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Wales Ex Post Evaluation

Priority Review Paper

ERDF Convergence Priority 1 Building the Knowledge Based Economy

ERDF Regional Competitiveness and Employment (RCE) Priority 1

Knowledge and Innovation for Growth

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Wales Ex Post Evaluation
Priority Review Paper

Building the Knowledge Economy
Knowledge and Innovation for Growth

ERDF Convergence Priority 1
ERDF RCE Priority 1

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1 Introduction: Scope of Priorities

The objective of Priority 1 in the West Wales and the Valleys (WWV) Convergence Operational Programme was to ‘promote a high value added economy by improving knowledge and encouraging innovation for growth, fostering Research and Development, innovation and technology and its commercial exploitation and increasing access to and take up of ICT’\(^1\).

Priority 1 in the East Wales Regional Competitiveness and Employment (RCE) Operational Programme had a similar aim although the focus was on utilisation of knowledge and its commercialisation and take-up by businesses in the Programme area. The objective was to:

‘Promote a high value added economy by improving the utilisation of knowledge and innovation for growth, fostering the commercialisation of research, development and technology and increasing its take up by firms’\(^2\)

Unlike the West Wales and the Valleys Programme, the objective of Priority 1 in the East Wales Programme did not directly reference access to and take up of ICT, largely due to the more limited financial allocation to the East Wales Programme.

The overarching objectives of the two Programmes were to be met by making investments under two Themes. These were:

**Theme 1: Research and Development, innovation and Technology**

This Theme was the main focal point of Priority 1 and was expected to absorb around 72% of Priority resources in WWV and 100% of Priority resources in EW. It sought to build innovative capacity within the Welsh business base focusing on the development and take up of new or improved products, processes and services. The aspiration was to achieve this through activities which would develop domestic

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\(^1\) West Wales and the Valleys Convergence ERDF Operational Programme, page 83

\(^2\) East Wales Regional Competitiveness and Employment ERDF Operational Programme, page 78
research, technology and innovation capacity and the ability to commercialise and exploit research.

The Operational Programme made it clear that the participation of larger businesses as well as SMEs was welcome within this Priority, given the potential for SMEs to benefit from activity with larger companies through their supply chains and wider networks.

Activities within this Theme were seeking to:
- Embed a culture of innovation and improvement within firms
- Help businesses to invest in R&D and develop new processes, products, technologies and services
- Develop management capacity to better manage innovation and R&D
- Strengthen Higher Education (HE)/Further Education (FE) capabilities to support businesses through knowledge transfer and commercialisation of research
- Encourage the development of innovative technologies
- Tackle barriers to investment in R&D.

The OP lists a range of indicative activities including innovation / R&D focused business support services, management training, collaborative research initiatives, support for higher and further education institutions to maximise funding opportunities through Framework 7, access to equipment and Intellectual Property (IP) and licensing support and development of environmental technologies. The OP also states that where there is a case for it, the Priority would be able to support activities which would strengthen the research capability, capacity and quality of HE/FE institutions, and the development of advanced skills linked to ERDF projects.

**Theme 2: ICT Infrastructure and Information Society for All**

This Theme was unique to the WWV Programme and was primarily focused on investment in sustainable ICT infrastructure but also sought to increase demand for the use of Information and Communication Technologies (ICTs) more widely. The Operational Programme states that activities in this Theme would seek to:
- Encourage firms to take up ICT
• Encourage firms to embed and fully utilise ICT
• Address social and other barriers to ICT uptake and exploitation by firms, citizens and communities
• Promote common platforms to encourage fair and open access to technologies.

The Operational Programme provides a comprehensive list of indicative activities for the Priority. It states that the emphasis of these activities will be ‘on the use of ICT to transform business processes, products and services and investment in sustainable ICT infrastructure’. The indicative activities include the following:

• Investment in ICT Infrastructure: investment here was expected to be focused on the development of Next Generation Broadband Infrastructure where there was clear evidence of market failure.
• Business support: including support for SMEs to take up and maximise opportunities created by e-business to improve business processes, products and services, targeted support to stimulate the growth of high growth potential ICT industries, creating virtual business networks
• Activities to overcome the digital divide: activities here were expected to focus on increasing the effective use of ICT amongst communities, social enterprises, citizens and the voluntary sector
• Activities to support development of ICT applications: particularly those which have environmental benefits (such as improving resource efficiency or reducing the need to travel)
• Activities which will promote and support computer security
• Activities to encourage HE/FE to develop common IT research platforms

This Theme was expected to absorb 28% of Priority resources in WWV.

In addition to the thematic structure of the Priorities which set out their aims, objectives and indicative activities, WEFO prepared strategic frameworks to provide more detailed guidance to Priority leads when commissioning projects. The activities under this Priority were expected to contribute to a number of strategic frameworks as summarised in the table below. Theme 1 activities map neatly onto the
Innovation, R&D and Technology Strategic Framework whilst Theme 2 activities were covered by two strategic frameworks.

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<th>Theme 1 (WWV and EW)</th>
<th>Theme 2 (WWV Only)</th>
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<tr>
<td>Innovation, R&amp;D and Technology</td>
<td>ICT Infrastructure and Information Society for All</td>
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<td>Innovation, R&amp;D and Technology</td>
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<td>ICT Infrastructure and Exploitation</td>
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<tr>
<td>e-business and Community Exploitation ICT Strategic Framework (Convergence area only)</td>
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The Fields of Intervention outlined in the Innovation, R&D and Technology framework map closely onto the indicative activities outlined within the Operational Programmes. The framework sets out appropriate delivery approaches and indicates that activities supported through the Framework should work towards delivering one or more of its objectives. It also indicates that WEFO anticipated significant cross working and integration between the activities supported\(^3\).

In relation to interventions which seek to develop new products, processes and technologies, the framework indicates that the focus of the framework is upon the commercialisation of research and experimental development. It highlights an expectation that sponsors seeking support for this activity should be able to demonstrate that earlier stages of the development approach have been completed\(^4\).

The framework also draws a clear distinction between the focus of activities for the WWV and EW Programme. It indicates that, given the more limited funding available to this framework in the EW Programme that activity should be tightly focused around indicative activities highlighted in the EW Operational Programme\(^5\).

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\(^3\) European Structural Funds 2007-13 Innovation, R&D and Technology Strategic Framework, Page 8
\(^4\) Ibid page 9
\(^5\) Ibid page 9
The original ICT Infrastructure and Exploitation framework sets out a broad range of Fields of Intervention for the WWV Programme. These are related to:

- **ICT Infrastructure**: the framework aims to ensure affordable access to first class digital infrastructure
- **Business Exploitation**: the framework aims in this area are related to stimulating demand for Next Generation Access to ensure uptake and usage of infrastructure, improving SME competitiveness by encouraging and enabling more effective use of ICT in businesses, stimulating growth of ICT industries, creating digital business networks, promoting and supporting the role of cyber security and developing opportunities to exploit the R&D aspects of ICT exploitation activity
- **Community Exploitation**: addressing barriers to ICT uptake and exploitation by citizens, using ICT to strengthen community cohesion
- **Supporting ICT applications that have an environmental benefit.**

In May 2011, the framework was updated to include a similar set of fields of intervention for the EW Programme.
2 Intervention logic and the changing policy context

A summary logic model for Priority 1 of the WWV and EW Programmes is presented below. This highlights the diverse range of activities that the Priorities were expected to deliver in order to meet their core objectives. The underlying rationale for Innovation, R&D and Technology activities in both the EW and WWV Programmes was related to the relatively poor productivity performance in both areas. In spite of the gap being smaller between EW and the UK, the SWOT analysis underpinning both Programmes highlights a clear gap in the level of GVA per job in both areas relative to the UK average.

Both OPs clearly outline the role that innovation and R&D have to play in responding to the productivity challenge that Wales faces. Both OPs highlight the ability to develop, take-up and improve products and services and commercialise and exploit the outcome of research as key drivers of productivity. They highlight a need to both strengthen the research base and increase the level of value added at the firm level through commercialising outputs of research activity and increasing individual firms’ innovative and R&D capacity, citing various research sources as part of the evidence base to justify the focus. These cover:

- The role of research and innovation driven product and process improvements in establishing global competitive advantage
- Evidence which demonstrates the link between innovation and R&D and business growth
- The likelihood that encouraging the development of innovative, high value added internationally tradeable products, processes and services will lead to improvements in productivity and longer-term growth.
- Evidence which shows that management capacity for innovation and a strong innovative culture is an important starting point to increase firm level innovation.

The rationale for the Priority focus clearly reflects the weaknesses in the productivity of Welsh businesses and their expenditure on R&D that are highlighted in the SWOT analysis. In fact, the rationale presented in the OP goes further than the SWOT
analysis in exploring the opportunities and threats associated with poor R&D and innovation performance.

The rationale presented in the Operational Programmes is appropriate and a clear reflection of the scale and nature of the challenge that both Programme areas face. This analysis is also reflected in the ex-ante evaluation of the programme which states that ‘For the most part, Priority 1 maps closely onto the needs identified within the Analysis’.

However, our assessment is that the analysis underplays some of the strengths highlighted in the SWOT analysis for example:

- In East Wales, there are higher levels of self-reported product / service and process innovation than the average for Wales and the UK as a whole
- The SWOT analyses for both WWV and EW note an increasing trend in income generated from collaborative research between HEIs and public and other organisations that exceeds that experienced in the UK as a whole
- An increasing trend in the number of 5* rated higher education departments in Wales (albeit from a comparatively low baseline, as identified amongst the weaknesses).

While this might be an omission from the rationale presented in the OP, this does not invalidate the rationale for the focus on R&D and Innovation within Priority 1.

There was a reasonable read-across between the SWOT analysis and the rationale presented for Theme 2 (WWV only) although the analysis of the rationale presented in the Operational Programme is much less comprehensive for this Theme. It highlighted three main points, namely that:

- Effective use of ICT is important in opening and extending markets and strengthening business competitiveness
- There is a need for supply side interventions to improve the availability of ICT infrastructure

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6ERDF Competitiveness Ex-Ante Evaluation, Page 33
- Low levels of ICT literacy in Wales could play a role in exacerbating social and economic exclusion.

The SWOT analysis highlighted weaknesses related to the lower rates of business ICT use than in the UK as a whole and difficulties in the take-up and accessibility of some ICT developments. It also underlines the lower take-up of new developments in ICT combined with poor geographic coverage in some areas.

The breadth of activities expected under Priority 1 was reflected in the broad array of outputs and outcomes against which the Priorities would deliver. The ex-ante evaluations of the EW and WWV Programmes did not include any specific or detailed comment on the appropriateness of the selected indicators. At the time of the evaluations, the scale of the targets for each Programme had not been set and the ex-ante evaluators were advising WEFO on the most appropriate methodology to employ in order to set the level of the targets.

Our analysis is that the output and outcome targets that were selected were appropriate to the activities of Theme 1 and provided a suitable framework to capture the full breadth of activities expected under this Theme. The selected outputs and results offer a less close fit to the range of activities expected under Theme 2, although this reflects the highly specialist nature of many of these activities and relative narrowness of the output and result indicator framework for the ERDF Programme as a whole.

It is worth noting that neither of the Priorities were targeted to deliver any of the core impact indicators included in the Operational Programmes. In our view, the lack of impact indicators could reflect the likelihood that many activities in Priority 1 (for example those related to the development of new research facilities or strengthening research capacity) might not directly support the creation of net additional impacts within the reporting period for the Programme. This is a valid justification for the exclusion of impact targets for some types of activity. It is however important to note that business support activities supported under Priority 1 could feasibly support improvements in company level performance. While many of these impacts could take time to materialise, it is not unrealistic to expect that some of these impacts
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could materialise within the Programme period. It would therefore have been justifiable to include targets to capture the net additional impacts on job and GVA creation as a minimum (accepting that only some projects would contribute directly to these targets).

Implementation

WWV P1 was allocated a substantial amount of ERDF Grant (£224m) while the allocation to the corresponding Priority in the EW Programme was much lower at £23m.

The analysis of commitments contained within the 2008 and 2009 Annual Implementation Review (AIR) reports suggest that both Priorities got off to a strong start7. This was largely due to the ability to quickly commission a number of strategic projects that the WG were looking to deliver on a pan-Wales basis. By 2009, both

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7 ERDF Competitiveness Annual Implementation Review and ERDF Convergence Annual Implementation Review Reports 2008 and 2009
Programmes had committed more than 40% of their ERDF allocations and the strong performance of both of these Priorities, as well as underspend in other areas of both Programmes, resulted in an increase in the allocation to the budgets for both Priorities. The final allocations to these Priorities were £285m for the WWV Programme and £29m for EW.

Progress in respect of each of the strategic frameworks is described below.

**Innovation, R&D and Technology Strategic Framework**

Commitments under this framework got off to a very strong start for both the WWV and EW Priorities through a number of WG led strategic projects. In WWV, the strong initial interest in Priority 1 continued into 2009 with another six projects committed that year. These included some large strategic investments including the Institute of Life Sciences, the Wales Business Innovation Support Programme and the Digital Tourism Network.

The Innovation, R&D and Technology Strategic Framework was updated in 2009 to reflect the changing WG policy direction. The focus of this Strategic Framework was originally shaped by Wales: A Vibrant Economy (WAVE). This strategy set out a vision to deliver strong and sustainable economic growth by helping more people into work and helping to raise the incomes of those in work. This strategy also identified a range of priority sectors and actions which informed the development of the Operational Programme.

The original design of this Theme (and Priority 1 more widely) was also informed by Wales for Innovation, the innovation strategy for Wales, which emphasised the importance of communicating the benefits of innovation to businesses alongside interventions to better equip people to innovate. The focus of Wales for Innovation was on maximising HE/FE capability through developing closer links between academia and businesses and encouraging technology development, transfer and commercialisation.

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8 ERDF Competitiveness Annual Implementation Review and ERDF Convergence Annual Implementation Review Reports 2009
As the Programmes were implemented, the policy and economic context shifted substantially. The publication of Economic Renewal: a New Direction in 2010 outlined a new role for the Welsh Government in supporting innovation, R&D and ICT. This strategy re-emphasised the various barriers and challenges that prevent Wales from realise its full R&D and innovation potential. It highlighted in particular Wales’ lack of a large R&D base whilst emphasising the role that R&D plays in stimulating innovation. This strategy also underlined the role of innovation as a key driver of productivity and economic growth. The strategy recommended a more focused approach to research and development which focused explicitly on four priority areas where Welsh universities would have the best opportunity to maximise their research performance and economic impact (digital economy, low carbon economy, health and bioscience, and advanced engineering and manufacturing). These sectors are in line with those which were highlighted in the Wales Science Strategy as being important to Wales’ economic development. The strategy also advocated a policy shift away from non-repayable grant funding.

There was a desire to refocus the framework on areas that had emerged as strategic Priorities for the Welsh Government following the onset of recession and to strengthen links to the Skills for the Knowledge Economy Strategic Framework (given the close links and opportunities between the two frameworks). Changes during 2009 also reflected a desire on the part of WEFO to mirror the emerging sector policy which had been developed in response to the financial crisis.

The sector focus started to become evident in the profile of projects being approved under Priority 1 of the Convergence OP. The 2010 AIR for WWV lists a range of projects approved during 2010 which were focused on Priority sectors including energy, and advanced manufacturing.

While the WWV Programme was continuing to attract a lot of interest, commissioning activity slowed in EW and the 2009 AIR highlights gaps weaknesses in the project
pipeline\textsuperscript{10}. It had become clear by this point that the WG led strategic projects alone would not be sufficient to fully commit EW P1 (as outlined in the 2008 AIR). In response to the slowing progress of EW P1, the OP was modified during 2009 to accommodate demand for broadband and R&D innovation centre related activities. This modification was agreed and it created a strong pipeline of activities which were highlighted in the 2010 AIR as having potential to significantly improve the commitment level. This came to fruition in 2011 when WEFO committed £9.5m to the Next Generation Broadband Project and The Nano and Micro Technology project. The Nano and Micro Technology Project offered a good fit to the Investment Framework but the rationale for the inclusion of the Next Generation Broadband Project here is much less clear given that the Next Generation Broadband Project represents a major investment in ICT Infrastructure of a type that was not envisaged in the EW Programme.

**Convergence Communication, e-business and Community Exploitation of ICT**

Only the WWV Programme was expected to make a contribution to this framework. Although as noted above the slow take up of the EW allocation led to the EW Programme funding some activity under the innovation, R&D and technology framework which was arguably better suited to the Convergence communication, e-business and community exploitation of ICT framework.

The 2008 AIR notes steady interest in this framework. As for the Innovation, R&D and Technology framework, the Welsh Government took a strategic lead by taking forward three large pan-Wales projects covering e-business and community dimensions of the framework. This quick initial progress was followed by a lull in commissioning activity during 2009. During this period, WEFO was awaiting confirmation from the Commission about the eligibility of expenditure of broadband infrastructure under this Investment Framework\textsuperscript{11}. This was expected to be a large focal point for Priority spend so the slowing down of commissioning activity in the run-up to the Commission’s decision was to be expected.

\textsuperscript{10} East Wales ERDF Regional Competitiveness and Employment Programme Annual Implementation Report 2009, page 67
\textsuperscript{11} Ibid. page 68
When confirmation about the eligibility of infrastructure spend was received in 2009, the OP was adjusted accordingly and WEFO started to develop a major project application for the Next Generation Broadband project. This was submitted to the Commission in 2012.

Further adjustments were made to the strategic framework in parallel to the preparation of the major project application for broadband infrastructure. In 2010, the framework was adjusted to enable investment to include building computing capability across universities (to provide enabling technology that delivers research, innovation, high level skills development and transformational ICT) and to include support for SMEs in the telecommunications market to assist them in developing and taking their ideas to market. The rationale for and drivers behind these changes is not clear.

A decision was taken in April 2010 to support the Next Generation Broadband project with £80m ERDF. This took the Priority as a whole up to full commitment.
3 Funded projects: ‘fit’ with intervention logic

Theme 1 was the only Theme under Priority 1 of the EW Programme and therefore accounted for the full allocation to Priority 1 in EW. Theme 1 was expected to encompass 72 percent of Priority 1 allocation in WWV. In the WWV Programme, the actual pattern of investment was more heavily weighted towards Theme 2, which eventually accounted for 39 percent of ERDF grant committed to projects, rather than the 28 percent expected in the OP.

The 2016 ERDF Business Evaluation concluded that ‘there was a balance spread of activity under the different Strategic Frameworks for Enterprise, Innovation, ICT and Business Finance and Community Economic Development’\(^\text{12}\).

Looking in more detail at the specific investments that were made under Priority 1, the table below (page 20) presents a high level analysis of the type of project activities that were funded under Theme 1 of the WWV and EW Programmes. This allocation is based on a brief review of project level evaluations where they are available. Where evaluations are not available, the table identifies fit to the Themes based on the project description. This means that in many cases the high level mapping could omit some project activities. The analysis of this fit should therefore be thought of as indicative.

Investments in the Innovation, R&D and Technology Theme (Theme 1) were spread across a large number of projects. The WWV Programme invested in 19 projects and the EW Programme invested in six projects. Looking at the nature of the projects in more detail, the following are notable:

- A small number of large investments in strategic projects reflects the Welsh Government and WEFO’s desire to ensure that a core innovation and R&D support offer would be available across Wales. There are two notable projects here: the JEREMIE fund included a specific sub-fund which would provide early stage funding for Proof of Concept (PoC) and R&D focused

\(^{12}\) ERDF Business Evaluation (2016) Page 86
businesses in both Programme areas. The Business Innovation Support Programme was designed to provide a broad R&D and Innovation support offer to SMEs across Wales. These two strategic investments together represented almost £40m of ERDF investment (17 percent of the total invested under Priority 1 in the two Programmes combined)

- Projects providing R&D focused business support were a major focal point: all but three of the 19 projects supported by the WWV Programme and half of the six projects supported by the EW Programme included some element of R&D focused business support. In some instances (e.g. the Business Innovation Support Programme) this was the primary purpose of the project, whilst in others the business support was delivered as part of a wider project e.g. delivering capital investment in research facilities (examples include the Engineering Manufacturing Centre and Swansea Bay Innovation Hub)

- The Priorities have supported a mix of higher volume projects providing broadly cast innovation and R&D support and more specialist / tailored offers: in both EW and WWV, the Business Innovation Support Programme was a major investment in a broad support programme to assist businesses with various aspects of product and process innovation. These projects were major investments that were expected to engage and work with a large number of businesses. Alongside the broad appeal of the Business Innovation Support Programme, both the EW and WWV Programmes made various investments into more specialist projects which would provide a more tailored offer based around the requirements of particular sectors or technologies (e.g. Centre for NanoHealth, Institute for Life Sciences)

- The WWV Programme was particularly focused on investments that would strengthen research capability, capacity and quality: there have been a number of investments in this Priority on new facilities to assist in research, R&D and business engagement. These include the Engineering Manufacturing Centre, Institute for Life Sciences and the Centre for Nano Health.

- The EW Programme invested in broadband infrastructure: as outlined earlier the EW Programme was not expected to have any focus on broadband infrastructure although it eventually made an investment of £9.5m into a broadband infrastructure project. This investment represents a substantial
proportion of Priority resources but it does not offer a clear fit with the aspirations and indicative activities under Theme 1.
### Summary of Committed Projects in WWV P1 Theme 1 and EW P1: Innovation R&D and Technology

<table>
<thead>
<tr>
<th>Convergence (WWV)</th>
<th>Strengthen Research Capability, Capacity and Quality</th>
<th>Finance to Support academia in the commercialisation of IP</th>
<th>R&amp;D Focused Business Support</th>
<th>Support to encourage the commercialisation of research / collaborative research</th>
<th>Stimulating Innovative Use of Advanced and Integrated ICT Solutions</th>
<th>Equipment and IP Licensing Support</th>
<th>Finance Schemes providing R&amp;D, Patent and PoC funding,</th>
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### Summary of Committed Projects in WWV P1 Theme 2: ICT Infrastructure and Exploitation

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<th>Community Level Digital Divide Focused Activities</th>
<th>ICT Infrastructure</th>
<th>Development of ICT Applications and Computer Security</th>
<th>Activities to Encourage HE/FE to develop Common IT Research Platforms</th>
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</thead>
<tbody>
<tr>
<td>Next Generation Broadband for Wales Convergence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>High Performance Computing Wales</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Communities Two Point Zero</td>
<td>1</td>
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<tr>
<td>Digital Tourism Business Framework</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Centre of Excellence in Mobile Applications and Services</td>
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<tr>
<td>Digitisation For Business</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>eBusiness and ICT Support</td>
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<td></td>
<td></td>
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<tr>
<td>eCrime Wales</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>1</td>
<td></td>
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</tr>
</tbody>
</table>
Theme 2 was only included in the WWV Programme. It invested £121m in a relatively small number of projects:

- **Broadband infrastructure project accounts for the majority of investment:** the £80m Next Generation Access project was focused on the rollout of next generation access broadband infrastructure in WWV. A key requirement for the State Aid notification for this project, like other broadband projects, was that any network rollout had to benefit ERDF eligible SMEs.

- **Major investment into projects to encourage both basic and more advanced ICT use reflects an aspiration to maximise returns from investment in infrastructure.** There were specific programmes to encourage SME adoption (E-business and ICT Support) and community level adoption (Communities 2.0). Alongside these projects which focused on the lower reaches of the adoption ladder, the High Performance Computing project offered support to assist businesses with more advanced ICT uses. It provided access to high performance computing technology and training to assist them to exploit technology to improve business performance and growth. This was the second largest investment under this Theme, receiving almost £20m ERDF.

- **A small number of more specialist projects to encourage ICT take up and adoption within specific groups:** alongside these major investments WEFO invested in a number of relatively small scale projects (on average less than £2m each). These were quite specific in their focus and the link to the wider R&D and Innovation focus of Priority 1 is not particularly clear for many of these. For example, there was a specific offer for tourism and heritage businesses and a project focused on the digitisation of library services. The Centre of Excellence in Mobile Applications and Technologies is the only project in this category which appears complementary to the wider aspirations of Priority 1.
4 Targets and achievements

The tables which follow present the indicators and targets and the final outturn achieved by Priority 1 in the WWV and EW Operational Programmes. The data presented in these tables is based upon Programme level monitoring data provided by WEFO and has not been verified as part of the evaluation.

The data indicates that although both Priorities have spent more than their original allocation, neither has fully invested the additional allocation granted mid-way through the Programme period. The WWV Programme spent £253m but was £30m short of its revised allocation and £29m spent by projects funded through Priority 1 of the EW Programme was £2m short of its revised allocation.

These tables point towards very mixed progress against the Priority level output targets. On the one hand, the Priority has performed very well against the following targets:

- **Amount of new innovation centres and R&D floorspace:** The original target of 2,500 sqm was substantially exceeded and the eventual outturn of almost 20,000 sqm reflects the much greater focus on R&D and innovation infrastructure development than expected in the WWV Programme. Conversely, the EW Programme did not deliver anything against this output. This reflects difficulty noted in the AIRs in attracting applications from well-developed and deliverable projects.

- **Number of Businesses Assisted.** In the WWV Programme, the over performance against this indicator suggests a greater focus on business support activities than expected. Conversely, in EW the target was reduced substantially mid-way through the Programme. The rationale for this reduction is not explored in any of the AIRs although we assume that this is related to the expectation that the EW Programme would underperform against the original target set.

- **Number of SMEs Receiving Financial Support:** both Programmes provided financial support to a greater number of SMEs than expected. In EW the target appears to have been set at a very low level (50 SMEs) and so the eventual
Outturn of 218 represents substantial over-achievement. In WWV the original target of 250 also appears to have been set at a very low level. This was increased to 400 mid way through the Programme and was eventually over-achieved by some 19 percent.

- **Collaborative R&D**: in both Programmes the target here appears to have been set at a very low level. The EW Programme was only expected to result in 10 new R&D collaborations and the WWV Programme was expected to reach 20. These targets appear to be at a very low level given the scale of investment in P1 and the focus of the Priority. While R&D collaborations are resource intensive and challenging, it is not clear why the level was set so low. The eventual performance of projects far outstripped these targets. The target for WWV was increased from 20 to 500 and the Priority still out-performed this revised target substantially. This could reflect a change in the nature of collaborations. That is, an initial expectation that P1 would support a small number of very intensive (and potentially higher impact) collaborations. The eventual outturn (around 1,600 R&D collaborations) suggests that the focus might have been on lower intensity, less complex (and potentially lower impact) collaborations.

- **Individuals Assisted**: in the WWV Programme, the Communities 2.0 project was focused on assisting individuals to adopt and exploit ICT. The strong performance of this project in output terms is the key reason for the strong performance against this indicator. This project, plus the others under Theme 2 most likely explains the success against the Initiatives Addressing Barriers to ICT uptake noted for the EW Programme.

The EW Programme did not perform well against its targets for the number of **enterprises assisted to utilise ICT to promote innovative capacity**. The reason behind this under performance is not outlined within any of the AIRs. In addition, the reason for the poor performance against the output target relating to broadband rollout is unclear and not covered in the AIRs.

Performance against result indicators was similarly mixed and largely reflects the mixed performance against output indicators. The important points here are:
• Both Programmes performed strongly against results which record tangible R&D and innovation related outcomes: both Programmes exceeded their target for the number of products, processes or services registered by more than 300 percent in both. In both cases, the original targets for this result indicator were set at a very low level (21 in EW and 70 in WWV) and these were increased substantially midway through the Programmes, although the rationale for this change is not explained within the AIRs. Similarly, both Programmes performed strongly against their targets for the number of new or improved products, processes or services. The EW Programme exceeded its target by 16 percent whilst the WWV Programme fell slightly short but still reported in excess of 4,000 new or improved products, services or processes.

• In spite of performing well against innovation and R&D related outcome targets, both Programmes underperformed substantially against their targets for gross jobs created: the 250 gross jobs created reported by the EW Programme and 2,150 by the WWV Programme represents 21 percent and 22 percent of the Priority targets respectively. Poor performance against these targets suggests that they could have been set at an unrealistically high level (this was certainly the case for the JEREMIE project). The targets appear ambitious given the nature of activities expected under Priority 1:

(i) it was always expected that a substantial proportion of funding would be invested into infrastructure projects that would not directly support employment creation.

(ii) The R&D and Innovation focus of activities that would have a more direct relationship with employment creation (such as business support) would inevitably make results slow to materialise given the innovation focus of the activity.

This is noted in the 2014 AIR for the EW Programme, which states that ‘the reason that the targets for Gross Jobs created are not expected to be met is that the targets did not take into account the lag in delivering results that is experienced in R&I activities’ (whilst evaluation evidence also points to project delays and underperformance). This analysis is not reflected in the WWV AIR narrative – this states that poor performance against this target (and most others) is linked to the poor economic climate.
• **The WWV Programme exceeded its target for enterprises created:** the initial target of 20 enterprises created was modest, although this was increased to 80 mid-way through the Programme. The Programme exceeded this by some margin while the EW Programme failed to record any enterprises created against its very modest target of 10.

• **Under-performance against targets for enterprises accommodated in the Programme probably reflects difficulties in recording these results within the Programme timescale:** this area of under-performance is not explored in any detail in the AIRs. The focus on creation of new floorspace in the Programme and the strong performance in respect of the innovation centres and R&D facilities developed output target makes the poor performance against this result target for the number of enterprises accommodated appear counterintuitive, although a shift in the balance between floorspace for academic research and SMEs could explain this. The Programme only reported 20 enterprises accommodated, against its relatively low target of 50. This could reflect the lag between the construction of floorspace and its eventual occupation and reporting of results. But it could also reflect a slightly greater focus on R&D and innovation facilities that are used for academic research rather than for use by SMEs (i.e. such as the Life Sciences Hub). It is notable that performance against the jobs accommodated result target is much stronger and this probably reflects the wider focus of this measure with its coverage of consultancy support for SMEs.

• **Both Programmes performed poorly against the profit benefit target:** the EW Programme achieved 18 percent of its £18m target and the WWV Programme underperformed to a similar extent, reporting just £29.5m against its £159m target (19 percent). AIRs indicate that the challenge here was related in part to projects’ ability to collect appropriate evidence from companies to prove that profit improvements are directly linked to ERDF investment. The 2014 AIR for the EW Programme also notes that where additional profits are re-invested by businesses it cannot be reported under this result. The project evaluation evidence provides some evidence to confirm this, but also highlighted that businesses investing in R&I and business growth may experience a considerable lag in profit creation.
## Summary of Targets and Achievements for EW P1

<table>
<thead>
<tr>
<th>Category</th>
<th>Original Target</th>
<th>Revised Target</th>
<th>Cumulative Outturn</th>
<th>% of Revised Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outputs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprises Assisted</td>
<td>830</td>
<td>400</td>
<td>559</td>
<td>140%</td>
</tr>
<tr>
<td>Enterprises assisted to utilise ICT to promote innovative capacity</td>
<td>166</td>
<td>166</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Enterprises Financially Supported</td>
<td>50</td>
<td>50</td>
<td>218</td>
<td>436%</td>
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<tr>
<td>Collaborative R&amp;D</td>
<td>10</td>
<td>10</td>
<td>48</td>
<td>480%</td>
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<tr>
<td>Innovation Centres and R&amp;D Facilities Developed (floorspace)</td>
<td>-</td>
<td>1,500</td>
<td>-</td>
<td>0%</td>
</tr>
<tr>
<td>Open access infrastructure points</td>
<td>-</td>
<td>50</td>
<td>97</td>
<td>194%</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross jobs created</td>
<td>1,200</td>
<td>1,200</td>
<td>251</td>
<td>21%</td>
</tr>
<tr>
<td>Enterprises created</td>
<td>10</td>
<td>10</td>
<td>-</td>
<td>0%</td>
</tr>
<tr>
<td>Profit benefit</td>
<td>£18m</td>
<td>£18m</td>
<td>£3m</td>
<td>18%</td>
</tr>
<tr>
<td>Enterprises adopting/improving equality strategies /monitoring</td>
<td>50%</td>
<td>50%</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>Enterprises adopting and improving Environmental Action Plans</td>
<td>20%</td>
<td>20%</td>
<td>2%</td>
<td>10%</td>
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<tr>
<td>Products, processes or services registered</td>
<td>21</td>
<td>80</td>
<td>283</td>
<td>354%</td>
</tr>
<tr>
<td>New or improved products, processes or services launched</td>
<td>830</td>
<td>400</td>
<td>462</td>
<td>116%</td>
</tr>
<tr>
<td>Investment induced</td>
<td>£16m</td>
<td>£16m</td>
<td>£25m</td>
<td>157%</td>
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<td><strong>Budget</strong></td>
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<tr>
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<td>£62m</td>
<td>£54m</td>
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</tr>
<tr>
<td>Revised Budget Allocation</td>
<td>£23m</td>
<td>£29m</td>
<td>£27m</td>
<td>92%</td>
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</table>
## Summary of Targets and Achievements for WWV P1

<table>
<thead>
<tr>
<th>Category</th>
<th>Original Target</th>
<th>Revised Target</th>
<th>Cumulative Outturn</th>
<th>% of Revised Target</th>
</tr>
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<tbody>
<tr>
<td><strong>Outputs</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Enterprises Assisted</td>
<td>5,000</td>
<td>5,000</td>
<td>6,793</td>
<td>136%</td>
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<tr>
<td>Enterprises Financially</td>
<td>250</td>
<td>400</td>
<td>477</td>
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<tr>
<td>Supported</td>
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<tr>
<td>Individuals Assisted</td>
<td>500</td>
<td>500</td>
<td>1,391</td>
<td>278%</td>
</tr>
<tr>
<td>Individuals Financially</td>
<td>25</td>
<td>25</td>
<td>10</td>
<td>40%</td>
</tr>
<tr>
<td>Supported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open access infrastructure</td>
<td>7</td>
<td>300</td>
<td>212</td>
<td>71%</td>
</tr>
<tr>
<td>points</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Initiatives addressing barriers</td>
<td>15</td>
<td>15</td>
<td>16</td>
<td>107%</td>
</tr>
<tr>
<td>to ICT uptake</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Collaborative R&amp;D</td>
<td>20</td>
<td>500</td>
<td>1,556</td>
<td>311%</td>
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<tr>
<td>Innovation Centres and R&amp;D</td>
<td>2,500</td>
<td>7,500</td>
<td>19,309</td>
<td>257%</td>
</tr>
<tr>
<td>Facilities Developed</td>
<td>(floorspace)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Results</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross jobs created</td>
<td>10,000</td>
<td>10,000</td>
<td>2,153</td>
<td>22%</td>
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<td>Enterprises created</td>
<td>20</td>
<td>80</td>
<td>124</td>
<td>155%</td>
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<tr>
<td>Profit benefit</td>
<td>£159m</td>
<td>£159m</td>
<td>£29.5m</td>
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</tr>
<tr>
<td>Enterprises adopting or</td>
<td>50%</td>
<td>50%</td>
<td>6%</td>
<td>-</td>
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<tr>
<td>improving equality strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and monitoring systems</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Enterprises adopting and</td>
<td>20%</td>
<td>20%</td>
<td>6%</td>
<td>30%</td>
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<tr>
<td>improving Environmental Action</td>
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<td>Plans</td>
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<td></td>
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</tr>
<tr>
<td>Products, processes or services</td>
<td>70</td>
<td>250</td>
<td>903</td>
<td>361%</td>
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<td>registered</td>
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<td>New or improved products,</td>
<td>5000</td>
<td>5000</td>
<td>4325</td>
<td>87%</td>
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<tr>
<td>processes or services launched</td>
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</tr>
<tr>
<td>Investment induced</td>
<td>£150m</td>
<td>£150m</td>
<td>£118m</td>
<td>79%</td>
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<td>Enterprises accommodated</td>
<td>50</td>
<td>50</td>
<td>20</td>
<td>40%</td>
</tr>
<tr>
<td>Jobs accommodated</td>
<td>150</td>
<td>150</td>
<td>669</td>
<td>446%</td>
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<td>£501m</td>
<td>£502m</td>
<td>£453m</td>
<td>90%</td>
</tr>
<tr>
<td>Revised Budget Allocation</td>
<td>£224m</td>
<td>£286m</td>
<td>£254m</td>
<td>89%</td>
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5 Cross cutting themes

Projects funded under P1 in the EW and WWV Programmes were expected to incorporate the two cross cutting themes (CCTs) of Equal Opportunities and Environmental Sustainability into their design and delivery.

The aims of the Environmental Sustainability Theme as set out in both Operational Programmes are as follows:

- Reducing emissions of greenhouse gases to help limit the extent of climate change and help to adapt to its effects
- Promoting sustainable transport
- Promoting efficient use of resources
- Promoting sustainable management of the land, sea and inland waters
- Improving the quality of the local built environment and opportunities to access green space
- Minimising the risk of pollution and other environmental hazards thereby safeguarding the health of communities and the environment.

The objectives of the Equal Opportunities and Gender Equality for Women and Men are as follows:

- Increase the number of individuals who have multiple disadvantages accessing employment and self-employment
- Increasing the number of women, BME people and disabled people securing training and employment in higher paid and higher skilled sectors and self-employment.
- Challenging occupational segregation by increasing the number of women and men training or retraining in non-traditional areas, focusing on areas where there are skills shortages
- Increasing the numbers of employers and training organisations that have equality and diversity strategies, including monitoring systems and methods for feeding in improvements.
The ex ante evaluation of the 2007-2013 ERDF OPs found that overall, ‘the Programme builds on good practice in relation to the integration of the CCTs, ensuring that these are built in from an early stage’\(^\text{13}\).

Specifically in relation to the equal opportunities cross-cutting theme, the ex ante evaluation found that:

- ‘Most of the focus of equal opportunities is on the ESF Programme and the labour market’ and that there was a ‘lack of explicit targeting’ in relation to equal opportunity themes in the ERDF Priorities and Themes
- ‘More could be done to consider how ERDF funding can contribute to equal opportunities, for example in relation to companies assisted and jobs created and safeguarded’\(^\text{14}\).

In relation to the environmental sustainability CCT, the ex ante evaluation found that:

- ‘There is strong consistency between the Gothenburg Agenda and the Programme’
- In terms of sustainable transport, ‘the link to congestion could be made more explicitly’
- There would be ‘merit in exploring how far the Programme can contribute to the development of the green sector of the economy by for example encouraging R&D and innovation in this area’
- The Programme ‘will need to ensure that it goes beyond protecting the environment to a pro-active promotion of environmental objectives’\(^\text{15}\).

Both Programmes were targeted to report against a CCT related result indicator for the environmental sustainability theme. The target was for 20 percent of SMEs assisted to adopt or improve environmental actions plans as a result of their engagement with ERDF funded projects. Performance against this target was poor in both WWV and EW. Just 6 percent of SMEs assisted in WWV and 10 percent of SMEs assisted in EW adopted or improved environmental action plans.

\(^\text{14}\) Ibid. Pages 53 and 54.
\(^\text{15}\) Ibid. Page 55.
In relation to the Equal Opportunities theme, both Programmes had a target for the proportion of SMEs that had adopted or improved equality strategies or monitoring as a result of their engagement with ERDF funded projects. The eventual outturn against these targets was particularly poor, with EW reporting nothing against this result indicator and WWV reporting that only 6 percent of SMEs had made any improvement.

While the CCT targets might have been stretching, there is some evidence to suggest that neither CCT was integrated fully into project commissioning and delivery. It is not clear from monitoring data whether this poor performance was linked to a shortfall in the number of projects that were targeted to deliver on this result indicator, or whether individual projects had failed to deliver on their commitments.

CCTs have not received a great deal of attention in the thematic evaluations for ERDF although the process evaluation suggested that funded projects had integrated the Cross Cutting Themes more thoroughly into Project Business Plans at the application stage than in previous Programmes, but that the extent to which commitments made had been undertaken on the ground were more mixed. It also suggested that some projects got off to a slow start and as a result were more focused on aspects of delivery that were perceived to be more pressing.

The Cross-Cutting Themes evaluation commissioned by WEFO\textsuperscript{16} (while not being specific to ERDF Priority 1) found that:

- ERDF projects reported higher levels of 'lack of incentive' in relation to the CCTs\textsuperscript{17}
- In terms of barriers to integration and mainstreaming 'it is clear that for many [project sponsors] the CCTs are not seen as a top priority and this is linked to a perception that the clients (including employers in ERDF Programmes) do not want to engage with CCTs\textsuperscript{18}

\textsuperscript{17} Ibid. Page 42.
\textsuperscript{18} Ibid. Page 79.
• There are some differences between perceptions of barriers in ESF and ERDF, with the latter group identifying more barriers to success. This might indicate the need to profile support somewhat differently for these different Programmes.

An earlier ‘Process Evaluation’ completed in 2011 concluded in respect of the CCTs that:
• There was evidence of ‘steady progression and improvement over previous Programmes’.
• The difficult economic conditions (resulting from the global economic downturn) ‘may mean that the Equal Opportunities theme is losing prominence, while in contrast Environmental Sustainability was seen as being higher on the agenda as a result of perceived new market and growth opportunities in the environmental sector’.

The majority of project level evaluations reviewed have paid very little attention to CCTs so it is difficult to draw firm conclusions about the extent to which CCTs were embedded into delivery. Although most of the evaluations cover projects’ performance against CCTs, the analysis was mostly quite light touch and few evaluations have provided a full analysis of the extent to which CCTs were truly embedded into delivery or the effectiveness of different activities.

A review of final project level evaluations suggests that projects were complying with, and adopting their own organisations’ policies and practices in relation to equal opportunities and environmental sustainability. It was frequently reported that these policies and practices had been embedded into the overall delivery as a matter of course.

There are some examples where CCTs have been integrated effectively into project delivery. These include:

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19 Ibid. Page 88.
21 Ibid. Page 73
22 Ibid. Page 74.
Cardiff University’s LCRI project reportedly took CCTs very seriously and appointed a dedicated CCT officer. This officer worked across the various work-streams / sub-projects delivered as part of the LCRI project and sought to ensure that CCTs were adequately considered and reflected in delivery. The evaluation concludes that the availability of a dedicated CCT officer helped to ensure that CCTs were integrated into all aspects of delivery. It also had the effect of ensuring that the monitoring and reporting of CCT results was integrated into the core monitoring approach for the project as a whole. This ensured the availability of data and information to help guide and shape delivery and also to reflect the project’s achievements.

The Engineering Manufacturing Centre evaluation indicates that the project had developed a dedicated sustainability policy and sustainable procurement policy. It is not clear however to what extent this is a result of the CCT requirement or influence of the Programme’s CCT team, or whether this reflects a wider policy decision on the part of Swansea University.

The SEREN project evaluation suggests that the project team at Cardiff University took the CCT requirement seriously. The project had a Cross Cutting Themes Group which included individuals from each of the project’s work packages to oversee delivery against the project level targets and ensure that the CCT requirements were embedded into the delivery of each work package. This approach appears to have resulted in some tangible examples of CCTs being integrated into delivery. For example, the team developed a bespoke toolkit to help businesses to review and develop their approach to environmental management. The project also delivered equality impact training for all of the SEREN staff team and this was cited in the evaluation as being particularly helpful in securing progress against the E&D Theme.

The Communities 2.0 project adopted an innovative approach to integrating the CCTs into delivery. After an initially slow start in respect of CCTs, the project got to grips with the activity needed and developed an app to assist with delivering against environmental sustainability requirements. The app allowed the project’s staff to work with supported organisations to produce a report on their equality and environmental policies. This report was designed to identify potential actions and improvements. The investment in this app to help integrate CCTs fully
throughout delivery appears to have been effective in delivering CCT related outcomes. A strong proportion of enterprises assisted by this project also received support on equalities and/or environmental management.

While there are some strong examples of delivery against the aspirations of CCTs, it is very difficult to comment conclusively about the extent to which these are truly additional benefits that would not have been delivered in the absence of the CCT requirement. In many cases, the evaluations simply conclude that projects conformed to minimum statutory standards or those of their accountable body. For example, the evaluation of the Swansea Bay Innovation Hub indicates that all E&D requirements were carried out during the construction in line with Swansea University’s existing policies.

There are some examples of missed opportunities to further integrate CCTs into delivery. For example:

- The evaluation of the Engineering Manufacturing Centre concludes that the environmental sustainability Theme was not a major factor in the design of the building and that this is evident in the energy efficiency performance of the building itself.
- There were no formal targets set for the JEREMIE project. The evaluation concluded that this is appropriate given the nature of the project’s activities and the potential for the imposition of targets related to CCTs to act as a barrier to investment activity.
- The SEACAMS project missed its targets by some margin and the evaluation concludes that these were set at too high a level and were perceived by the project to be a distraction to effective delivery of the project’s core activities. There is little evidence for this project that CCTs received any real attention from the project.

It is notable that a number of evaluations of Priority 1 projects (listed below) indicate that projects were referring clients to projects funded as part of Priority 2 to deliver CCT related activity. This means that some projects might have been instrumental in supporting improvements in environmental and equality performance amongst SMEs.
but this is not reflected in their monitoring data as the results will have been claimed by Priority 2 projects receiving their referrals. As projects did not report on the number of referrals made, we cannot explore the extent of this activity. The review of project evaluations suggests that this referral based approach was quite widespread amongst P1 projects and there are various examples of where this was reported as being effective. In particular:

- The Centre of Excellence in Mobile Applications and Services project integrated an environmental assessment into the project’s own initial SME need assessment / diagnostic and referred SMEs to Business Wales for bespoke support where appropriate
- The Nano and Micro Technologies for Healthcare project subcontracted CCT delivery to a specialist company. The evaluation concluded that this was an effective way to deliver CCT related activity. It is also notable that this project negotiated lower CCT targets based on the likelihood that the project’s target clients, as well established companies working in the healthcare sector, would already have a good approach to Equality and Diversity and Sustainability.

Project evaluations tended to conclude that sub-contracting CCT activity or delivering this through external referrals or incorporating more specialised CCT capacity within their delivery teams are strong approaches. For those projects that have used a referral based approach, shifting the role of project staff to referral rather than delivery of CCTs appears to reduce the extent to which CCTs are perceived as a burden by project staff and frees delivery staff up to focus on their core activities. Some evaluations also indicate that this has a positive effect on the quality of CCT provision. For example, the evaluation of the Centre for Nanohealth states that targets for CCTs should either be removed or there should be greater scope to subcontract this activity. Similarly, the evaluation of the Advanced Sustainable Manufacturing Technologies project recommends that CCT related support should be sub-contracted to allow more effective and specialist support to be provided to SMEs where appropriate.
6 Evaluation evidence: common barriers and success factors

The ERDF Business Evaluation\textsuperscript{23} covered a range of business support related investments on the Themes of Enterprise, Innovation, ICT, Business Finance, and Community Economic Development. The analysis covered 17 projects funded through WWV P1 and 4 projects funded through EW P1. Much of the analysis relating to common barriers and success factors cuts across business support projects as a whole (rather than being tailored to R&D and innovation related activities) although its findings provide helpful context. The evaluation found that there had been challenges in launching the ERDF Programmes and Business Support projects during a period of economic recession but that ‘the Programmes had adapted well to the changing circumstances’\textsuperscript{24}.

In terms of the global financial crisis and subsequent recession, the ERDF Business Evaluation found that ‘due to the economic conditions ERDF Business Support had to do more to help businesses through the recession’. This potentially had implications as the Operational Programmes had a clear focus on supporting growth\textsuperscript{25}. The ERDF Business Evaluation went on to find that ‘with suppressed demand, many businesses moved from a mind-set of growth to one of consolidation, employment sheltering, and in some cases survival’\textsuperscript{26}. The evaluation notes in particular that the onset of the economic recession dampened demand for projects supporting R&D, although the evaluation also notes that demand picked up eventually\textsuperscript{27}.

The ERDF Business Evaluation also found from undertaking consultations with project managers that ‘there was a strong sense that the original (and in some cases the updated) targets were overly ambitious and this was mainly attributed to the prolonged economic downturn’\textsuperscript{28}.

\begin{thebibliography}{99}
\bibitem{erdf23} ERDF Support for Business Evaluation (February 2016).
\bibitem{erdf24} ERDF Support for Business Evaluation (February 2016) Page 22.
\bibitem{erdf25} Ibid. Page 24.
\bibitem{erdf26} Ibid. Page 11.
\bibitem{erdf27} Ibid. Page 24.
\bibitem{erdf28} Ibid. Page 59.
\end{thebibliography}
More detailed evidence about the common success factors and barriers affecting project delivery can be found in project level evaluations. The evaluations that have been reviewed vary in their depth, quality and focus. Only around half of the evaluations reviewed have explored process related matters in any depth and so the evidence base in respect of the common barriers and success factors is fairly limited.

While it is difficult to be definitive, there are some common barriers and success factors identified in the evaluation evidence. These include:

- Effective **management and governance** was highlighted in numerous evaluations amongst the main success factors. For example, the evaluation of the Engineering Manufacturing Centre highlighted the importance of senior level representation from members of Swansea University’s strategic management team on the project’s board as a key success factor in delivery. This senior representation ensured that the project had high status and enabled decisions to be taken quickly when challenges in delivery arose. The importance of quality management systems was also emphasised for projects which involve academic partnerships and work across institutions. For example the evaluation of the Advanced Sustainable Manufacturing Technologies project notes that the project’s efforts to ensure that there was clarity about processes and procedures was a key factor in ensuring that partnerships between academic partners were strong. These were communicated using a clear process and procedures manual that all partners signed up to.

- The availability of **appropriately skilled resource for delivery** appears as a key theme in many evaluations. The evaluation of the Advanced Sustainable Manufacturing Technologies project highlights the importance of delivery staff who have both academic and commercial experience in projects which are seeking to develop industry / academic collaboration. The evaluation concludes that this is essential in ensuring that project delivery is in line with business expectations. The evaluation notes in particular that the role of delivery staff as a bridge between industry and academia is particularly important in ensuring that research is delivered to commercial rather than academic timeframes. Other project evaluations have noted the importance of highly skilled and experienced
staff in developing an initial relationship with SMEs. For example, the evaluation of BEACON concluded that experienced and knowledgeable staff were essential in identifying and understanding client needs to ensure that the project delivered an appropriate mix of support. Similarly, the evaluation of the Business Innovation Service underlines the importance of the breadth and depth of skills of the innovation advisors in identifying and understanding business needs and ensuring that businesses have confidence in the service from the outset.

- Broad **engagement with relevant stakeholders** was identified in a number of evaluations amongst the key success factors. In particular, engagement of academic staff in the design and delivery of projects was frequently highlighted. This was certainly the case for the Engineering Manufacturing Centre where the evaluation concluded that the project’s engagement with academic staff during the building design process helped to ensure that the design of the building was fit for purpose. Similarly, the evaluation of the Swansea Bay Innovation Hub concluded that the early engagement of construction contractors during the design phase helped to ensure a smooth construction process.

- **Strong approach to partnership and integration with other services with similar or complementary aims.** The benefits of effective relationship building are perhaps most evident in the JEREMIE project evaluation. This notes that Finance Wales strong brand image in Wales and their network of professional advisors and relationships with technology focused co-investors was an important success factor in delivery. For the Technology Ventures Sub-Fund the approach was to develop relationships with venture capital co-investors and technology transfer offices of universities to identify potential prospects for investment. The evaluators found that this had been an effective mechanism for engagement with potential investee companies. In addition to this, Finance Wales’ relationships with existing business support services were also highlighted as being important in bringing SMEs into the Fund and developing a joined up approach to business growth and support. The evaluation of SEACAMS also notes that integration with the Welsh Government’s wider business support initiatives as central in securing inward referrals to the project and also to provide continuity and ongoing support to maximise the impact of activities. For the Communities 2.0 project, this engagement with counterpart services was also highlighted. The project team
brokered agreements with a range of third sector organisations to help the project engage with harder to reach communities

- The LCRI project evaluation also highlighted the effectiveness of the project’s engagement approach and the importance of the project’s work to build meaningful partnerships with existing employer networks. This allowed the project to access appropriately skilled individuals to help guide and shape delivery.

Although projects have experienced an array of barriers, a number of common themes emerge here too:

- The effect of the **financial crisis and subsequent recession** on project delivery should not be understated. It shaped delivery of many of the projects, although its effect on each project was different. For example, for the JEREMIE fund the financial crisis was neither a barrier nor a success factor in delivery but it did dramatically alter the project’s delivery. The financial crisis changed the supply of finance and financial landscape in Wales to such an extent that the JEREMIE Fund transitioned from its traditional role as a provider of gap funding, to one of the primary sources of funding for SMEs in Wales. The flexibility that was built into the JEREMIE Fund’s investment strategy allowed resources to be switched between difference types of finance and sub-funds as different patterns of demand emerged during the financial crisis and recession

- The **poor fit between the framework targets and the activities delivered by many projects** was highlighted in numerous evaluations as a key delivery barrier. Many evaluations indicate that projects were expected to deliver high volumes of business assists and that the requirement to meet volume targets acted as a distraction against achievement of R&D related outcomes. For example, the objectives of the SEACAMS project were focused primarily on creating and delivering collaborative R&D projects but the project was also expected to deliver against a target for lower intensity business assistance. The evaluation reports that this less intensive business support activity became a distraction from the higher intensity collaborative R&D related activities. Similarly, the evaluation of the Centre for NanoHealth identifies the project’s need to focus on delivering a large number of business assists as a major barrier to the
The evaluation evidence is not strong on why exactly this was a barrier, but it is a frequently a combination of it being a distraction and having to structure their delivery differently which hinders more intensive provision.

- Some of the barriers identified in project evaluations underline the importance of integration with other services. For example, the inability of client companies to access finance to implement innovation and R&D projects is highlighted in the evaluation of the Institute for Life Sciences project as an effect of the financial crisis and a barrier in project delivery. The evaluation does not explore the extent to which the project was signposting clients into the JEREMIE project as a source of finance, although it does suggest that there might have been a case for stronger integration between the projects supported by P1 to maximise the effectiveness of delivery. Similarly, the evaluation of the Business Innovation Support Programme highlighted some substantial gaps in the advisors’ knowledge base in relation to access to finance.

- Lag between project activities and results. This was particularly challenging for projects which were seeking to develop R&D collaborations. There is a substantial elapsed time needed to develop and negotiate collaborations and further lag between the collaborations themselves and eventual R&D and innovation related outcomes (such as new or improved products, processes etc.). There is yet further time needed to realise the economic development benefits associated with these. This was noted in the evaluation of the Nano and Micro Technologies for Healthcare evaluation which states that the upfront time needed to develop more complex and potentially higher impact collaborations meant that many of these only became active towards the end of the delivery period. This means that there was insufficient time available for benefits to materialise and for these to be reported these to the ERDF Programme.

- Capacity of SMEs to absorb support and technical advice was cited as a constraint for a number of projects. For example, the Advanced Sustainable Manufacturing Technologies project reported that the time available within businesses to engage with the project and receive support dampened demand. The evaluation also indicates that the level of technical knowledge and resources within some businesses and their internal capacity created delivery challenges.
which meant that project staff had to work more intensively with its clients than it originally expected to ensure successful delivery of the support.

- A few project evaluations cited the administrative requirement of ERDF as barriers to delivery. For example, the evaluation of the Business Innovation Support programme indicated that the administration of the project was viewed as particularly challenging by the project sponsor and that this proved to be a barrier to SME engagement in some instances. The number of checks and balances within the ERDF system was highlighted as a factor which slowed the progress of SMEs through the support. The evaluation of Communities 2.0 also noted that the administration process was unnecessarily onerous and that this diverted activity and energy from value adding activities.
7 Evaluation evidence: impact

The ERDF Business Evaluation\(^{29}\) provides a comprehensive analysis of the impact of various types of business support intervention funded through the WWV and EW ERDF Programmes.

The evaluation is underpinned by a survey of 1,000 beneficiaries of business support projects funded through WWV P1, P2 and P5 and EW P1 and P2. Of the 1,000 interviews, 124 were supported under WWV P1 and 14 were supported under EW P1. This gives an unweighted total of 138 responses relating to the two Priority 1s.

The following Priority 1 projects were included in the sample:

- JEREMIE Fund (Competitiveness)
- Business Innovation Support Competitiveness
- E-Business and ICT Support Competitiveness
- RD and I Financial Support for Business Competitiveness
- Knowledge Exploitation Capacity Development
- Knowledge Transfer and Collaborative Industrial Research
- JEREMIE (Convergence)
- Centre for Nanohealth
- Business Innovation Support
- SEACAMS
- SEREN
- Technium Pan-Wales
- LCRI
- Advanced Sustainable Manufacturing Technologies
- BEACON V2
- Institute for Sustainable Design
- WISE 2
- ECrime Wales
- eBusiness and ICT Support

\(^{29}\) ERDF Support for Business Evaluation (February 2016)
Although Priority 1 beneficiaries are represented in the sample, most of the findings of the ERDF Business Evaluation are not Priority specific. The small proportion of the overall sample that P1 beneficiaries represent make it difficult to draw firm conclusions which are wholly relevant to P1 interventions. More generally therefore, the evaluation found that:

- Around 30 percent of beneficiaries surveyed stated that ERDF support had had an impact on employment. Within this group, 75 percent stated that new jobs had been created and just over half (53 percent) reported that some jobs had been safeguarded
- Over half of beneficiaries (59 percent) stated that the employment impacts would not have occurred without ERDF support
- More than a third (35 percent) of beneficiaries reported that further jobs would be created over the next five years as a result of ERDF support
- Just over half of all beneficiaries (52 percent) reported that turnover had increased since they received ERDF support
- Just under half (46 percent) highlighted that productivity and profitability had improved since support
- Beneficiary businesses receiving direct financial support reported experiencing the most positive change in terms of turnover performance although the CIE analysis found that the ‘actual amount of financial support given to firms had no significant impact on any of the outcome measures’
- The latest aggregate turnover of surveyed beneficiary businesses was almost £730m; this had increased 10 percent since the time beneficiaries received ERDF support. Profits had increased 16 percent, up to just under £40m, and export turnover had increased by 29 percent up to nearly £83m over the same period
- Nearly four out of five beneficiaries reported that ERDF support had made some contribution to their performance; within this group, nearly 30 percent stated it had made a vital contribution

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• The results on business impacts achieved since receiving the support were generally more positive than the results from the 2011 ERDF business survey. The proportion of beneficiaries reporting an increase in turnover had increased from 41 percent in 2011 to 52 percent in 2015.\textsuperscript{31}

In terms of employment effects, the ERDF Business Evaluation found that:

• Survey data indicated that across the whole sample, 927 gross new jobs had been created and 1,123 other gross jobs had been safeguarded since ERDF support was provided. The survey data showed that an estimated 35 jobs had disappeared since ERDF support, resulting in a total impact of 2,015 gross jobs.

• The percentage of survey respondents saying that jobs had been created as a result of ERDF support was 23 percent in 2016 compared with 17 percent in the 2011 ERDF Survey. In contrast, the percentage of survey respondents saying jobs had been safeguarded in the 2016 survey was 16 percent, down slightly on the 18 percent found in the 2011 survey.\textsuperscript{32}

• In terms of attribution levels, 62 percent of WWV Priority 1 beneficiaries surveyed said that employment impacts would not have occurred without ERDF support. The equivalent figure for Priority 2 in the EW Programme was notably higher at 74 percent.\textsuperscript{33}

Overall, more than a third (35 percent) of surveyed beneficiaries reported that further jobs would be created over the next five years as a result of ERDF support. The proportion was 34 percent for WWV Priority 1 and 53 percent for EW P1.

In terms of turnover effects, the 2016 ERDF Business Evaluation found that (across all businesses surveyed – not just those supported via Priority 1):

• In relation to deadweight (and its converse, additionality), over half of the ERDF supported businesses surveyed (554 businesses) ‘were able to provide an estimate of annual attributable impact either as a figure or as a percentage of turnover’. Based on survey data, the report estimated that ERDF support...
had ‘generated £40.1m in annual attributable turnover (both new and safeguarded)’\(^{34}\)

- In relation to substitution effects\(^{35}\), the evaluation found that the majority (86 percent) of the surveyed businesses said that there had been no substitution effects. The average substitution effect across the whole sample of businesses surveyed was estimated to be 4.6 percent. The annual attributable turnover figure was reduced to £38.3m on the basis of substitution effects\(^{36}\).
- In terms of displacement effects\(^{37}\), the evaluators estimated this to be 35 percent. On that basis, the annual attributable turnover figure was discounted by £13.4m to £24.9m\(^{38}\).

The ERDF Business Evaluation used ONS derived estimates to gain inference on an assessment of turnover-to-GVA. This led to an estimated total GVA impact (taking account of achieved and likely future turnover impacts amounting to £178m) of £46.3m. However, it should also be noted that the counterfactual impact analysis undertaken found that while there was ‘tentative support for the positive effects of ERDF support’, there were ‘major caveats to the analysis’\(^{39}\).

**Project Level Evaluation Evidence**

None of the projects commissioned under P1 were contractually required to deliver against impact targets as no impact targets were set for the Priority. In light of the lack of impact targets, the majority of the project evaluations have not attempted to quantify the net additional impact of project activities.

It is important to note that not all of the projects supported by Priority 1 were expected to deliver activities that would directly support net additional economic benefits. For example, projects which have funded new research and technology

\(^{34}\) ERDF Business Survey. Page 66.
\(^{35}\) Defined by the researchers as ‘an assessment of whether a firm’s involvement in the ERDF project detracted from other development activities elsewhere in their business’. Page 66.
\(^{36}\) Ibid. Page 67.
\(^{37}\) Defined by the researchers as ‘where increased economic activity in one location has the effect of reducing economic activity elsewhere’. Page 67.
\(^{38}\) Ibid. Page 68.
\(^{39}\) The two main restrictions (while note exclusively related to Priority 1 were the inability to generate a suitably matched control group and the lack of wider explanatory variables to use in the analysis’. ERDF Support for Business Evaluation. SQW. February 2016. Page 78.
facilities (such as LCRI, Institute of Life Sciences and the Centre for Nanohealth) were expected to make an important strategic contribution rather than directly support net additional economic benefits (e.g. on employment or GVA). As such, the evaluations of these projects have focused upon the scale and nature of the strategic and non-quantifiable benefits that these projects have delivered.

Projects which have engaged directly with businesses offer greater scope for a quantified assessment of net additional economic impacts. This group includes projects which have provided finance (e.g. JEREMIE), R&D focused business support services (e.g. the Business Innovation Programme), or supported the development of R&D collaborations (e.g. Advanced Sustainable Manufacturing Institute). For these projects the relationship between activity and impact is more direct and it is reasonable to expect that these projects have potential to produce the following types of impact:

- Increase in company turnover: through the revenue generated through new or improved products or services delivered as a result of project activities
- Net additional employment: associated with increased company turnover
- New enterprises created: spin out companies formed to commercialise particular R&D / innovation intensive products or services
- Increase in company level GVA: this can be associated with productivity benefits realised through process innovation as well as GVA associated with additional turnover.

It is important to note that the R&D and innovation focus of project activities means that quantifiable impacts can take a long time to materialise, particularly in instances where projects are focused on early stage technologies that are distant from market.

As evaluations are undertaken at the end of project delivery, there has often been insufficient time for the full impact of project activities to materialise. A number of evaluations have dealt with this by including projections of impact, although these are inevitably subject to some uncertainty.
A small number of project evaluations have sought to quantify net additional impacts. The estimates are summarised in the table below. There are some notable gaps in the coverage of impact evidence. In particular, there has been no comprehensive impact analysis undertaken for the broadband infrastructure and ICT adoption projects.

<table>
<thead>
<tr>
<th>Project</th>
<th>Net Additional Jobs</th>
<th>Net Additional GVA</th>
<th>Notes on assessment of evidence of impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>JEREMIE</td>
<td>3,500</td>
<td>£350m</td>
<td>Impacts are projected over fund lifetime and dependent on investment realisations. Therefore a highly uncertain projection. Counterfactual based on self-report evidence only.</td>
</tr>
<tr>
<td>BEACON</td>
<td>-</td>
<td>£&lt;500k</td>
<td>Calculation is based on the gross jobs created output and adjusted to account for an assumed level of deadweight, displacement and leakage. Counterfactual based on self-report evidence only.</td>
</tr>
<tr>
<td>Business Innovation Support</td>
<td>935 to date (plus 2620 projected)</td>
<td>£16m to date (plus £44m projected)</td>
<td>Assessment is based primarily on business survey data and a self-reported counterfactual.</td>
</tr>
<tr>
<td>CEMAS</td>
<td>80 to date (plus 126 projected)</td>
<td>£2.9m to date (plus £4.6m projected)</td>
<td>Basis of projected impacts is unclear, but we assume it is either a rough estimate or a counterfactual based on self-report evidence only.</td>
</tr>
</tbody>
</table>

The lack of comprehensive analysis of net additional impact presents a challenge for the Priority level impact assessment. Programme monitoring data is the only source of information about project outcomes that provides complete coverage across the Priority but the breadth of project activities mean that none of the outcome indicators are relevant to all types of project activities. Although it is reasonable to expect that all projects will contribute to job creation, the relationship is not direct in all cases and many projects were not expected to report upon this indicator.

The evidence required to claim against the gross jobs created result indicator means that the majority of the 2,400 gross jobs reported for Priority 1 are likely to be associated with projects that have had some direct interaction with SMEs and which are therefore likely to directly support job creation. A unit-cost analysis would need to exclude the expenditure of projects (or parts of projects) which support employment creation indirectly. This level of detail is not available and as a result a unit-cost analysis would be misleading.
8 Evaluation evidence: other outcomes and unintended consequences

The project level evaluations note a range of wider benefits of the investments in P1.

In particular:

- **Legacy of improved relationships and partnerships between industry and academia**: One of the benefits highlighted in the evaluation of the Advanced Sustainable Manufacturing Technologies project was the success of the project in breaking down some of the cultural barriers that prevent industry / academic collaboration. The evaluation of the Institute of Life Sciences also point towards the legacy of joint working between the Health Service and industry as an important and sustainable legacy benefit of the project.

- **Strengthened relationships between universities**: a number of the projects notably the BEACON and Centre for Nanohealth were delivered in collaboration between various HEIs. The project evaluations here point towards an important benefit related to the development of collaborative relationships between these HEIs. For example, the BEACON evaluation clearly highlights the strengthened collaborative relationships between Aberystwyth, Bangor and Swansea Universities and the evaluation of the Centre for Nanohealth underlines the wider benefits of collaboration with universities outside of Wales (The University of Keele, Dublin University and Liverpool University) as part of project delivery.

- **Building academic expertise** is cited as a major benefit of the LCRI project. The evaluation notes that building up academic expertise in low carbon related disciplines is highlighted as a major legacy effect and the evaluation notes that many of the academics attracted to Wales by the ERDF funding have been retained post funding, largely through additional research income secured through project activities.

- **Levering in additional research funding**: There are numerous examples of research work directly funded via the LCRI project having been used as a catalyst to attract and lever significant further research funding to Wales and lead academic researchers working on various LCRI projects, notably from the Hydrogen project for instance being appointed to influential and high profile
advisory roles. Linked to this, two of the project evaluations (SEREN and the Centre for NanoHealth) note that the ERDF project made a contribution to the Research Excellence Framework (REF) in their host institutions

- **Benefits for the profile and reputation of Wales’ HEIs:** a number of project evaluations highlight reputational benefits amongst the wider non quantifiable benefits of projects. For example, the evaluations of the Engineering Manufacturing Centre, SEREN, LCRI and the Centre for NanoHealth all identify the role of the projects in improving the profile and reputation of their host HEIs and Wales more widely as a location for business investment and knowledge based activity. Similarly, the evaluation of the LCRI project notes that the research work funded by the project has raised the profile of HE sector in Wales

- **Sector development:** many of the investments made by the two Operational Programmes under Themes 1 were highly specific to particular sectors and will provide important infrastructure to support their development. The evaluations of the Engineering Manufacturing Centre, the Centre for NanoHealth, BEACON and SEREN projects all highlight the longer term benefits of the investments to the development of priority sectors in Wales.

- **Safeguarded employment:** although safeguarded employment was not one of the formal ERDF result indicators, some of the evaluations have explored the extent to which projects have safeguarded jobs. The evaluations of The Centre of Excellence in Mobile Applications and Services and SEREN both comment on the role of the project in safeguarding jobs. It is feasible that other projects could have safeguarded employment but as this was not a formal ERDF indicator, it was not covered consistently in evaluations.

A number of project evaluations suggest that continued funding will be required to maximise the benefits and impact of the ERDF investment. Evaluations of projects that have delivered research facilities or floorspace emphasise that the full scale of benefits will only be realised through the continued operation and use of these facilities. In a number of cases, the evaluations recommend that further investment into longer-term posts will be needed to deliver impacts. For example, the evaluation of the Swansea Bay Innovation Hub recommends that the project needs to make a senior level appointment to develop relationships with SMEs to promote the centre
and ensure that it is well used. Some projects have secured funding for these ongoing posts (the College of Engineering at Swansea University is proposing to fund a business development and monitoring role to ensure the continued operation of the Engineering Manufacturing Centre. In other instances, the availability of funding for ongoing operation is not clear. A number of project evaluations indicate that projects are seeking funds from the ERDF 2014-20 Programme or Horizon 2020.
9 Availability and quality of evaluation evidence

Project level evaluations are available for 21 of the 33 projects funded through these two Priorities. Coverage of Convergence projects is much more extensive than for the Competitiveness Programme. The evaluations cover:

- **18 of the 27 Convergence projects**: these evaluations cover £178m (57%) of invested ERDF in this Priority
- **Three of the six Competitiveness projects**: this is around half of the £34m ERDF invested under this Priority.

For the Convergence Priority three of the nine missing evaluations are for larger projects (in excess of £10m). These are:

- Next Generation Broadband for Wales (£80m ERDF): it is not clear whether this project has been evaluated.
- High Performance Computing Wales (£19.6m ERDF): it is not clear whether this project has been evaluated.
- Knowledge Transfer and Collaborative Industrial Research (£11.3m ERDF): it is not clear whether this project has been evaluated.

These projects together account for more than £110m of ERDF invested under Priority 1 of the Convergence Programme.

As noted above, coverage for the Competitiveness Programme is at a similar level with around half of the ERDF invested being covered by project level evaluations. The largest omission from the evaluation evidence base for this programme is the Next Generation Broadband for Wales Competitiveness Programme, which received almost £10m ERDF investment.

The majority of the project evaluations are final evaluations although many of these have been undertaken before project closure.
The quality of the project-level evaluation is mixed and overall not particularly strong in terms of the quality of analysis of impact. In our assessment, we rated just two of the evaluations as strong. A large proportion (9 of the 21) were rated as weak and the remaining 10 were rated as moderate.

On the whole, the weaker evaluations appear to have been undertaken with modest budgets (based on the nature of the research methods used and the scope of the analysis provided). Many of the evaluations do not provide adequate quantitative analysis of impact for a final project evaluation. In some cases, this appears to be due to the nature of the study brief, rather than any conscious decision on the part of evaluators to focus on aspects of the evaluation outside of impact assessment. In light of the purpose and focus of this review, these evaluations with poor impact analysis have been rated as weak in spite of some of these evaluations providing what appear to be insightful comments in terms of the development and delivery process.

The majority of the evaluations (12) use survey data to inform the analysis. Those that do not use survey findings, tend to draw upon more qualitative research methods to reflect the smaller population of beneficiaries or the specific types of impact supported by a project. Only a very small number of evaluations don’t include any beneficiary engagement. Telephone surveys are most frequently used and these have tended to yield adequate samples. On the other hand, web based surveys in the evaluations undertaken for this Priority have not tended to deliver adequate samples and so the insight they provide is limited. It is important to note that this does not necessarily mean that web based research is inappropriate as part of evaluations. The lesson here is that evaluators need to carefully select the most appropriate research methods in light of the requirements of each study, the nature of the population and the depth of engagement they have had.

Almost all of the evaluations use mixed methods and the majority draw on a combination of Programme data, survey research (of some type) and a programme of delivery and stakeholder interviews. For the most part, studies triangulate to some extent between different data sources, although only a handful of evaluations do this particularly well. Overall, there is a strong reliance on survey data across the
evaluations and in some cases this is the sole focus of the analysis. This is not surprising given the impact focus of final evaluations.

There is a significant lack of robust CIE across all of the evaluations. Numerous evaluations pay only scant attention to the question of additionality and a large proportion simply apply benchmark additionality adjustment factors without any qualitative or quantitative analysis to support their selection or use. None of the evaluations use any comparator or control group methods.

Those that have attempted to explore the counterfactual have tended to do so using softer self-reported evidence drawn from beneficiary surveys. Where this type of approach has been taken, the focus has been upon beneficiaries’ own views of what proportion of benefits they could have realised in the absence of the project (the limitations of this type of approach are widely recognised and detailed in reports such as the National Audit Office’s review of government evaluation).

The mixed quality of the evaluation research and the generally poor coverage of the counterfactual for many of the schemes suggests that there could be scope to strengthen the evidence base in relation to impacts on business performance. Any gap filling work would need to use telephone or web based survey methods to capture new data from beneficiaries (given the range of R&D and innovation outcomes in addition to those related to business performance, approaches that use data matching and linkage to secondary datasets such as the IDBR would not be appropriate in most instances).

In considering the desirability of additional primary research, it is important to note that the majority of the evaluations have already delivered some form of beneficiary research. As most of these evaluations have been completed relatively recently (i.e. in the last 12 months), it is likely that response rates to any further survey work could be limited. This would undermine the value of any additional impact focused research.
10 Conclusions

WWV P1 and EW P1 have together invested in excess of £280 million ERDF grant into a broad range of projects. This is slightly more than the Priorities’ original allocation. Priority 1 was underpinned by a strong rationale in both programmes and this was closely tied to the SWOT analysis which underpins the Operational Programmes. For both Themes, the OP set out a broad mix of indicative activities which were appropriate to the needs identified in the Operational Programmes and provided a comprehensive illustration of the type of activities that P1 was expecting to invest in.

Theme 1 was focused on R&D and Innovation and WEFO identified a range of output and result indicators which captured the various activities and results associated with the indicative activities. The WWV Programme included an additional Theme in P1. Theme 2 was focused on ICT infrastructure and adoption. Here, the narrow range of output and result indicators that were selected was less well suited to the activities proposed under this Theme. This largely reflects the specialist nature of these activities and the narrow set of indicators available in the ERDF monitoring framework.

While an appropriate range of output and result indicators were selected to support Programme monitoring, the rationale for the omission of impact indicators for the Priority as a whole is not clear. The relationship between some types of activity and quantifiable economic benefit is indirect and so not all projects can reasonably be expected to create quantifiable economic impacts. However, Priority 1 was expected to support activities which had scope to directly create net additional employment, turnover and GVA impacts within the Programme period. For example, it is not unreasonable to expect that some of the innovation related business support activities could result in improvements in firm performance within the programme period.

The strategic projects led by the Welsh Government to ensure pan-Wales coverage of innovation support, SME finance and ICT adoption activity helped both
Programmes to make strong initial progress. These core offers were supplemented by some more specialist projects that provided a tailored offer for specific sectors. While both Programmes supported a range of projects and fully invested their original ERDF allocations, there is some evidence that the EW Programme needed to be adjusted in order for it to invest its full ERDF allocation. The Programme expected to focus on the utilisation of knowledge and innovation within businesses but it experienced less demand than expected for activities of this type.

The substantial investment into broadband infrastructure and exploitation made by the Programme represents a change of focus that was inconsistent with the original aspiration of the OP. This is particularly apparent in the EW Programme, which was adjusted mid-way through implementation to allow investment in ICT Infrastructure that were not envisaged when the Priority was designed. The £9.5m invested in broadband infrastructure represents around a third of EW P1 investment.

Although both Programmes fully invested their ERDF allocations the performance against output and result targets was mixed. Although many of the projects performed well against result targets which record tangible R&D and innovation related outcomes, both Programmes performed poorly against the linked jobs created target. This partly reflects the very ambitious level at which these targets were set but could also be a reflection of the time that it takes for many R&D and innovation focused activities to create tangible economic benefits.

As with other Priorities, performance in respect of CCT targets was poor and the evidence suggests that CCT related activity was not embedded into delivery. There are some examples of innovative approaches to CCT delivery which have helped to maximise the additional impact of the CCTs without overburdening project delivery staff. The projects that either had dedicated specialist CCT staff, or which adopted a referral based approach, appear to have been most successful in integrating the CCTs into delivery.

The evaluation evidence in respect of delivery and impacts is patchy and the shortcomings in the evaluation evidence base make it very difficult to draw firm conclusions about the overall economic impact of the Priorities. This is a significant
limitation of the evidence base, but a shortcoming which is not uncommon in the project evaluations for research and innovation activity given the inherent challenges of these activities. However, the evidence base in relation to the qualitative and strategic benefits of projects is much stronger than that relating to the quantifiable net additional impacts that investments have supported.

The lack of comprehensive analysis of net additional impact presents a challenge for the Priority level impact assessment. The breadth of project activities mean that none of the outcome indicators collected in Programme monitoring data are relevant to all types of project activities. Although it is reasonable to expect that all projects will contribute to job creation, the relationship is not direct in all cases and many projects were not expected to report upon this indicator. The majority of the 2,400 gross jobs reported for Priority 1 are likely to be associated with projects that have had some direct interaction with SMEs and which are therefore likely to directly support job creation. A unit-cost analysis would need to exclude the expenditure of projects (or parts of projects) which support employment creation indirectly. This level of detail is not available and as a result a unit cost analysis would be misleading.

A number of the points raised here highlight the challenges of evaluating R&I activity both at a priority and project level. It requires careful consideration in terms of the use of robust counterfactuals which can establish causation as well as other research methods to identify displacement, but also allow enough time for the impacts to be realised, captured in the analysis and reported. There is the likelihood that some impacts will not have been measured in the evaluation activity described above.

The main lessons and learning points from this Priority review are:

- Programme targets need to be set at a level that is realistic in light of the nature of activities that Priorities expect to support. Targets should be set to reflect the balance of activities of different types and tested carefully against achievements of previous Programmes
The indicator framework should also include an appropriate set of quantitative measures of impact, even if these measures only cover some categories of activity within the Priority.

Evaluations should be commissioned and managed in a way that ensures a robust, quantitative and ideally consistent evidence base (including CIE) in respect of impact, particularly for larger projects.

ERDF can be used effectively alongside Welsh Government resources to provide universal coverage of broadly cast types of R&D and Innovation support for SMEs.

For larger projects, the availability of specialist in-house CCT staff helps to embed CCT into project activity, while smaller projects might wish to consider adopting a referral based approach to ensure that CCT activity is proportional.