

# Sêr Cymru II Mid-Term Evaluation

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## Executive Summary

### 1. Introduction

- 1.1 The Sêr Cymru initiative was initially launched in 2012 by the Welsh Government to address the Science, Technology, Engineering, Mathematics and Medicine (STEMM) capacity deficit in Wales and build a stronger science base in Wales.
- 1.2 It aimed to develop research excellence in the grand challenge areas of life sciences and health, advanced engineering and materials and low carbon, energy and environment which form the cornerstone of Wales' SMART Specialisation strategy<sup>1</sup>.
- 1.3 Sêr Cymru II builds upon a predecessor operation, Sêr Cymru (subsequently referred to as Sêr Cymru I), which operates via three National Research Networks (NRNs) covering Life Sciences and Health NRN, the Advanced Engineering and Materials NRN and the Low Carbon, Energy and Environment NRN. Sêr Cymru II aims to further strengthen Wales' research performance by targeting investment, attracting world-class research talent and, in the case of non-ERDF-funded elements, supporting infrastructure.
- 1.4 One element of the Sêr Cymru II programme receives £39.1m funding via the West Wales and Valleys and East Wales ERDF Operational Programmes, the Higher Education Funding Council for Wales (HEFCW), Care Research Wales and the Welsh Government. This element set out to attract research-excellent scientists in their early or middle stages of their career, and those currently on a career break into research posts in Wales. It offers

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<sup>1</sup> SMART Specialisation Strategies are a key part of the European Commission's approach to Cohesion Policy for 2014-2020. They are national or regional innovation strategies that are integrated, place-based economic transformation agendas. Source: European Commission. Smart Specialisation factsheet. March 2014.

four types of fellowship opportunities for Research Fellowships, Recapturing Talent, Rising Stars and Chair positions.

- 1.5 In addition to the ERDF funded element, the Sêr Cymru II programme also contains a Marie Skłodowska-Curie COFUND funded operation, part of the Horizon 2020 programme, which will run until February 2021. This £17m fellowship scheme awarded by the European Commission to the Welsh Government provides support for up to 90 fellows in a pan Wales operation that runs alongside the ERDF operations.

## **2. Research aims**

- 2.1 OB3 Research, in conjunction with Regeneris, was commissioned by the Welsh Government to undertake an inception and mid-term evaluation of the Sêr Cymru II ERDF operations.
- 2.2 The aim of the evaluation was to review the way Sêr Cymru II was being implemented, its interdependencies and impacts. The [inception evaluation](#), conducted between January and July 2017, was published in November 2017. The mid-term evaluation, which was conducted between November 2017 and July 2018, addresses the following objectives:
- Report on the progress made towards achieving the objectives of the operations.
  - Provide an indication of progress made to date towards the operations' targets, including progress made against the counterfactual position set out at the inception stage.
  - Assess and report on whether there is a continuing need for the operations taking into account their overall aims and wider policy and funding landscape.
  - Review the appropriateness of processes, intervention logic, indicators and resources associated with the operations.
  - Recommend improvements to the management and implementation of the operations to improve their efficiency and effectiveness.
  - Review and recommend any improvements to the monitoring system.

### **3. Method**

#### **3.1 The evaluation involved:**

- A mid-term commencement stage, including attending a meeting with Welsh Government officials and accessing updated monitoring data and progress reports.
- Desk based research which included updating the policy context for the programme, reviewing programme monitoring data and updating the baseline position as set out in the inception evaluation report.
- Preparing research instruments which included semi-structured discussion guides for use with a range of contributors and a web survey for funded researchers.
- Identifying a sample of funded researchers to approach for qualitative fieldwork.
- Interviewing a total of 25 stakeholders, 18 of these being re-interviewees from the inception evaluation phase.
- Deploying a bilingual web survey to all funded fellows and securing responses from 15 individuals.
- Conducting a package of fieldwork with 11 funded fellows and five of their academic supervisors.
- Synthesising the findings of the fieldwork and desk-based research and preparing a peer-reviewed evaluation report.

### **4. Key findings**

#### **Progress made against objectives**

- 4.1 A key finding of the mid-term evaluation is that the operation is making good progress towards meeting its aims and objectives and it should be commended for successfully recruiting and appointing 51 funded fellows (against a target of 56) across Wales' universities after four funding calls. 33 of the 51 awards have been for Research Fellowships, with three Recapturing Talent, nine Rising Stars and six Chair funding packages. Cardiff and Swansea Universities between them were awarded the vast majority of fellowships. The fellowships cover all four grand challenge areas, although the number relating to ICT and the digital economy (at 11 per cent) is lower than the other three grand challenge areas.
- 4.2 The evaluation found that funding is being awarded to research projects which are in keeping with the programme's overall aims and objectives although it may be the case that investing in a greater number of academic clusters strategically placed around Chairs could

achieve a greater impact in the long term. There may also be merit in clarifying the status attached to the role of Sêr Cymru II funded fellows so as to equip researchers with the greatest possibility of securing further grant funding.

- 4.3 The Recapturing Talent strand to support researchers to return to work following a career break continues to pose a challenge for the programme, although it is encouraging that there has been an increase, albeit a modest one, in the number of approved Recapturing Talent fellows awarded since our inception stage evaluation. We are aware that discussions are ongoing with WEFO to reduce the target set for recruiting Recapturing Talent fellows and we support this change.

### **Progress made against targets**

- 4.4 The mid-term evaluation found that the programme has made reasonable progress against its WEFO funded indicators, accepting that some outputs were not profiled to be achieved until after the mid-term stage of delivery. After four funding rounds, the programme:
- Exceeded the target number of Research Fellows in West Wales and the Valleys (16 achieved against a target of 15) and East Wales (17 achieved against a target of 15).
  - Exceeded the target number of Chairs in West Wales and the Valleys (four achieved against a target of two) and achieved its target for East Wales (two).
  - Was close to achieving its target for recruiting Rising Stars (nine achieved against a target of 10 across both West Wales and the Valleys and East Wales).
  - Fell short of achieving its target for recruiting Recapturing Talent researchers (three against an overall target of 12 across both West Wales and the Valleys and East Wales).
- 4.5 Overall, the programme has been able to make better progress against all of its output targets across West Wales and the Valleys than in East Wales due to the higher number of awards made during earlier rounds of funding in West Wales and the Valleys than East Wales.
- 4.6 The evaluation found that it is still early days to be able to come to a firm view on the operation's success in moving towards delivering against Specific Objective 1.1 of the Programme (to increase the success of Welsh research institutions in attracting competitive and private research funding) not least as many funded fellows have only been in post for a short period of time. However, initial feedback and evidence suggests that some of the more established funded fellows are already applying for, and successfully securing, other research funding. It is also important to consider that the Sêr Cymru I programme, funded

until March 2019, is also expected to contribute towards the common objective of increasing Wales' STEMM research capacity and help achieve the 5 per cent share of UK research income.

- 4.7 The impact of the Sêr Cymru II programme will only be experienced in the long, rather than short term period, and the impact can be expected to continue post programme funding. However, the ongoing changing funding landscape, including the anticipated loss of European structural funding for research and innovation activities coupled with the establishment of UKRI which has bearing upon the remit of Research Councils, may disproportionately impact upon Wales' capacity to secure research income in the future.
- 4.8 The timescales for Sêr Cymru II outcomes being realised depends upon the timing of fellows taking up their research position. The evaluation concludes that it would be realistic to expect some research related outcomes to be captured within programme monitoring data around twelve to eighteen months into the role of a funded fellow but that these are likely to take longer to appear within commercial datasets. Other outcomes, notably grant income secured and collaboration with industry, are likely to take longer to be achieved by funded fellows. The evaluation suggests that a realistic timescale for assessing grant income secured via programme monitoring data would be two years from a fellow commencing in post and three years for this data to appear within commercial datasets.

#### **Continued need**

- 4.9 Stakeholders and funded fellows believed that there continues to be a strong need for Sêr Cymru II intervention and that the initiative continues to serve the aim of addressing the insufficient research capacity in Wales. This view was supported by the key findings in relation to the baseline position for the Sêr Cymru II ERDF operations given that:
- Research income amongst Welsh HEIs stood at £190.4m in 2016/17, with the gap necessary to achieve 5 per cent of the UK share having widened (dropping from around 4 per of the UK total over the last four years to 3.2 per cent in 2016/17).
  - Research income per researcher in Welsh HEIs stood at £32,800 in 2016/17, £10,300 short of that necessary to reach parity with the UK average. The size of this gap increased from 15 per cent to 24 per cent over the last year.
  - STEMM research income across Welsh HEIs stood at £161m in 2016/17 or 3.1 per cent of the UK total. The gap necessary to achieve 5 per cent of the UK share was fairly stable prior to a recent increase (dropping from around 3.6 per cent of the UK total to 3.4 per cent in 2015/16 and 3.1 per cent in 2016/17).

- Welsh HEIs are lagging behind on measures relating to the number of researchers and research income across most STEMM subject groupings, with the gaps being more pronounced in those subjects which account for the larger absolute amounts of funding (such as medicine, dentistry and health). The exception is agriculture, forestry and veterinary science.
- Welsh HEIs continue to perform reasonably well compared to the rest of the UK on other measures of collaboration with the business community.

4.10 As the first Sêr Cymru II researchers were not in place until late 2016, it should be noted that it is still too early to see the impact of its operation in these indicators (e.g. research income).

### **Implementation**

4.11 The key findings of the fieldwork in relation to programme implementation are:

- The Evaluation Panel and Programme Beneficiary Board were both considered to be operating effectively, with the Evaluation Panel having become even more effective since the inception evaluation phase.
- Higher Education Institutions (HEIs) continue to promote Sêr Cymru II via their existing contacts and networks and funded fellows had mainly heard of the programme through their existing networks.
- Funded fellows found the Sêr Cymru II application process to be largely acceptable and reasonable, and the guidance and support offered by host universities was unanimously acknowledged and appreciated by fellows.
- The application peer review process and information supplied to the Evaluation Panel had improved by the fourth round of applications in light of the difficulties experienced during the third round.
- The approval process continues to take a considerable length of time even though this is in keeping with other academic grant funding application timescales. Nonetheless, a small number of successful applicants do not take up their funded opportunity as they secure other funding or work opportunities during this time.
- The majority of fellows thought that the operation was being managed well by the Welsh Government and their respective university.
- The support landscape in place for individual early career researchers at their host institutions is appropriate. The practice at one university was regarded as exemplary

and there would be scope to replicate this at other universities should they appoint further research fellows as part of the programme.

- The induction and training packages offered by the programme, and by individual HEIs, was found to be appropriate and well received. The programme welcome events were considered to have been particularly useful for fellows. Some further specific training needs were identified by those who contributed to the evaluation (particularly around commercialisation, establishing spin-out companies and collaborating with industry).

## **Monitoring**

4.12 The key findings of the fieldwork in relation to programme monitoring are:

- Although HEIs have been informed of documentation requirements, they believe that they are required to allocate unreasonable resources to meet the programme's financial monitoring claim requirements.
- Funded fellows are frustrated by the lengthy and complicated travel application process which they are required to adhere to. Although it is recognised that the Welsh Government is working with WEFO to streamline the process.

## **5. Conclusions and Recommendations**

5.1 The evaluation sets out its conclusions and offers a series of recommendations for the Welsh Government to consider.

### **Addressing inception stage recommendations**

5.2 The inception evaluation made eight recommendations relating to the delivery of the Sêr Cymru II programme. Of these five had either been addressed or were in the process of being addressed by the Welsh Government. Recommendations which were not addressed, and in the opinion of the evaluators still remain valid relate to the programme still being at risk of being over-dependent upon the Head of Research Programme Development; HEIs not adopting any significant new approaches to the way in which they promote Recapturing Talent fellowship opportunities and a need to equip fellows with the appropriate skills to approach and work with industry.

### **Design and rationale**

5.3 The mid-term evaluation concluded that there continues to be a very clear and supportive policy framework in place for Sêr Cymru II. Recent Welsh policy developments and proposals offer an even greater level of direction to the funding of research and innovation

in Wales and it is likely that future funding will become available in a much more strategic manner at both the UK and Wales level. The approach adopted by Sêr Cymru II is regarded as good practice and the programme's experience will be useful in helping to inform and shape future approaches to develop STEMM academic research capacity in Wales.

- 5.4 The evaluation also concludes that the programme and its funded research projects are well aligned to those of the SMART Specialisation strategy. It is still difficult to conclude upon the programme's success in meeting the Wellbeing of Future Generations (Wales) Act goals in light of the fact that the Welsh Government has only started to map the funded project's contributions to these areas. The evaluation found that there remains significant scope for the programme to make a strong contribution to the goals of the Act.
- 5.5 The mid-term evaluation identified two key external factors which stakeholders thought were important to the success of the programme. The first related to the loss of the Chief Scientific Adviser post-holder for a period of some six months which was considered to have had impacted upon momentum levels. The second related to EU transition and the implications that this would have upon future available funding.
- 5.6 The Sêr Cymru II programme was found to be acting synergistically with the COFUND project and concerns conveyed by stakeholders at the time of fieldwork about the possibility they could become less aligned in future due to COFUND funding coming to an end sooner, in August 2020, have been alleviated due to the no cost extension secured by the Welsh Government to the COFUND project.

### **Progress made by funded fellows**

- 5.7 A key finding of this mid-term evaluation is that whilst the survey data found that funded researchers are collaborating with enterprises or third sector organisations, feedback gleaned from interviews with funded researchers revealed that the level of engagement was not particularly meaningful. These interviews also revealed that the opportunities for collaborating are fairly limited due to the experimental and early-stage nature of the research work. The evaluation concludes that the programme does however have an important role to identify and facilitate collaborative opportunities between industry and funded fellows, particularly via the Welsh Government's SMART suite of interventions, and that it should prioritise this work in the future when staffing resources allows for it.
- 5.8 The evidence gathered during the mid-term stage shows that fellows are collaborating effectively and linking well with related interventions in other universities. Feedback suggests that academic researchers do so by default, utilising their existing international



network of contacts, without the need for the Sêr Cymru II programme to actively support them to achieve this.

- 5.9 The mid-term evaluation sets out in detail the achievements of funded fellows surveyed in terms of levels of grant funding applied for and secured, the number and range of public engagement activities and the number of funded fellows who have already submitted and published papers. In terms of the value of grant funding applied for and secured, data provided by eight surveyed fellows shows that they had been involved with applications for £10.76 million funding and had secured £4.83 million to date. This points to a success rate of at least 45 per cent - given that the outcome of some applications made were not known at the time the final success rate could be higher.

### **Cross-cutting themes and the Welsh language**

- 5.10 The evaluation concludes that the programme is making a good contribution to the cross-cutting theme of equal opportunities, particularly in terms of gender and diversity, and that funded projects have significant scope to contribute to sustainable development, given that the primary focus of several research projects are in this area of study. There is less evidence available at this stage to demonstrate how the programme can expect to positively impact the tackling poverty cross-cutting theme.
- 5.11 This mid-term evaluation reinforced previous findings from the inception phase evaluation that the extent to which the Sêr Cymru II operations can be expected to positively contribute to the Welsh language is limited. Two funded fellows are Welsh speakers and both use the Welsh language in engagement, outreach and teaching work. Since completing the evaluation fieldwork, one funded fellow has successfully published a bilingual research paper. The evaluation concludes that whilst the programme has made every effort to promote Welsh language learning opportunities amongst funded fellows, the take up of such opportunities has been limited to date, not least due to some funded fellows wishing to improve their English language skills in the first instance.

### **Recommendations**

- 5.12 The mid-term evaluation offers 10 recommendations for the remaining delivery period. It recommends that:
- 1) The programme should focus on increasing its outputs across the East Wales funded programme, given that its rate of achievement in this region is behind that of West Wales and the Valleys.
  - 2) Participating HEIs consider what support and action can be taken to ensure that as many as possible of the existing funded fellows can be retained at Wales' HEIs after the

Sêr Cymru II programme comes to an end. Aligned to this, the final impact evaluation could examine this issue further and explore options for strengthening the long-term sustainability of funded researchers.

- 3) The programme considers how it could engage with a broader number of universities in Wales and what flexibility it could adopt to accommodate the inclusion of non-participating Welsh universities within Sêr Cymru II without compromising upon the objective of funding excellent research projects.
- 4) The programme explores how it could better fulfil the Welsh Government's regional priorities in the future, as set out in its Economic Action Plan.
- 5) The Welsh Government considers whether the role of the Evaluation Panel and Programme Beneficiary Board should include the monitoring of outcomes and achievements of the funding investments made.
- 6) The programme moves towards a sample based claims model as soon as the Welsh Government is satisfied with the full financial evidence claims currently being submitted by HEIs.
- 7) The programme strengthens its collaboration with the Welsh Government's SMART suite of interventions when staffing resources allows for it, identifying a small number of funded projects which offer the greatest scope for collaborative work and placement opportunities with industry and broker relationships between these academics and industry. The programme should also explore how it can address any barriers faced by funded fellows which currently restrict them from engaging with industry.
- 8) The Welsh Government actively addresses any future staffing gaps that may arise within the delivery team by securing personnel with previous HE sector experience.
- 9) A final impact evaluation be conducted over the last six months delivery of the extended Sêr Cymru II project and that a brief counterfactual impact evaluation update be commissioned some 12 to 18 months post project closure to allow for published data to be considered.
- 10) The Welsh Government puts appropriate data sharing agreements in place to allow for the impact evaluation to consider feedback from successful and unsuccessful applicants as well as collaborating businesses/third sector organisations.

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Available at: <https://gov.wales/statistics-and-research/evaluation-ser-cymru-ii-programme/?lang=en>

Views expressed in this report are those of the researchers and not necessarily those of the Welsh Government

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Mae'r ddogfen yma hefyd ar gael yn Gymraeg.

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