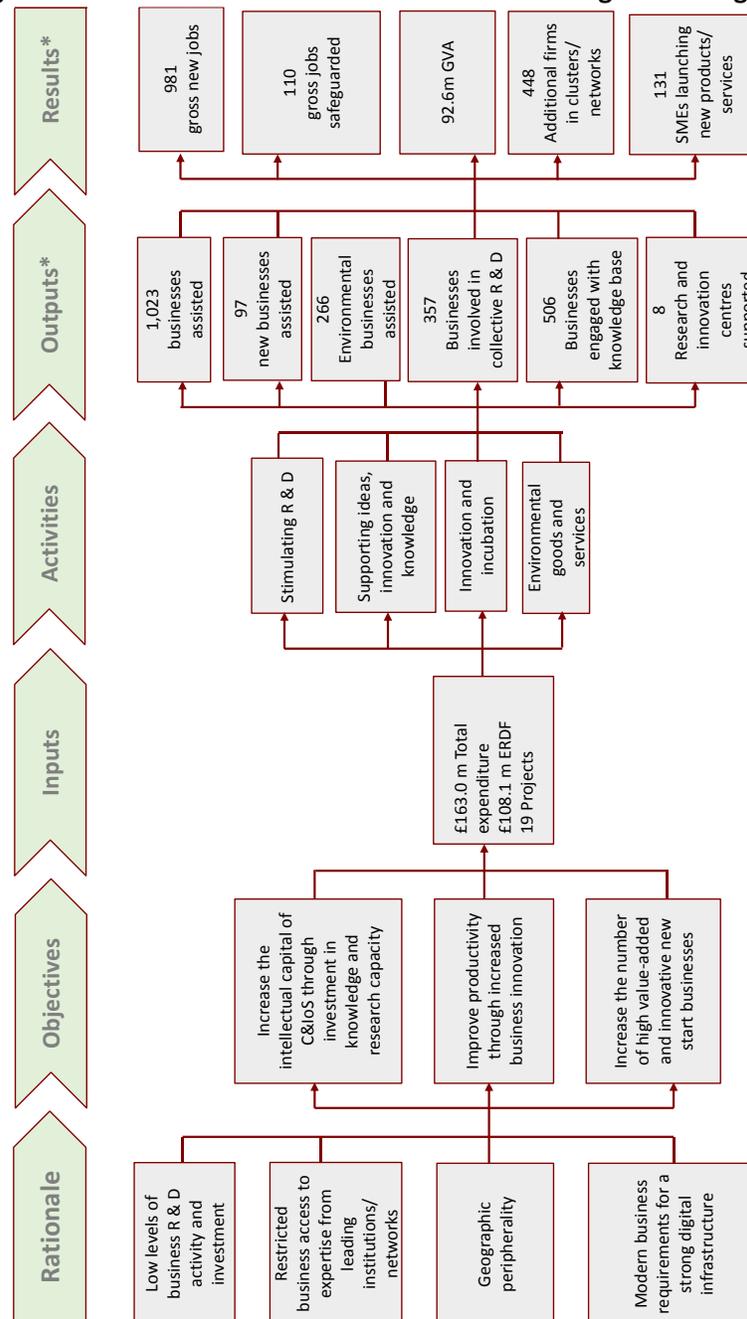
The Convergence Programme has funded a broad range of projects, with a particular focus on large-scale capital investments. Sixteen of the 19 innovation and R&D projects have had a strong capital component, which has significantly increased the innovation asset base in Cornwall. As well as a substantial investment in the sub-region's broadband capacity (the subject of a separate, bespoke project evaluation), the Programme has funded some major facilities which consultees

<sup>13</sup> A separate evaluation of the Cornwall Innovation Centres was completed by CM International in 2015 and provides more detail on the three Cornwall Innovation Centres.

have said are responsible for helping to attract academics, students and funding opportunities that would not otherwise have come to Cornwall, and provided important workspace in innovation centres to support the development of innovation amongst local SMEs. Other projects have been focused on the development of knowledge transfer activities to encourage and support innovation amongst local entrepreneurs and businesses.

Figure 2.2 summarises the logic chain for the Innovation and R&D theme – setting out the rationale, objectives, inputs, activities, outputs and results.

**Figure 2.2: Overview of the Innovation and R&D Programme Logic Chain**



\* Achieved and forecast as at September 2014

## 2.2 Linkages

The strength of linkages between innovation projects, HEIs and business support projects is varied. The collaborative working arrangements between Exeter, Plymouth and Falmouth universities have been highlighted as a particular success, while there are also strong linkages with other HEIs and Combined Universities in Cornwall (CUC) partners, such as the Camborne School of Mines (now part of Exeter University), which was described by consultees as an important source of referrals of technology businesses looking to diversify. The innovation projects also have international collaborations – for example, AIR is working with a Swedish university/science park of comparable scale and location.

However, the levels of collaborative working between innovation projects are less clear, despite the clustering of innovation and R&D activities at the Penryn campus and Truro. There are some examples of linkages developing between innovation projects located in the same geographical areas, but the linkages do not cover all projects. There are strong links between the AIR and ESI innovation projects and the Alacrity business support project, all of which are located in Penryn. For example, AIR and ESI worked together on a joint Shell Eco Challenge but their academic calendars are not aligned which has restricted the potential for collaborations. The evaluation of Cornwall Innovation Centres also describes linkages between tenants and colleges and universities in Cornwall, and particularly between the Tremough Innovation Centre and the AIR project. However, the evaluation also notes a potential area for development is the strengthening of links to universities and other external partners as some tenants had suggested that these were not as strong as they had expected. Further information on the AIR project is included in Box 2.1.

### **BOX 2.1 Academy for Innovation and Research**

AIR is a capital project on the Penryn campus of Falmouth University which opened in 2012. It provides space and support for innovative start-ups including business ideas from PhDs and has developed a reputation in gaming technologies. The building is a centre-piece of the campus and designed to BREEAM 'excellent' status. It has hosted innovation and other events and has attracted international visitors and students. The facility was seen as a key part of Falmouth University's quest for full university status. It has attracted a strong academic team and research funding and works collaboratively with other universities and other business support and innovation facilities in Cornwall. There are programmes for under-graduates and a programme to support new, innovative businesses.

The results of the business survey provide further evidence in relation to project linkages. The survey found that 63% of beneficiary businesses had received support from an independent initiative and 34% had received innovation support from a collaborative initiative. Of those who were involved in collaborative initiatives, 56% were collaborating with other businesses, 32% were collaborating with HEIs and 12% were collaborating with other organisations. The large majority of these partners were also based in Cornwall and the Isles of Scilly.

Respondents had found out about the support they received in a variety of ways, although referrals from other providers and business support agencies were relatively uncommon, accounting for only around 10% of respondents. The majority of beneficiary businesses had been made aware of the support by the provider, either following a direct approach from the provider

(34% of cases) or responding to marketing materials (20%). The survey also asked respondents whether they had been encouraged to access further support or had been referred on to any other agencies by their provider. The responses showed that 39% of these businesses were referred to additional support. The organisations and projects most commonly listed as making referrals were SWMAS, Unlocking Potential and the Arts Council, although other organisations were noted they received fewer mentions.

The research highlights that:

- there could be closer alignment and greater cohesion between the innovation and business support projects. As described in the business support theme, there have been significant issues with referrals not occurring across the full suite of projects, which suggests that businesses may not be referred to the support that best meets their needs. This problem has been exacerbated by both the cessation of Business Link, and the loss of diagnostic and signposting services, and the '12 hour' targets for business assists which encourage client retention rather than referrals. These issues are described in more detail below; and
- another key issue and possible gap in the innovation and R&D provision in Cornwall and the Isles of Scilly relates to a perceived lack of good quality, follow-on space for growing businesses. This issue was raised by the innovation centres and is an issue for their tenants, some having reported a lack of options for progression from the innovation centre. The evaluation of Cornwall Innovation Centres<sup>14</sup> reported that stakeholders, tenants and Centre managers had identified a lack of "sufficient high-quality grow-on space". It suggested that this lack (or perceived lack) of grow-on space could adversely affect the performance of the Centres in terms of meeting targets for business assists and wider innovation objectives by restricting the movements of growing businesses.

## 2.3 Implementation

### 2.3.1 Programme implementation

Consultations were undertaken with a sample of innovation and R&D projects and other stakeholders. Project evaluations were also reviewed to supplement the consultations and provide evidence relating the implementation of the Convergence Programme, from the commissioning and appraisal processes to the ongoing monitoring and claims processes.

The commissioning, appraisal and contracting processes had caused a number of issues for innovation and R&D projects in the current Programme period. The evaluations and final reports of the SWIAP, KESW and ECEHH projects stated that these projects were adversely affected by contractual delays and uncertainties surrounding ERDF requirements. These issues caused particular problems for the SWIAP and KESW projects, but also affected ECEHH spending targets. The project and stakeholder consultations tended to confirm these issues, particularly regarding the longevity of the commissioning process.

There have also been ongoing issues with ERDF processes and procedures and particular frustrations at the hiatus and change of approach caused by the closure of the South West of

<sup>14</sup> CM International (2015), Cornwall Innovation Centres Evaluation - Assessment of Innovation Centre Performance and Future Sustainability

England Regional Development Agency (SWRDA). This caused issues for projects as the Department for Communities and Local Government (DCLG) had different views and interpretation of the ERDF processes and rules. Two projects reported having to make ongoing changes to their business plan, which created uncertainty and placed additional demands on project resources. The evolution of guidance issued by the ERDF Managing Authority was described as a particular issue, which had created confusion and led to inconsistent approaches and potential queries from auditors. The changes in Managing Authority were also reported to have resulted in a reduction of locally based support for project development, although individual DCLG officers were praised for their supportive role in challenging circumstances and many had transferred over from SWRDA. The governance changes were outside of the control of local partners, including government agencies are not isolated to Cornwall and the Isles of Scilly. Neither is it, in our experience, unusual for the business plans of complex projects to be subject to ongoing revision, especially as the detail is scrutinised by appraisers or as assumptions of the business case and potential funding change. In this particular case there is added complexity of making demand assumptions in a part of the country with relatively lower levels of interaction with innovation and R&D facilities and support than areas that have stronger traditions of this type of activity.

As elsewhere, implementation has also been complicated by the loss of the Business Link service. This had left a gap in terms of having an organisation to provide diagnosis services and direct businesses to the most appropriate support to meet their needs. As discussed in the business support theme, the LEP Business Pulse and GAIN initiatives have tried to fill the gap but are not yet being used extensively. This has caused issues in terms of initial referrals to the innovation and R&D projects and cross referrals between different innovation and business support projects and initiatives.

The process of claiming EU monies was also described by some projects as being time consuming and bureaucratic. These comments are likely to reflect the inclusion of some major capital projects, which are also subject to complex planning and design issues (for example, the BREEAM assessment process can be long and complex), while the nature of innovation is such that experimentation is inherent within projects and it can be more difficult to provide the evidence base required by funders. Several innovation and R&D projects suggested that ERDF procurement processes were excessive in terms of requiring quotes for each item of expenditure, while there were also frustrations that the processes do not allow full economic costs to be applied to staff time on projects and it is only possible to claim 'directly incurred' costs. This had created problems for one provider because of the difficulties in separating, attributing and evidencing different costs. It was also suggested that the ERDF processes could cause barriers to the participation of smaller organisations, which might struggle without a dedicated team of administrators.

These criticisms, however, need to be set against the need for compliance with EU and public procurement requirements and, more generally, the need to ensure value for money. Other projects were more accepting of the difficulties caused by the institutional change and the ERDF processes more generally. Two of the innovation and R&D projects reported the ERDF processes to be demanding but accepted that this was probably fair given the significant sums of public funding involved in the projects. These projects were experienced in working with other European and national funding programmes and suggested that the ERDF processes were no more demanding than other programmes of comparable complexity.

The cross-cutting themes of equality and diversity and environmental sustainability were generally accepted by the projects, although a number stated that they would not let targets stand in the way of recruiting the best and most appropriate individuals, regardless of gender or ethnicity.

The focus on capital projects meant that there was a focus on the environmental sustainability of buildings and the new developments had been designed with a focus on environmental sustainability and most had achieved BREEAM excellent ratings. For example, the ESI building was awarded a 90%+ BREEAM rating in May 2014. The building has a heating exchange pool, the render has reflective properties and the project has an environmental management programme with environmental monitoring and is currently discussing plans for a solar installation.

The capital investments funded under the innovation and R&D theme have been focused on the west of Cornwall. There has been a particular concentration of investment in Truro and to develop the Penryn Campus near Falmouth, which have accounted for more than half of all projects and around 70% of ERDF funding provided under this theme. However, the projects' innovation and R&D services were available across all of Cornwall and the Isles of Scilly. The Programme also funded capital projects outside of the Penryn Campus and Truro including the Pool Innovation Centre, the Wave Hub project at Hayle and Dunheved House in Launceston.

### *2.3.2 Implementation of projects*

The business survey provides evidence relating to the implementation of support at the project level. It found that 45% of businesses had previously developed (or tried to develop) new products, services and/or processes before receiving support from the Convergence Programme. These businesses included start-ups, businesses that had made unsuccessful attempts at developing new products, others that were in the process of developing new services or had limited experience of innovation, as well as others with extensive experience of developing new products and services.

Most of the survey sample (72%) had engaged with their innovation and R&D project in order to access specialist advice and knowledge transfer expertise, while a much smaller proportion (31%) had engaged to secure funding for the development of new products or services.

The respondents were generally satisfied with the support they had received from the innovation and R&D projects. The survey found that:

- 74% of respondents said that the support was relevant (24%) or very relevant (50%) to the needs of their business;
- 82% of respondents said that they found the services easy (41%) or very easy (41%) to access; and
- 79% of respondents said that they were satisfied (28%) or very satisfied (49%) with the quality of the advice received.

While satisfaction was high for most business respondents, those who were less satisfied provided different reasons for this, which included: the provision and/or knowledge of the provider not being relevant for their sector or their specific business activities; difficulties

contacting providers; not receiving the support that had been discussed with the provider; poor continuity of care after the initial support had completed; and excessive paperwork requirements.

The survey also asked about the likelihood that respondents could have accessed comparable support from elsewhere. 60% of respondents did not feel that comparable support was available from other sources but 19% suggested that comparable support was available. Of these, 9% of respondents felt that comparable support was available but at a higher price, with a delay or to a lower standard, while 10% of respondents felt that comparable support was available to a similar or higher standard.

Similarly, only 21% of respondents stated that they would have been willing to buy in specialist support if they had not accessed the business advice and very few of these respondents knew where they could access this specialist support. However, the proportion of respondents that would be willing to pay for equivalent support in the future increased significantly to 38%.

The projects, to which the innovation support related, had already been completed in 50% of cases, with a range of completion dates from 2010 to 2015. For the projects that had not yet completed, most respondents (56%) suggested that the project was on course to deliver its planned outputs, and most were either due to complete in 2015, or were ongoing projects with no specific completion date.

## 3 Funding, outputs and results relative to targets

### 3.1 Funding

Table 3.1 shows the total projected costs of the Innovation projects, the ERDF grant committed and average intervention rates. The 19 Innovation projects have involved total expenditures of £163.0 million and ERDF funding of £108.1 million with an average intervention rate of 66.3%.

The project costs have ranged from £333,000 (with ERDF funding of £250,000) for the Smart Cornwall Business Development Team, up to a project cost of more than £30 million for the construction of the Wave Hub and a maximum ERDF investment of £21.4 million for the ESI development.

The average project cost for innovation and R&D projects was £8.6 million, of which £5.7 million was funded by the ERDF. The large majority of these project costs and ERDF funding have been focused on a relatively small number of high value capital investment projects. The seven largest projects include the development of the three Cornwall Innovation Centres, ESI, AIR, the Performance Centre ('Enhancing the Creative Knowledge Base of Cornwall' project) and the construction of the Wave Hub. These seven projects accounted for 77% of the overall cost of innovation and R&D projects and 79% of the associated ERDF investments. It should also be noted that some of these expenditures build upon previous projects and previous expenditures, such as the Knowledge Spa and ECEHH projects.

The largest investments were made under the 'stimulating R&D' and 'innovation and incubation' strands, which included most of the large, capital investments. The combined cost of the 'stimulating R&D' projects totalled £51.6 million, including £36.4 million of ERDF funding, while

the cost of the ‘innovation and incubation’ projects totalled £47.1 million, including ERDF funding of £35.3 million. In contrast, the three projects in the ‘supporting ideas, innovation and knowledge’ strand had relatively low costs of £2.3 million, including £1.8 million of ERDF funding.

<b>Table 3.1: Projected Expenditure, ERDF Grant Commitments and Average Intervention Rates</b>				
<b>Priority Axis Strand</b>	<b>Project</b>	<b>ERDF funding</b>	<b>Total cost</b>	<b>Intervention rate</b>
Stimulating R&D	Environment and Sustainability Institute	£21,381,840	£29,014,841	73.7%
	European Centre for the Environment and Human Health	£3,053,411	£6,046,358	50.5%
	European Centre for Environment and Human Health Phase 2	£2,999,964	£3,999,952	75.0%
	Knowledge Spa Phase 2	£1,102,560	£2,412,599	45.7%
	Peninsula Research Institute for Marine Renewable Energy (PRIMARE)	£3,985,616	£4,856,485	82.1%
	Science and Engineering Research Support Facility	£3,915,467	£5,220,623	75.0%
Supporting ideas, innovation & knowledge	Design and Innovation for Business Sustainability	£561,397	£623,775	90.0%
	Knowledge Escalator SW	£500,670	£667,560	75.0%
	SW Innovation Accelerator Project	£785,493	£1,048,120	74.9%
Innovation & incubation	Academy of Innovation Research	£6,740,000	£8,987,000	75.0%
	Pool Innovation Centre	£8,966,339	£11,955,031	75.0%
	Tremough Innovation Centre	£9,570,961	£12,841,480	74.5%
	Wellbeing Innovation Centre	£9,987,638	£13,316,851	75.0%
Environmental goods & services	Wave Hub Construction Costs	£16,390,446	£30,257,612	54.2%
	Wave Hub Development Costs	£1,713,703	£2,284,938	75.0%
Other	Smart Cornwall Business Development Team	£250,000	£333,334	75.0%
	CUC SIF Enhancing the Creative Knowledge Base of Cornwall	£12,262,372	£19,029,249	64.4%
	Knowledge Spa Phase 2 (Priority 3)	£3,533,007	£9,229,673	38.3%
	Widening Participation in HE Dunheved House Launceston	£414,382	£828,764	50.0%
<b>Total</b>	<b>Innovation projects – Total</b>	<b>£108,140,263</b>	<b>£163,004,245</b>	<b>66.3%</b>

Source: Programme Monitoring Data

A high profile example of a Convergence Programme funded project is the Wave Hub, which is described in Box 3.2. There are also innovative examples of projects and business ideas being developed at the ESI, many of which have come from PhD students wanting to develop commercial products, and these are described in Box 3.3.

**BOX 3.2 Wave Hub**

The Wave Hub is the world's first large-scale wave energy farm, which provides a demonstrator facility that allows developers of wave energy devices to test and develop their devices, whilst generating green energy. It is located 16km offshore and offers four berths for testing offshore renewable energy technologies. The final berth was secured by Carnegie Wave Energy in April 2014 to demonstrate its next generation wave technology, which involves fully-submerged technology to produce high pressure water from the power of waves and uses it to generate clean electricity<sup>15</sup>.

### **BOX 3.3: Environment and Sustainability Institute**

The ESI is a new capital project on the Penryn campus of Exeter University, which opened in 2013. It received BREEAM 'excellent' status in 2014. The attraction of ESI is the opportunity to develop innovation in the context of the environment of Cornwall including clean technologies and the natural environment. Exeter University's research standing has helped to attract staff and students, and brought in finance. Academic staff have been recruited internationally and on the basis of their ability to attract research funding. Projects include innovation around: converting algae to energy; developing prototypes for harvesting rainwater; using bugs to clean water in redundant mines; developing new sustainable, eco-friendly techniques for breeding lobsters; and developing geothermal energy sources linked to the Smart Grid. The business assists target is on track to be met but the project is behind in terms of jobs and GVA. The project is developing links with other facilities at Penryn including AIR, and other business and innovation support facilities across Cornwall.

## **3.2 Outputs and results relative to targets**

The Operational Programme stated that activities under Priority 1 would focus on quality rather than quantity, with an emphasis on helping businesses to access the highest quality business advice and expertise<sup>16</sup>. However, the innovation and R&D projects are struggling to meet some contracted targets, particularly those relating to business assists, patents and Intellectual Property Rights (IPRs), and the number of SMEs launching new or improved products. Contracted targets relating to the creation of new jobs and additional GVA have proven particularly challenging and are unlikely to be met.

Table 3.2 shows total reported and projected outputs and results relative to contracted project targets for the innovation and R&D projects as a whole. The data shows varied levels of performance at the total theme level against the respective targets. The innovation and R&D projects have already achieved, and are projected to exceed, targets relating to the number of:

<sup>15</sup> <http://www.wavehub.co.uk/>

<sup>16</sup> Cornwall and Isles of Scilly Convergence Operational Programme 2007-13

- new businesses assisted;
- businesses engaged with the knowledge base; and
- additional firms working in clusters / networks.

The innovation projects have not yet met, but are projected to meet, targets relating to the number of:

- environmental goods and services businesses assisted;
- businesses involved in collaborative R&D;
- research and innovation centres supported; and
- gross jobs safeguarded.

However, the innovation projects are projected to fall short of targets relating to the number of:

- businesses assisted to improve their performance;
- projects achieving BREEAM “excellent” rating or equivalent, although some have (see above for examples);
- patents granted;
- SMEs launching new or improved products;
- gross jobs created (in total and in environmental sectors); and
- gross increase in GVA.

<b>Table 3.2: Innovation and R&amp;D Theme – Outputs and Results (net of Broadband)</b>				
<b>19 Projects</b>	<b>Cost: £63.0m ERDF: £108.1m (66.3%)</b>			
<b>Outputs</b>	<b>Contracted</b>	<b>Achieved</b>	<b>Forecast</b>	<b>Achieved + Forecast</b>
No of businesses assisted to improve their performance	1,271	818	205	1,023
Number of new businesses assisted	66	87	10	97
Number of environmental goods and services businesses assisted	246	235	31	266
Number of businesses involved in collaborative R&D	356	233	124	357
Number of businesses engaged with knowledge base	290	477	29	506
Number of research and innovation centres supported	8	7	1	8
Projects achieving BREEAM “excellent” rating or equivalent	9	6	1	7

Results				
Gross new jobs created	1,599	517	464	981
Gross jobs created in environmental sectors	507	66	373	439
Gross jobs safeguarded	104	53	57	110
Patents granted / other IPRs	23	9	10	19
Additional firms in clusters / networks	378	414	34	448
SMEs launching new or improved products	157	62	69	131
Gross increase in GVA (£m)	£125.73m	£21.90m	£70.72m	£92.62m

Source: Programme Monitoring Data

A number of reasons have been advanced for this apparent under-performance. Consultees have suggested that some targets were set too high and were unachievable, and one project reported unsuccessful attempts to renegotiate their targets. More broadly, the consultees described a number of issues that have prevented the achievement of outputs, results and impacts, which included:

- the employment and GVA growth targets were considered particularly challenging given the local economic structure in Cornwall and the Isles of Scilly. The achievement of absolute employment and GVA targets was reported to have been restricted by both the local concentration of micro businesses, with limited opportunities for large absolute increases in GVA and employment, and the limited populations of high growth businesses in Cornwall, which made it difficult to identify and engage with the required numbers of high growth businesses
- the economic downturn, which has created difficulties for the achievement of some output targets and particularly those relating to employment and GVA. This has affected the achievement of outputs for individual projects and for the innovation and R&D theme as a whole. It was suggested that this had been less of a problem for the targets relating to new businesses because start up rates have been less affected by the downturn.
- the initial delays and ongoing changes to business plans meant that some projects experienced delayed starts, which has had knock-on effects for the achievement of outputs, outcomes and impacts;
- the performance metrics for 'businesses assisted' do not support a holistic approach and the provision of a suite of support services to businesses. It was suggested that there should be a better way of capturing these outputs at the project level to encourage greater collaboration between different projects. It was also suggested that the '12 hour rule' for business assists acts as a barrier to sharing customers and collaboration between providers

and could be improved to ensure that performance metrics fully capture both the quantity and quality of support provided to businesses;

- the cessation of the Business Link service, which has created challenges for the different providers operating in Cornwall and the Isles of Scilly. The projects claim that the absence of a central, independent organisation responsible for information, diagnostic, brokerage and referral services has meant that referrals have been lower than expected;
- many of the beneficiary businesses are working with universities for the first time and do not have existing R&D capacity. It takes time for these businesses to develop relationships and establish processes and capacity and this has resulted in delays in the achievement of outputs and impacts; and
- some of the projects providing incubation and innovation workspace reported the lack of quality workspace for tenants to move on to as a particular concern and a gap in current provision. As stated above, the evaluation of Cornwall Innovation Centres<sup>17</sup> suggested that this could adversely affect the achievement of targets for business assists and wider innovation objectives by restricting the movements of growing businesses.

There were also some project-specific reasons that have affected the achievement of outputs such as:

- the Health and Wellbeing Innovation Centre<sup>18</sup> has had a relatively low occupancy rate which has in turn restricted the achievement of other outputs at the centre; and
- the Wave Hub and PRIMaRE projects which have suffered from lower than expected demand for wave technologies. This is due in part to the economic slowdown but also because these are medium to long term investments and the market for renewables is still emerging.

The consultees also suggested that the ERDF outputs and results are relatively narrow and do not always fully capture the breadth and depth of delivery by the innovation projects. For example, it was suggested that the output targets could be extended to include business survival rates, in addition to targets for numbers of start-ups and assisted businesses. The ECEHH also described a number of softer outcomes, which are summarised in Box 3.4.

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<sup>17</sup> CM International (2015), Cornwall Innovation Centres Evaluation - Assessment of Innovation Centre Performance and Future Sustainability

<sup>18</sup> The HWIC was opened in 2013 and this may account in part for the low occupancy

**BOX 3.4: European Centre for the Environment and Human Health**

ECEHH is a collaborative project based at the Knowledge Spa, Royal Truro Hospital and co-located with the Medical Schools. Its origins lie in the previous (2000-6) Programme with the objective of creating a facility that developed applied research on the linkages between the environment and health (e.g. one research study considered the relations between health and coastal living). The project uses the local environment and works with local businesses and communities to generate practical research findings that are of benefit to local communities and the Cornish economy (e.g. a project looking at the impacts of toxins in local fish catches). The Centre opened in 2010 with capital works over two programming periods in excess of £13 million. At its peak it employed some 50 staff, but this fell to 30 at the end of 2014. There is a commitment by Exeter University to fund 14 academic posts for the next five years to create a sustainable base for the project. Outcomes have included research grants secured, research papers published and communities engaged, but jobs created are currently below the targets set and agreed.

### 3.3 Profile of Innovation Beneficiaries

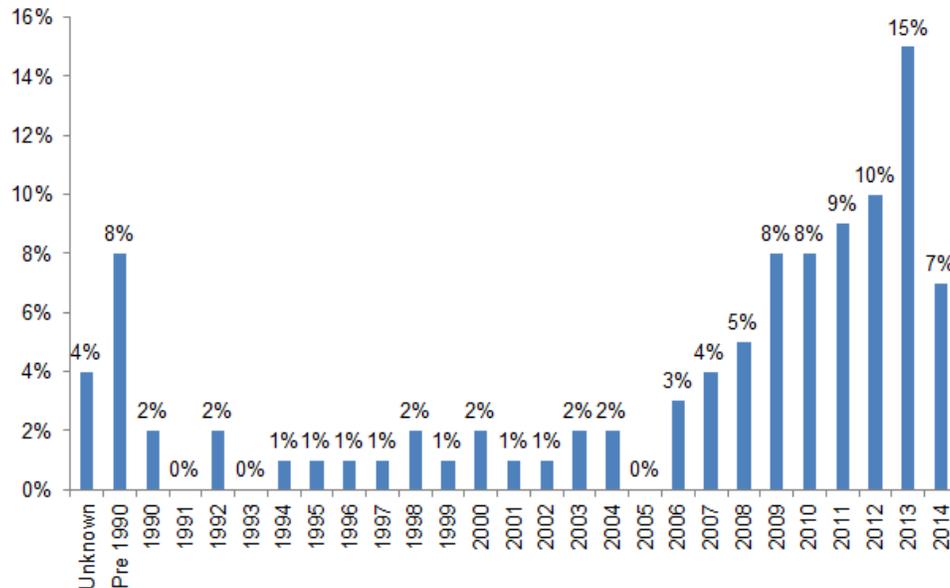
A survey was undertaken with 100 businesses that had been assisted by the innovation and R&D projects (excluding those assisted by the Innovation Centres). Most of these businesses had received support from the ESI, the Performance Centre (i.e. the Enhancing the Creative Knowledge Base of Cornwall project) or AIR projects, such that:

- 37% of respondents had been supported by ESI;
- 33% had been supported by the Performance Centre;
- 15% had been supported by AIR;
- 6% had been supported by SWIAP; and
- 9% had been supported by other innovation and R&D projects.

The large majority (86%) of respondents were based solely in Cornwall and the Isles of Scilly. Of the 14 businesses that were not wholly based in the Programme area, seven had head offices in the area, three had back office facilities, while others had satellite and freelance operations.

The sample included a range of younger and older businesses. Figure 3.1 shows that approximately half (51%) of the respondents worked for businesses that had been established within the last five years (i.e. 2010 or later), while 8% of respondent businesses were established before 1990.

**Figure 3.1: Year in which respondent businesses were established**



The businesses in the sample employed a total of 689 people in the UK, including 667 employed in Cornwall and the Isles of Scilly. Table 3.3 shows that the majority of businesses in the sample were micro businesses and only 15% had ten or more employees. The largest business was based solely in Cornwall and employed 123 people but the average business employed 7.7 people in the UK and 7.2 people in Cornwall and the Isles of Scilly.

Overall, 45% of employees were men working full-time, 25% were women working full-time, 16% were women working part-time and 14% were men working part-time<sup>19</sup>. If it is assumed that two part-time employees are equivalent to a full time equivalent (FTE) job, this suggests that the businesses in the sample employed a total of 582 FTEs. On average, 85% of the workforce lived in Cornwall and the Isles of Scilly.

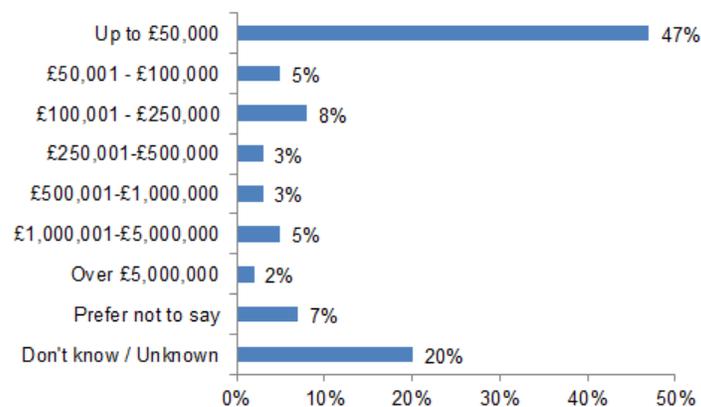
Table 3.3. Respondent Businesses by Size (Number of Employees)		
Employees	Employed in the UK	Employed in Cornwall and the Isles of Scilly
0-4	66%	71%
5-9	7%	7%
10-49	12%	11%
50-249	4%	4%
250+	0%	0%
Unknown	11%	7%

<sup>19</sup> This suggests an opportunity for future alignment between ERDF and ESF project focus

Figure 3.2 shows that approximately half of businesses in the sample had a turnover of £50,000 or less, although one in four businesses (27%) did not know or did not want to provide their turnover. On average, businesses spent:

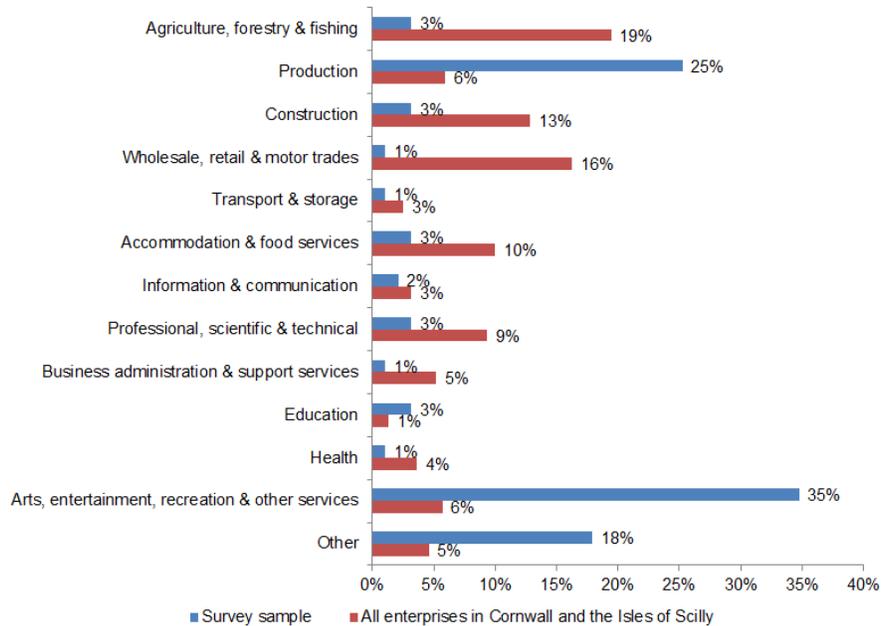
- 51% of their turnover on wages;
- 8% on rent;
- 39% on purchases of goods and services; and
- 2% on other things.

**Figure 3.2: Turnover of businesses in the sample**



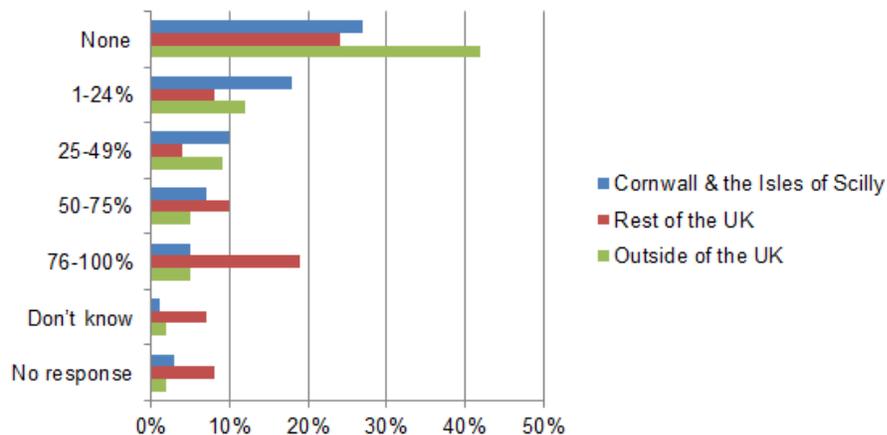
Two-thirds of respondents (68%) had a business plan and 58% had a long-term growth strategy. Figure 3.3 shows that the survey respondents covered a broad range of sectors but were very much concentrated on the 'arts, entertainment, recreation and other services', 'production' and 'other' sectors, particularly when compared to the overall business population in the area.

**Figure 3.3: Main sector of respondents compared to the total business population in Cornwall and the Isles of Scilly**



The survey also asked respondents about the location of their competitors, customers and suppliers. Figure 3.4 shows that competitor businesses were relatively likely to be located in the rest of the UK but more than half of respondents also had competitors located outside the UK.

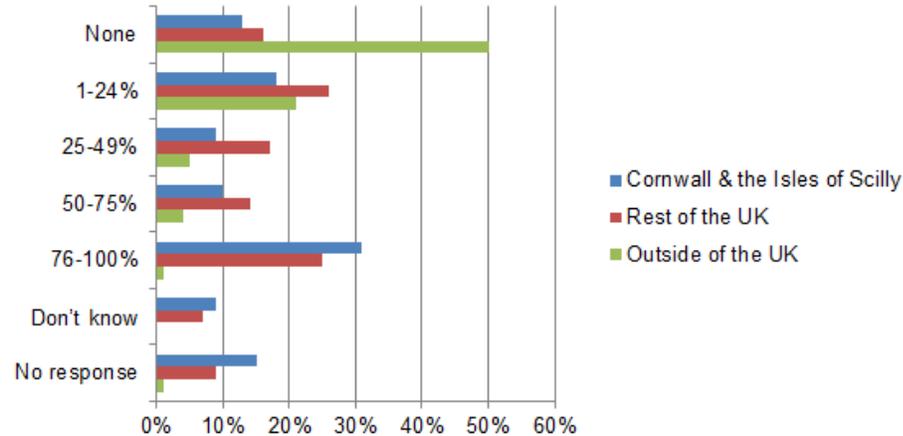
**Figure 3.4: Percentage of competitors located in Cornwall and the Isles of Scilly, the rest of the UK and outside the UK**



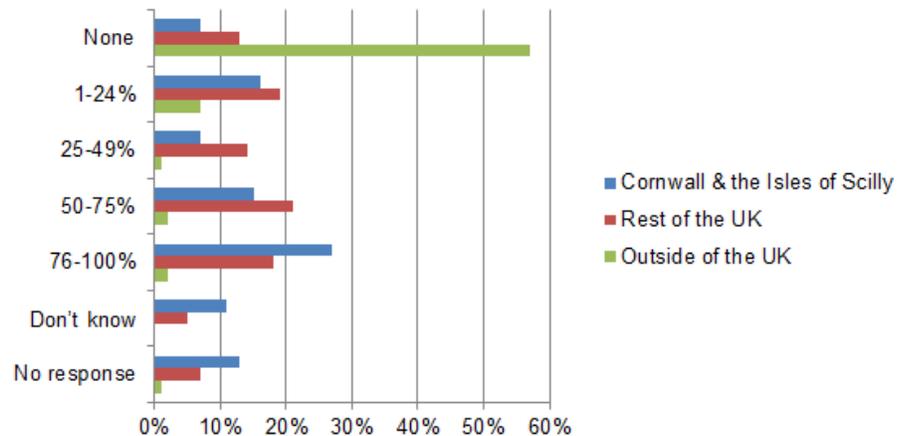
Figures 3.5 and 3.6 show similar information relating to the location of customers and suppliers. They show that the customers and suppliers of the respondent businesses were more likely to be located in Cornwall and the Isles of Scilly and in the rest of the UK, than their competitors. However, while the majority of customers and suppliers were based in the area and the rest of

the UK, around half of the businesses in the sample were exporting to overseas customers in some capacity.

**Figure 3.5: Percentage of customers located in Cornwall and the Isles of Scilly, the rest of the UK and outside the UK**



**Figure 3.6: Percentage of suppliers located in Cornwall and the Isles of Scilly, the rest of the UK and outside the UK**



One in three respondents (35%) had received other support over the period from 2007 to 2013, and around half of these reported accessing additional support from other innovation or business support projects funded through the Convergence Programme. However, only 8% of respondents stated that they had received other business support prior to 2007, which included EU funding, other grants and support from the Arts Council and Business Angels.

## 4 Impacts

### 4.1 Introduction

This section uses the results of the business survey to consider the impacts of the innovation support initiatives for individual businesses. It then uses these results to provide estimates of the overall net additional impact of the theme.

### 4.2 Impacts for businesses

As described above, the monitoring data suggests that the innovation and R&D projects have reported limited progress against the ERDF impact targets for net additional GVA and employment. Moreover, the forecasts suggest the projects are unlikely to achieve these targets by the end of the programme period. However, it should be noted that there are a number of gaps in the data and the reported achieved and forecast progress against contracted targets may well be underestimated.

The quantification of impacts for innovation and R&D projects is further complicated by the significant time lags before the impacts of many such projects are fully realised. Many of the innovation and R&D projects are likely to deliver further results and impacts beyond the Convergence Programme reporting deadline. For example, the earlier evaluations of knowledge transfer projects, SWIAP and KESW, stated that there are likely to be significant lags between the programme completion, the realisation of new innovations / research resulting from knowledge transfer and achievement of the subsequent economic and wider benefits.

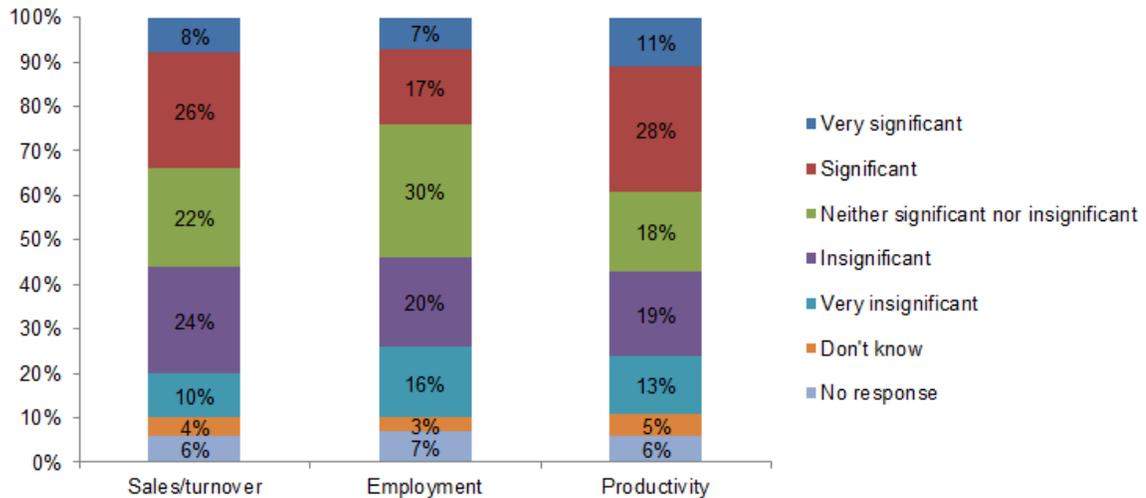
The business survey provides some evidence relating to the consequences of support. For example, it asked respondents what actions their business had taken since receiving support from their respective innovation and R&D projects. The responses suggested that:

- 47% of respondents had introduced new products/services;
- 29% had introduced new production processes;
- 49% had sought to develop new markets;
- 30% had introduced efficiency measures; and
- 6% had undertaken other initiatives including: securing new investment in the business; taking on apprentices; expanding operations; and switching focus between products.

The survey also explored impacts of the support received on turnover, employment and productivity. Figure 4.1 shows that impacts on productivity were the most significant (39% of respondents reported a significant or very significant impact on their productivity), followed by impacts on sales/turnover (34% of respondents reported a significant or very significant impact on their sales/turnover). Employment impacts were less significant amongst the sample, with only 24% of respondents reported experiencing a significant or very significant impact on employment. This evidence could be taken to support the theory that Innovation and R&D support are essentially enabling mechanisms that take time to work their way through into 'hard' job

outcomes (particularly when compared with forms of investment support that are more directly-focused on job creation).

**Figure 4.1: Respondent views on whether the support had a significant or insignificant impact on their business turnover, employment and productivity**

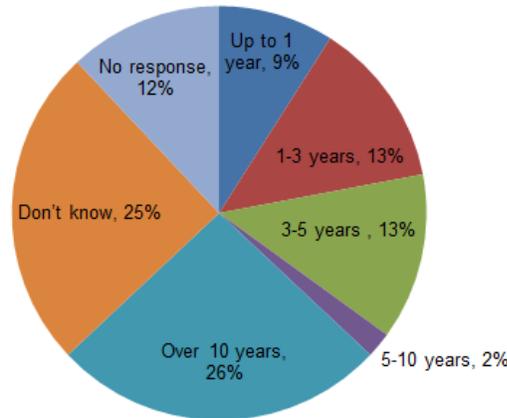


Those who felt there had been a significant or very significant impact were asked to describe the scale of the impact more accurately. The average impact on productivity was the most significant at 51%, followed by 47% for sales/turnover, while the average employment impact was slightly lower at 35% (amongst those who rated the impact as significant or very significant).

Those who felt there had been an insignificant or very insignificant impact were asked whether they expected any impacts in the future. Almost half (46%) expected there to be some - most expecting future impacts on their productivity (58% of respondents), compared to impacts on their employment or sales/turnover (21% for each).

Many respondents expected the support to deliver persistent impacts over many years, although a large proportion of respondents were unable to say how long they expected the future measurable impacts of the initiatives to last. However, the large majority of those who were able to provide estimates expected impacts to last for either between one and five years, or to last for more than ten years.

**Figure 4.2: Respondent views on the persistence of future measurable impacts**

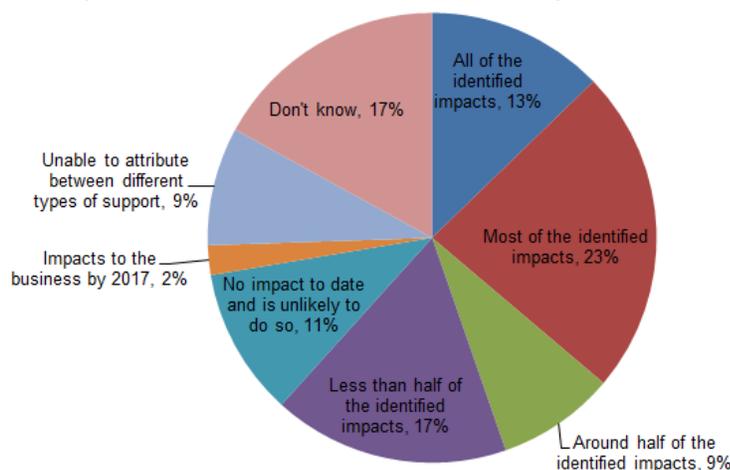


Almost half (45%) of respondents planned to increase their expenditure with suppliers in Cornwall and the Isles of Scilly as a result of their involvement with the innovation and R&D projects. The average expected increase in purchases from local suppliers was 67% among those who planned to increase their expenditure and were able to estimate the exact percentage of change.

Half of respondents envisaged that the initiatives would help their business to increase their sales outside of Cornwall and the Isles of Scilly. As above, the average expected increase in sales outside of the area was 83% (including a 20% increase in exports) among those who expected these sales to increase and were able to estimate the magnitude of the change.

Respondents who had received additional types of support were also asked about the extent to which the innovation and R&D initiatives were responsible for the identified impacts. The results suggest mixed views about the attribution of impacts to the innovation and R&D initiatives, with similar numbers of respondents suggesting the innovation support was responsible for all or most of the identified impacts as those who felt that it was responsible for none or few of the identified impacts.

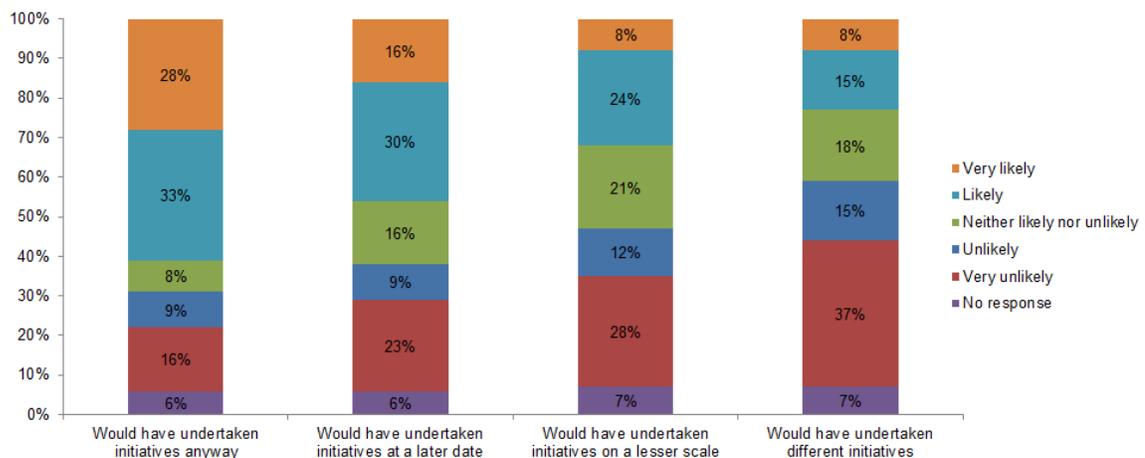
**Figure 4.3: Respondent views on the attribution of impacts to innovation and R&D initiatives**



The survey of beneficiary businesses also provides some useful evidence for informing the calculation of additionality factors and net impacts (see later sections). Figure 4.4 suggests that levels of deadweight are relatively high among the sample. 61% of respondents confirmed that they were likely or very likely to have undertaken the initiatives anyway, in the absence of the support received – although whether they would have done is uncertain. Respondents were also asked whether they would have undertaken the activities at a later date, on a lesser scale or have undertaken different initiatives. The results found that:

- 46% of respondents stated that they were likely or very likely to have undertaken the initiatives anyway, but at a later date. Most of these would have undertaken the initiatives in the near future with 54% stating that they would have undertaken the same initiative within the next year and 83% within the next two years;
- 32% of respondents stated that they were likely or very likely to have undertaken the initiatives anyway, but on a lesser scale. 41% of these respondents would have undertaken activities that were up to 25% smaller, while another 41% would have undertaken activities that were between 26 and 50% smaller; and
- 23% of respondents stated that they were likely or very likely to have undertaken different initiatives. Examples of different activities and initiatives included: taking advice from different organisations; investing in new technologies; extending workspace or relocating to a different area; taking on ‘work placements’; undertaking additional training; and increasing business development activities.

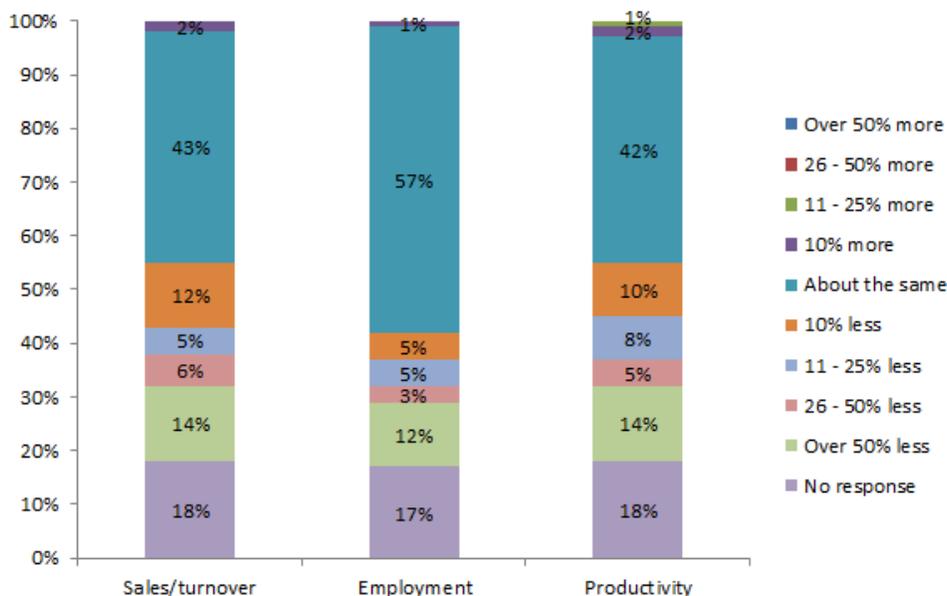
**Figure 4.4: Respondent views on the likelihood of undertaking the initiatives anyway, or at a later date, in the absence of the support received**



Beneficiary businesses were also asked how much higher or lower they thought their sales, turnover and productivity would have been if they had not received the support. Figure 4.5 shows that most of those who responded, felt that their sales, turnover and productivity would have been about the same if they had not received the support. However, 37% of respondents felt that their sales and productivity would have been lower (including 14% who felt that they would have been more than 50% lower without the support). The employment impacts were less marked, although one in four (25%) respondents felt that employment in their business would have been

lower without the support, including 12% who felt that their employment would have been more than 50% lower. Very few respondents thought that sales, employment or productivity would have been higher in the absence of the support received.

**Figure 4.5: Respondent views on the likely effect on sales/turnover, employment and productivity if they had not undertaken the initiatives**



While deadweight appears to be relatively high, other additionality factors appear to be less significant:

- displacement effects are likely to be of a relatively low scale. The SQW Interim Evaluation<sup>20</sup> suggested that displacement was a particular risk in a relatively isolated economy such as Cornwall and the Isles of Scilly where sales are heavily focused on local markets. However, the evaluation of Cornwall Innovation Centres<sup>21</sup> found that displacement effects were generally low<sup>22</sup>. The findings of the business survey undertaken to inform this study suggest that displacement effects are likely to be higher than those for the innovation centres but lower than those suggested by SQW, as customers and competitors of beneficiary businesses were fairly evenly distributed between those inside and outside of the area; and
- economic multiplier effects are likely to be relatively high as the survey respondents suggested that a relatively high proportion of their suppliers were also located in the area, and 45% of respondents planned to increase their expenditures with local suppliers, as a result of their involvement, by an average of 67%.

<sup>20</sup> SQW Consulting (2010) Programmes Review of European Regional Development Fund in the South West – Convergence Programme: Final Report to the ERDF Convergence PMC Evaluation Sub-Group

<sup>21</sup> CM International (2015), Cornwall Innovation Centres Evaluation - Stage 1 Report: Economic Impact Assessment of the three Innovation Centres

<sup>22</sup> The evaluation of Cornwall Innovation Centres used survey evidence from tenant businesses which asked about the perceived degree to which other firms or demand might be affected elsewhere in Cornwall.

### 4.3 Wider impacts

There are also additional impacts of the innovation and R&D projects which are not captured in the estimates of additional GVA and employment and would not have occurred without the Convergence Programme. For example, Cornwall has also benefited from the increasing presence and involvement of Plymouth University and particularly Exeter University in the area. Stakeholders have suggested that Exeter University has brought research and academic kudos to Cornwall, through the activities of the ESI, ECEHH and Science and Engineering Research Support Facility (SERSF) projects at the Penryn campus, while Plymouth University is operating the three Cornwall innovation centres and is delivering beneficiary support through the Knowledge Spa in Truro on the site of the Royal Cornwall hospital.

The collective reputation and increasing scale of innovation and R&D projects and facilities in Cornwall is also helping to create a critical mass, which consultees have reported is attracting research staff and innovative businesses to locate and set-up in the locality. This works alongside other benefits of locating in Cornwall and the Isles of Scilly, such as 'quality of life', to attract individuals and businesses to the area. Some projects reported an increased ability to attract and recruit staff who bring with them, or can attract, research funding, which is generating additional benefits for the area. For example, the ESI claims to have attracted an additional £15 million in research funding as a result of staff recruitment.

It was also reported by consultees that Cornwall is creating a niche (in focusing on the environment, renewables, health and creative sectors) that is enabling it to establish and broaden its own 'innovation' offer. For example, the combination of AIR and Alacrity projects are supporting the development of digital gaming activities at Falmouth University and there was a strong view amongst consultees that Cornwall could become a centre of excellence for games technology.

There have also been additional benefits from projects that have encouraged links between HEIs and local SMEs and entrepreneurs to catalyse business growth, SME capabilities and new enterprise formation. Several of the projects have aimed to induce local company innovation by embedding entrepreneurial values in HEIs and FE that will translate to staff, students, and graduates. The projects have therefore had to demonstrate these benefits to both local businesses and educational institutions. Examples include the KESW and SWIAP projects, which are described in Boxes 4.1 and 4.2 respectively.

#### **BOX 4.1: Knowledge Escalator South West (KESW)**

The KESW project aimed to stimulate business growth and new enterprise by facilitating the exchange of information between HEIs and businesses. Falmouth University, the University of Exeter and the University of Plymouth worked together to provide student mentoring, academic staff working with businesses, innovation support and the development of regional networks and collaborative relationships. The evaluation of KESW was undertaken in September 2011 and found that the project and its partners had already met or exceeded most of its output, results and impact targets at this stage.

**BOX 4.2: South West Innovation Accelerator Project (SWIAP)**

The SWIAP project focused on the transfer of specialist technical knowledge from the FE sector to the region's SMEs to help them to improve production processes and help sustain and grow their operations. It focused on five areas: advanced marine composites, advanced engineering, creative industries, environmental technologies and food manufacturing. The project was delivered by Cornwall College and Truro and Penwith Colleges to help local businesses to access specialist knowledge and expertise, including funded support and consultancy. The SWIAP project was affected by project delays and, as a result, the evaluation of the project was undertaken too early to report any additional GVA or employment.

The evaluations of KESW and SWIAP concluded that educational institutions and knowledge transfer/technology transfer activities have the potential to deliver a major impact for the Cornwall and Isles of Scilly economy but have faced issues in terms of the economic downturn and financial austerity, including a reduction in external knowledge transfer capacity funding (for example, Higher Education Innovation Funding allocations). However, the KESW project has succeeded in embedding knowledge escalator strands of activity into mainstream programmes being offered by HEIs in Cornwall, which will help to create a legacy of enterprise and innovation beyond the Programme period.

The innovation centres are also helping to develop an innovation culture amongst local businesses. The evaluation of Cornwall Innovation Centres<sup>23</sup> described a wide range of additional innovation impacts that are not captured in the above ERDF indicators. These are described in more detail in Box 4.3.

**BOX 4.3: Cornwall Innovation Centres**

The Convergence Programme has invested in three Cornwall Innovation Centres:

- Pool Innovation Centre (PIC), Pool
- Tremough Innovation Centre (TIC), Penryn
- The Health and Wellbeing Innovation Centre (HWIC), Truro

The three centres are owned by Cornwall Council and operated by Plymouth University, under the management of the Cornwall Development Company (although as of April 2015 day-to-day management of the Operator contract will be undertaken by the Council). They provide premises, support services and innovation and business support for tenants and other local businesses. The aim of the centres is to improve productivity, increase the rate of innovation and increase the number of high value added companies in Cornwall.

The evaluation of Cornwall Innovation Centres<sup>24</sup> suggested that the three Innovation Centres had made significant progress against their core objectives in terms of: contributing towards growth and productivity of beneficiary businesses, promoting greater innovation activity and

<sup>23</sup> CM International (2015), Cornwall Innovation Centres Evaluation - Stage 1 Report: Economic Impact Assessment of the three Innovation Centres

<sup>24</sup> ibid

culture amongst the beneficiary businesses and making a contribution to social and environmental benefits.

The evaluation also suggested that the Innovation Centres are likely to either achieve, or be close to achieving, their target outputs relating to enterprises assisted and gross and net additional jobs by the end of the project. However, there was considerable variance in the performance of the three Centres. PIC was the first to open and has made strong progress, having already exceeded its targets, but the two newer Innovation Centres are unlikely to meet their output targets, partly as a result of lower occupancy rates. This also reflects the focus of the HWIC on the health sector, which is a young, emerging sector in Cornwall, compared to the broader sectoral focus of PIC and TIC.

The three Innovation Centres were estimated to have collectively generated a gross attributable GVA impact of £14 million to date, which was expected to increase to £106 million including future impacts. The corresponding net impacts were estimated to total £12 million to date and £73 million including future impacts, which provided an estimated GVA return on investment ratio of 1:1.9.

The evaluation also suggested that the Centres had achieved high levels of satisfaction amongst beneficiary businesses, who were particularly satisfied with the location of the Centres, opportunities provided for networking, good internet connectivity and the marketing / profile of the Centres.

The evaluation also described a wide range of additional innovation benefits that were not captured in the above ERDF indicators. For example, the evaluation found that:

- 63% of tenants had developed or launched new products, processes or services while based at the Innovation Centre;
- 80% of current tenants reported they were currently conducting innovation in one or more of product, process, services, marketing, or organisational innovation;
- 85% of current tenants reported that they expected to produce new or improved products, processes or services in the next three years. 57% of these tenants expected these innovations to have potential social and/or environmental benefits for Cornwall;
- a quarter of tenants had created intellectual property since becoming a tenant; and
- former tenants were continuing to innovate and more than 60% reported launching a new product, process or service since leaving the Centre.

It was suggested by some stakeholders that the impacts of the innovation and R&D projects could have been greater by targeting a broader range of local businesses. Most of the innovation and R&D projects have a specific sector or research focus and some consultees suggested that the current university and research offer in Cornwall is still too narrow and needs to become broader and more credible and business-focused in order to increase interaction with local businesses. For example, HEIs could support a larger number of local businesses by providing a broader range of provision across a number of different thematic areas and sectors. The results of the business survey supported this view as most of the sample of beneficiaries of innovation and R&D projects

was concentrated on the ‘arts, entertainment, recreation and other services’ and ‘production’ sectors. However, there is a limit to what can feasibly be delivered by expanding provision in Cornwall and the increased HEI offer should therefore operate alongside other initiatives, such as innovation vouchers, that can be used to buy in specific expertise from HEIs outside of Cornwall.

The innovation and R&D projects were also asked about sustainability beyond the end of the Convergence Programme. Generally, the projects believed they would be able to continue without further ERDF funding, although new funding could allow for further expansion and the introduction of additional activities. For example, the ESI aims to be self-funding including research grants but without being dependent on EU funds, while the ECEHH will seek funding under the 2014-20 Programme but for new activity rather than the continuation of existing activities.

#### 4.4 Gross impacts on turnover and jobs

Two sources have been used to provide estimates of the gross impacts on beneficiary businesses of the assistance received:

- the programme monitoring database that includes data on outputs, results and impacts by project; and
- the survey of beneficiary businesses – and specifically the questions that sought details on respondents views as to how, and to what extent, employment and turnover might have differed in the absence of the intervention.

The analysis has focused on the 16 Innovation and R&D projects (i.e. excluding the Innovation Centres that are subject to separate evaluations and were not therefore covered by the beneficiary business survey).

The gross jobs impact for the innovation and R&D theme is estimated to total between 689 and 899 jobs. The achieved and forecast monitoring returns demonstrate a greater impact than that calculated from the survey for innovation and R&D assistance. This primarily reflects two factors:

- a) a possibility of double-counting in the monitoring returns if there are multiple beneficiaries (the survey on the other hand asked for respondents to identify the most significant intervention where they had benefitted from more than one); and
- b) the survey returns were as of 2014 rather than the Programme end date of 2015. When asked for their view of job prospects by 2015, the average anticipated increase was 27% for surveyed innovation beneficiaries<sup>25</sup>.

While the above factors would suggest the potential to narrow the estimated impact range, there is no objective base for calculating revised limits and it has been considered prudent, for the purposes of our subsequent calculations, to leave the range unchanged.

Similar considerations apply to the estimates of Gross GVA. There is also an indication that beneficiary firms anticipated significant increases in turnover between 2014 and 2015 – an

<sup>25</sup> It should be stressed however that there is no necessary attribution between these further increases and the relevant interventions.

average per respondent of 43%. This would suggest that the range may well err on the cautious side. As a result we will be using survey based GVA calculations in our subsequent analysis.

<b>Table 4.1.: Gross jobs and turnover increase estimates (16 projects)</b>			
	<b>Achieved (Monitoring returns)</b>	<b>Achieved &amp; forecast (Monitoring returns)</b>	<b>Achieved (Survey)</b>
Gross direct jobs	435	899	689
Gross GVA	£15.63m	£86.35m	£22.44m

## 4.5 Net additional impact

### 4.5.1 Overview

In determining the net additional impact of the innovation programme, the key issue to be addressed is the additionality of the intervention – the extent to which activity has taken place at all, on a larger scale, earlier or within a specific designated area or target group as a result of the assistance received by each of the programme beneficiaries. The assessment of additionality has principally been informed by the results of the survey, as summarised above. Reference has also been made to a range of other information sources, including travel to work origin destination data derived from the 2011 Census.

In order to assess the additionality of the business support, the following factors have been considered:

- leakage – the proportion of outputs that have benefited those outside of the target area;
- displacement – the proportion of the outputs accounted for by reduced outputs elsewhere in the target area. Displacement may occur in both the factor and product markets;
- multiplier effects – further economic activity associated with additional local income and local supplier purchases have been considered as part of the assessment; and
- deadweight – outputs which would have occurred even in the absence of the business support provided.

The approach to assessing the net additional impact in relation to each of these factors is shown diagrammatically in Figure 4.6. The assessment of additionality has been undertaken at the Cornwall and the Isles of Scilly level.

**Figure 4.2: Net additional impact**



#### 4.5.2 Net additional employment

In determining the net additional jobs generated through each component of the business support programme, the following adjustments have been made:

- leakage – an analysis of Census travel to work data has been undertaken to determine the typical proportion of people who work within Cornwall and the Isles of Scilly and also live within the local area. According to the 2011 Census, approximately 95% of people working within Cornwall and the Isles of Scilly were also residents of the area. This would suggest a typical leakage rate of 5%, which has been applied to the innovation and R&D programme<sup>26</sup>;
- displacement – the displacement assumed in relation to each component of the business support programme has been based on the results of the survey. As the SQW Interim Evaluation made clear, displacement is a particular risk in a relatively isolated economy like Cornwall where the sales of a vast majority of firms will be heavily focused on local markets. However, many of the respondents to the survey indicated that a significant proportion of their competitors were based outside of the local area. In addition, a high number of respondents also stated that they expect sales to outside of Cornwall and the Isles of Scilly to increase as a result of the supported initiatives. On balance, a displacement rate of 20% has been assumed;

<sup>26</sup> For the Isles of Scilly the leakage figure will be close to zero but given small number of employees this is not expected to impact on the analysis.

- multiplier effects – alongside directly supporting employment creation, the assistance provided will also lead to additional job opportunities through supply chain expenditure (indirect effects) and induced effects through employee spend on goods and services within the local authority area. In order to take into account both the indirect and induced multiplier effects, reference has been made to the results of the survey along with data from the Annual Business Survey. A composite multiplier of 1.6 has been assumed for the innovation and R&D theme; and
- deadweight – in relation to deadweight, two factors have been considered as part of the survey: whether beneficiaries would have been able to access other forms of assistance in the absence of the programme; and whether the initiatives undertaken by each business could have been carried out without the need for external assistance. Taking into account both these factors, deadweight in terms of innovation is assumed to be 60%.

The additionality adjustments have been applied to both the estimates of gross employment from the monitoring data and from the survey, in order to derive the net additional impact. Based on this analysis, it is estimated that the innovation programme as a whole could create/safeguard between approximately 335 and 437 net additional jobs within Cornwall and the Isles of Scilly, as shown in Table 4.2.

Table 4.2: Net additional employment									
	Gross direct	Less leakage	Gross local direct	Less displacement	Net local direct	Multiplier	Total local direct	Less deadweight	Total net local additional
Monitoring data – achieved	435	5%	413	20%	331	1.6	529	60%	226
Monitoring data – achieved & forecast	899	5%	854	20%	683	1.6	1,093	60%	437
Survey data	689	5%	655	20%	524	1.6	838	60%	335

#### 4.5.3 Net additional Gross Value Added (GVA)

The estimate of net additional GVA has been based on the same additionality adjustments as outlined in Section 4.5.2 above. However, leakage has been assumed to be zero, as GVA is a workplace based measure.

Due to the significant deficiencies and gaps associated with the monitoring data, an average GVA per employee ratio has been calculated from the survey results. This has then been applied to the gross and net additional job estimates from the monitoring data, in order to determine, what is considered to be, a more accurate estimate of GVA.

The assessment of GVA has also allowed for varying assumptions in relation to the persistence of employment impacts. Two scenarios have been modelled as follows:

- annual net GVA – this scenario assumes that the GVA benefits associated with new employment will persist for one year;
- three year persistence – this approach allows for employment benefits to persist for three years. This is consistent with DCLG’s guidance on valuing the benefits of regeneration.

The net additional GVA impact for the programme as a whole is shown in Table 4.3.

Table 4.3: Net additional GVA (£000s)		
	One-year persistence	Three-year persistence
Monitoring data – achieved	7,256	21,769
Monitoring data – achieved and forecast	14,997	44,990
Survey data	11,494	34,481

## 5 Value for Money

### 5.1 Introduction

The value for money of the innovation and R&D projects is assessed using the ‘3 Es’ approach, which considers the economy, efficiency and effectiveness of the projects and the ERDF investment.

### 5.2 Economy

The innovation and R&D theme included 19 projects with a total cost of £163.0 million and ERDF funding of £108.1 million. These were relatively high cost projects and received the largest ERDF investments of all themes, accounting for 31% of the total cost of £533 million, for all 157 projects funded by the Convergence Programme, and 34% of the total ERDF investment of £315 million. The average project cost for innovation and R&D projects was £8.6 million, of which £5.7 million was funded by the ERDF, which was more than 2.5 times larger than the average project costs and ERDF investments, across all themes, of £3.4 million and £2 million respectively.

Table 5.1 summarises the gross unit costs of actual and forecast interventions under the Innovation and R&D theme as of September 2014. The average unit cost per business assist for the interventions considered in this evaluation (i.e. excluding the Innovation Centres) and that are contracted to deliver the relevant outputs is below the estimated Priority 1 target. The cost per job created and created or safeguarded are both significantly higher than the Priority 1 target.

Table 5.1 : Innovation and R&D – unit cost per business assist and gross jobs			
	£ per business assist	£ per gross job created	£ per gross job created or safeguarded
Innovation and R&D Support (excluding Innovation Centres)	62,293 (127,962)	119,025 (138,999)	108,627 (126,857)
Priority 1 target (estimate) <sup>27</sup>	<b>86,710</b>	<b>61,058</b>	<b>44,158</b>

NB: The initial (unbracketed) figure in each case is based on an analysis of achieved and forecast outputs and results reported at September 2014 for those projects that were contracted to deliver the outputs and results in question. The second higher figure (in brackets) is based on the same analysis but including all projects delivered under each category of support (ie, it takes account of expenditure on projects which are not contracted to deliver the relevant outputs and results).

The performance of the innovation and R&D projects against their targets has been varied<sup>28</sup>. Some contracted targets have already been achieved, while others are unlikely to be met by the end of the Programme period. Table 5.2 provides a comparison of target unit costs (based on contracted targets) and projected unit costs (based on the achieved and forecast outputs, results and impacts). Unit costs are provided for the total cost of innovation and R&D projects and for the ERDF investment alone.

The data suggest that:

- the projected costs per business engaged with knowledge base, and per additional firm in clusters / networks are lower than the contracted target;
- the projected cost per business involved in collaborative R&D is similar to the contracted target;
- the projected costs per business assisted, per patent/other IPR granted, and per SME launching new or improved products are significantly higher than the contracted target; and
- the projected costs per gross new job created are also significantly higher than the contracted target.

<sup>27</sup> Calculated using the OP PA1 target and data on actual and forecast PA1 spend as at September 2014.

<sup>28</sup> This, and subsequent analyses in this section, exclude the Innovation Centre projects that are subject to separate evaluations

<b>Table 5.2: Unit costs per output, results and impact</b>				
	<b>Total cost</b>		<b>ERDF investment</b>	
	<b>Contracted target</b>	<b>Achieved + forecast</b>	<b>Contracted target</b>	<b>Achieved + forecast</b>
<b>Outputs</b>				
Cost per business assisted	£118,380	£127,962	£75,465	£81,573
Cost per business involved in collaborative R&D	£350,818	£349,834	£223,639	£223,012
Cost per business engaged with knowledge base	£430,658	£246,820	£274,536	£157,343
<b>Results</b>				
Cost per gross new job created	£101,869	£138,999	£64,939	£88,609
Cost per patents granted / other IPR	£5,430,038	£6,573,204	£3,461,536	£4,190,280
Cost per additional firm in clusters / networks	£330,399	£278,774	£210,623	£177,713
Cost per SME launching new or improved products	£795,483	£953,365	£507,104	£607,751

Source: Programme Monitoring Data

### 5.3 Efficiency and effectiveness

Table 5.3 sets out the public sector economic costs and benefits for the innovation programme. It identifies the cost per net additional job and the Benefit Cost Ratio (BCR), based on a comparison of the net additional GVA impact and public sector cost.

<b>Table 5.3: Value for money assessment</b>	
	<b>Innovation and R&amp;D</b>
<b>Public sector costs (£m)</b>	
ERDF	79.6
Total public sector	124.9
<b>Benefits – net additional employment</b>	
Monitoring data – achieved	212
Monitoring data – achieved & forecast	437
Survey data	335
<b>Benefits – net additional GVA, one-year persistence (£m)</b>	
Monitoring data – achieved	7.26
Monitoring data – achieved & forecast	15.00
Survey data	11.49

<b>Benefits – net additional GVA, three-year persistence (£m)</b>	
Monitoring data – achieved	21.77
Monitoring data – achieved & forecast	44.99
Survey data	34.48
<b>Cost effectiveness</b>	
Cost per net additional job monitoring data – achieved	590,309
Cost per net additional job monitoring data – achieved & forecast	285,634
Cost per net additional job survey data	372,692
BCR, monitoring data achieved, one-year persistence	0.1
BCR, monitoring data achieved & forecast, one-year persistence	0.1
BCR, survey data, one-year persistence	0.1
BCR, monitoring data achieved, three-year persistence	0.2
BCR, monitoring data achieved & forecast, three-year persistence	0.4
BCR, survey data, three-year persistence	0.3

When compared with benchmarks, the innovation and R&D programme does not appear to offer good value for money. The average public sector cost per net additional job identified in DCLG's Valuing the Benefits of Regeneration report in relation to business enterprise research and development is £57,209. This is significantly lower than the cost per job ratios derived for the innovation programme thus.

Return on investment (as represented by the BCR) is also a key indicator of efficiency. The programme monitoring and survey data suggests that the innovation and R&D projects are expected to generate between £34.5 million and £45.0 million of net additional GVA. This represents a poor return on investment on the total project costs of £124.9 million. However, most of the innovation and R&D projects were high cost projects, with a strong focus on large-scale capital investments, and these should be considered medium to long-term investments that will continue to deliver outputs, results and impacts long after the Convergence Programme has finished. The return on investment is therefore expected to increase significantly over time.

This issue is highlighted by the findings of the evaluation of Cornwall Innovation Centres, which found that the innovation centres have delivered a net attributable GVA impact of £10 million to date but are expected to deliver a total GVA impact of £72.7 million including future impacts. This suggests that the large majority of GVA generated by the Innovation Centres will occur after the end of the Programme period. Furthermore, the evaluation also reports that while the Innovation Centres are currently below their projected GVA impacts, the projections of future net GVA impacts are significantly higher than target.

## 6 Key conclusions

The Convergence Programme has funded a broad range of projects, with a particular focus on large-scale capital investments, which has significantly increased the innovation asset base in Cornwall and the Isles of Scilly. It has helped to attract academics, students and funding opportunities that would not otherwise have come to Cornwall. It has also provided valuable workspace in innovation centres to support the development of innovation amongst local SMEs, while other projects have developed knowledge transfer activities to encourage and support innovation among local entrepreneurs and businesses.

The commissioning, appraisal and contracting processes under the Convergence Programme were reported in a number of cases to have increased the burdens for projects and generated delays. While these issues need to be set against the need for diligence in ensuring value for money (and complying with EU and public procurement requirements), there were also frustrations at the hiatus and change of approach caused by institutional change during the Programme period, which have placed additional demands on projects.

Performance in terms of generating outputs, results and impacts has been mixed. Most of the output targets for innovation and R&D projects have either been achieved or are forecast to be achieved by the end of the Programme. However, there have been issues in terms of generating results and impacts, and particularly achieving employment and GVA targets. A number of reasons were cited for the limited employment and GVA impacts including: absolute increases in GVA and employment being restricted by the micro business base and the time taken to generate innovation and R&D capacity within these businesses; the relatively small population of high growth businesses; and the effects of the economic downturn. There were also issues around the targets for business assists, which were considered high partly due to being set at a time of relative economic buoyancy. These were felt to have contributed to competition between some projects, and acted as a barrier to cross-referrals. Businesses were generally satisfied with the support they had received, although responses to the beneficiary survey suggested that many would have undertaken the activities anyway in the absence of the support they had received.

The levels of collaborative working between innovation projects were also varied, despite the clustering of innovation and R&D activities at the Penryn campus and Truro. There are some good examples of linkages developing between innovation projects and between HEIs but the linkages do not cover all projects. There could also be closer alignment and greater cohesion between the innovation and business support projects and this is due, in part, by the closure of Business Link, and the loss of diagnostic and signposting services.

The Convergence Programme has helped to create a 'niche' offer for the area focusing on the environment, renewables, health and creative sectors, which has been supported by the increasing presence and involvement of Plymouth University and particularly the University of Exeter. The collective reputation and scale of innovation and R&D projects and facilities in Cornwall is creating a critical mass and is increasing the attraction of the area for research staff and innovative businesses.

The funded projects have also made progress in encouraging increased links between HEIs and local SMEs and entrepreneurs and have helped to embed knowledge transfer into mainstream

programmes offered by HEIs and research institutions in the area. However, it has been suggested that the university offer is narrow and needs to become broader in order to be relevant for, and engage, a larger number of local businesses. This could involve broadening the offer of Cornwall based HEIs as well as other initiatives, such as innovation vouchers, that can be used to buy in specific expertise from HEIs outside of Cornwall. The Innovation Centres also have a broader sectoral focus and are helping to develop an innovation culture and supporting innovation impacts across local businesses.

## 7 Lessons for the future

Business survey respondents identified a number of ways of improving the effectiveness of innovation support in the future including:

- raising awareness and understanding of the support available. One manufacturing business stated that the support is “a bit ‘cliquey’ and ‘networky’. I came from outside the county and it has been quite difficult to get into until you learn the specific channels.”;
- offering greater continuity and longer term funding, which would help to maximise potential impacts. For example, one business reported that the “support ended abruptly, just at the time when the business was starting to benefit. [There was] no aftercare service so a bit disappointing as advice is still needed.”;
- increasing coverage to target a broader range of businesses. Responses suggested that support could be more focused on elements of the service industry (e.g. tourism-related) to engage a larger number of businesses, although it needs to be clear that it is innovation support and not general business support that is delivered;
- providing greater opportunities to tailor support to meet the individual needs of the business and provide more in-depth or practical support where required;
- providing greater opportunities for networking and collaboration with other businesses; and
- ensuring that levels of bureaucracy and paperwork associated with accessing EU funding are appropriate for the scale of funding and do not cause unnecessary delays or barriers to participation and providers are aware of costs.

A number of general lessons for the future have been identified, including issues to be addressed in the next European Programme:

- projects under the business support and innovation themes could be more closely aligned and more cohesive;
- there is a critical need for a central ‘Growth Hub’ to assess the needs of businesses and direct them to the most relevant services;
- the HEI innovation offer needs to be broader, combined with initiatives such as innovation vouchers to enable businesses to buy in expertise from within and outside of Cornwall and Isles of Scilly in order to engage a greater number of local businesses;

- suggested priorities for the next European Programme include 'skills', 'encouraging an innovation culture change in businesses', and 'provision of suitable grow-on workspace for businesses "graduating" from innovation centres';
- available output and outcome indicators are not always indicative of success. It was suggested that outcomes for innovation projects should consider more explicitly measures such as business survival rates as well as start-up rates;
- the performance metrics for 'businesses assisted' do not support a holistic approach and the provision of a suite of support services to businesses. There should be a better way of capturing these outputs at the project level to encourage greater collaboration between different projects;
- there should be continued funding for the creative sector to build on recent growth and create a critical mass of creative businesses in Cornwall that is better able to compete with other areas;
- targets must be realistic and achievable. They must also take reasonable account of the structure of the local economy and the size of the target group population;
- consultees raised issues relating to the accuracy of GVA impacts, suggesting that it is difficult to track beneficiaries and this meant that it was highly likely that projects were claiming the same GVA, which would mean double-counting impacts at the thematic or overall programme level; and
- there is a need to build on and consolidate the benefits of ERDF Convergence spending particularly in relation to capital expenditure