

**INTERREG VA IMPACT EVALUATION – MID-TERM REPORT  
PRIORITY 1 – RESEARCH AND INNOVATION –FINAL**



Special EU Programmes Body  
Foras Um Chláir Speisialta An AE  
Boord O Owre Ocht UE Projects



**Cogent Management Consulting LLP**

**30<sup>th</sup> December 2020**

**INTERREG VA IMPACT EVALUATION**  
**PRIORITY 1 – RESEARCH AND INNOVATION**

**CONTENTS**

	<b>Page</b>
<b>1. INTRODUCTION AND BACKGROUND .....</b>	<b>1</b>
1.1 Introduction .....	1
1.2 Priority Axis 1: Research and Innovation and its Objectives .....	1
1.3 Overview of Projects Supported.....	5
<b>2. IMPACT OF COVID-19.....</b>	<b>6</b>
2.1 Introduction .....	6
2.2 Summary of Key Findings.....	6
2.3 Implications of the COVID-19 Pandemic for project implementation.....	7
2.4 Measures Taken as a Result of COVID-19 .....	11
2.5 Support Requested From SEUPB.....	11
2.6 Potential Adaptations to project activities, target groups or outputs .....	12
2.7 Cooperative measures implemented.....	13
2.8 Direct Involvement in the Response to the Covid-19 Pandemic .....	13
2.9 Lessons Learned as a result of the Changing Circumstances .....	14
2.10 A Future Programme’s Potential Contribution to Recovery .....	14
<b>3. CURRENT POSITION OF THE PROJECTS .....</b>	<b>15</b>
3.1 Project Expenditure to Date.....	15
3.2 The Extent to which the Priority Axis Output & Result Indicators have been achieved.....	16
<b>4. CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>20</b>
4.1 Conclusions .....	20
4.2 Recommendations .....	26

## **APPENDICES**

- I Introduction and Background**
- II Impact of COVID-19**
- III NWCAM – North West Centre for Advanced Manufacturing**
- IV Renewable Engine**
- V Bryden Centre for Advanced Marine and Bio-Energy Research**
- VI SPIRE 2 – Storage Platform for Integration of Renewable Energy**
- VII ECME – Eastern Corridor Medical Engineering Centre**
- VIII BREATH – Border and Regions Airways Training Hub**
- IX CPM – Centre for Personalised Medicine**
- X Co-Innovate – The Innovation Programme**
- XI Conclusions and Recommendations**

*This report has been prepared for, and only for the Special EU Programmes Body and for no other purpose. Cogent Management Consulting LLP does not accept or assume any liability or duty of care for any other purpose or to any other person to whom this report is shown or into whose hands it may come to save where expressly agreed by our prior consent in writing.*

## List of Abbreviations

Abbreviation	Definition
BREATH	Border and Regions Airways Training Hub
B2B	Business to Business
C-Is	Catalyst Inc's
CO	Output Indicators
Co-Innovate	The Innovation Pathway Programme
CPM	Centre for Personalised Medicine: Clinical Decision Making and Patient Safety
DKIT	Dundalk Institute of Technology
ECME	Eastern Corridor - Medical Engineering Centre
FTEs	Full-Time equivalent employees
ICU	Intensive Care Unit
LoO	Letter of Offer
NI	Northern Ireland
NWCAM	North West Centre for Advanced Manufacturing
PhD	Postgraduate Doctoral Degree
QUB	Queen's University Belfast
R&D	Research & Development
R&D&I	Research, Development & Innovation
R&I	Research & Innovation
R&I	Research and Impact
RE	Renewable Energy
REF	Research Excellence Framework
SEUPB	Special European Union Programmes Body
SMEs	Small and Medium-sized Enterprises
SPIRE 2	Storage Platform for the Integration of Renewable Energy
SWC	South West College
UK	United Kingdom
UU	Ulster University
WHO	World Health Organisation

## Description of Statistics

In this report, proportions may be described as percentages, common fractions and in more general quantitative terms. Where more general terms are used, they should be interpreted as follows:

<b>Almost/nearly all</b>	more than 90%
<b>Most</b>	75% -90%
<b>A majority</b>	50% -74%
<b>A significant minority</b>	30% -49%
<b>A minority</b>	10% -29%
<b>Very few/a small number</b>	less than 10%

## 1. INTRODUCTION AND BACKGROUND

### 1.1 Introduction

The Special EU Programmes Body (SEUPB) has commissioned Cogent Management Consulting LLP (Cogent) to carry out an impact evaluation of INTERREG VA Programme<sup>1</sup> Investment Priority 1: Research and Innovation. This report provides a summary of the key findings emerging from the second, of three, formative evaluations of the Investment Priority. More substantive analysis and commentary can be found in the accompanying appendices.

The overall focus of the evaluation is to assess (at three stages of implementation), the impact of the interventions within the ‘Research and Innovation’ Priority Axis. The purpose of the impact evaluation is learning, through an exploration of the contribution of the Programme to the movement of the Result Indicator, to inform the remainder of the INTERREG VA Programme and potential future programming periods.

As agreed with SEUPB, the key focus of this second evaluation report is to provide an overview of each project’s achievements at this interim stage in its rollout and to take cognisance of the actual/potential impact of the ongoing COVID-19 pandemic - to reflect any effect that it may be having on each project, any steps that projects are taking to mitigate any risk to the project’s successful implementation and any support that projects may require from SEUPB to help ensure the project’s successful completion.

This section of the report provides an overview of Priority Axis 1 – Research and Innovation, its aims and objectives and of the eight projects supported.

### 1.2 Priority Axis 1: Research and Innovation and its Objectives

#### 1.2.1 Introduction

The Cooperation Programme states that the key aim of Priority Axis 1: Research and Innovation is to “*encourage investment in sectors that offer the most growth potential, whilst building on existing strengths, and helping the region to become more competitive in a global marketplace.*”

It is anticipated that this priority axis will tackle two key weaknesses in the programme region’s competitiveness, namely the:

1. The low levels of expenditure on research, development and innovation (R&D&I); and
2. An under-representation of higher value-added sectors and innovation-active small and medium-sized enterprises (SMEs)<sup>2</sup>.

The **selected investment priorities** under Priority Axis 1: Research and Innovation and their **associated objectives** are as follows:

Table 1.1: Priority Axis 1 Investment Priorities and Specific Objectives	
Investment Priority	Associated Specific Objectives
<b>1a - Enhancing research and innovation (R&amp;I)</b> infrastructure and capacities to develop R&I excellence, and promoting centres of competence, in particular, those of European interest.	<b>1.1</b> Increasing business and industry-relevant research and innovation capacity across the region within two target sectors; Health and Life Sciences and Renewable Energy.

<sup>1</sup> For Northern Ireland, Ireland and Western Scotland

<sup>2</sup> The Output Indicator Guidance document for Objective 1.2 (February 2016) defines SMEs as having: fewer than 250 full-time equivalent employees (FTEs), an annual turnover not exceeding €50m and/or an annual balance sheet total not exceeding €43m. Sole traders are excluded from this definition to maintain the purpose and ambitions of the INTERREG VA Programme to achieve significant change.

**Table 1.1: Priority Axis 1 Investment Priorities and Specific Objectives**

Investment Priority	Associated Specific Objectives
<p><b>1b - Promoting business investment in R&amp;I</b>, developing links and synergies between enterprises, R&amp;D centres and the higher education sector, in particular promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation, and supporting technological and applied research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general-purpose technologies.</p>	<p><b>1.2</b> Increasing the number and capacity of SMEs engaged in cross-border research and innovation activity in the region aimed at the development of new products, processes and tradable services.</p>

*1.2.2 Objective 1.1 - Increasing business and industry-relevant research and innovation capacity across the region within two target sectors; Health and Life Sciences and Renewable Energy*

The aim of this investment priority (and its Specific Objective) is to utilise cross-border collaboration to increase the overall level of research and innovation competence and activity across the programme area in a strategic way designed to contribute towards the development of a more competitive, high value-added economy<sup>3</sup>.

To achieve the aim of creating or enhancing research and innovation centres within the timeframe of the programme, the selection of sectors with existing capacity and capability was deemed to be essential. Therefore, it was decided that programme support would be directed towards two sectors: Life and Health Sciences; and Renewable Energy<sup>4</sup>. It is anticipated that this focused approach would further develop research areas in which there are existing critical mass and those where the region has distinct advantages (thereby aligning with the EU Smart Specialisation Platform).

*1.2.3 Objective 1.2 – Increasing the number and capacity of SMEs engaged in cross-border research and innovation activity in the region aimed at the development of new products, processes and tradable services*

The aim of this investment priority (and its Specific Objective) is to build a strong export-based economy through increased awareness of, and engagement in, innovation activities by SMEs in the eligible region, specifically on a cross-border basis. In doing so the priority seeks to (inter alia):

- Increase the capacity of SMEs and micro-businesses to participate in cross-border research and innovation activities;
- Increase levels of investment in the creation of cross-border centres and projects designed specifically to strengthen the links between SMEs and Research Institutions;
- Increase the number of enterprises actively innovating to bring new products and/or new processes to the market; and
- Build systems and cultures of open innovation across the eligible region.

To achieve these objectives, the Co-Operation Programme considered that it would be necessary to engage in an intensive programme of development with SMEs and micro-businesses within the region; which might include businesses participating in one or more of the following activities:

1. Preparatory Interventions delivered via workshops;
2. Preparatory Interventions delivered on a one to one basis;
3. Innovation Capability Development Programme;
4. Cross-border Innovation Internship Programme; and
5. Cross-border R&I Projects.

<sup>3</sup> The term R&D encompasses three types of activities: basic research, industrial research and experimental development. However, only industrial research and experimental development activities are eligible for support under the INTERREG VA programme.

<sup>4</sup> Definitions of these sectors are provided in Appendix I.

#### 1.2.4 Summary of Specific Objectives, Result Indicators and Targets

Table 1.2 provides a summary of the Specific Objectives, Result Indicators and Targets for Priority Axis 1: Research and Innovation:

<b>Table 1.2: Summary of Specific Objectives, Results Indicators and Targets</b>			
<b>Specific Objective</b>	<b>Result Indicator</b>	<b>Baseline</b>	<b>Target</b>
<b>1.1</b> To increase business and industry-relevant research and innovation capacity across the region within two target sectors; Health and Life Sciences and Renewable Energy	The annual number of peer-reviewed journal and conference publications in two target sectors (Health and Life Sciences and Renewable Energy) with cross-border authorship and with the potential to create economic impact	4	75
<b>1.2</b> To increase the number and capacity of SMEs engaged in cross-border research and innovation activity in the region aimed at the development of new products, processes and tradable services	The percentage of SMEs in the eligible region involved in research and innovation involving cross-border collaborations	22% <sup>5</sup>	33%

The anticipated Output Indicators are summarised below:

<b>Table 1.3: Summary of Output Indicators</b>			
<b>Output Indicator<sup>6</sup></b>	<b>Objective</b>		<b>Total</b>
	<b>1.1</b>	<b>1.2</b>	
No. of enterprises receiving support	20	1,408	<b>1,428</b>
No. of enterprises receiving grants	10	19	<b>29</b>
No. of enterprises receiving non-financial support	20	1,408	<b>1,428</b>
FTE Years of PhD (or above) level research	514	0	<b>514</b>
No. of enterprises cooperating with research institutions	10	50	<b>60</b>
No. of enterprises participating in cross-border, transnational or interregional research projects	10	19	<b>29</b>
No. of research institutions participating in cross-border, transnational or interregional research projects	5	5	<b>10</b>
No. of enterprises receiving one to one innovation advice	-	469	<b>469</b>
No. of enterprises in receipt of an innovation capability development programme	-	94	<b>94</b>
No. of enterprises engaging an innovation intern, on a cross-border basis.	-	70	<b>70</b>

<sup>5</sup> NB: To determine this baseline, SEUPB advised that specific questions were introduced into the January/February 2015 version of InterTradeIreland's quarterly All Ireland Business Monitor Survey. It is understood that 146 (22%, N=676) of the business respondents indicated that they undertook R&D&I and were supported by another organisation outside their own jurisdictions i.e. Northern Ireland, the border region of Ireland or Western Scotland. For the purposes of this paper (which focuses on cross-border collaborative R&D&I activity being between Northern Ireland and the border region of Ireland, excluding Scotland), SEUPB advised that 119 (22%, N=548) of the total business respondents based in either Northern Ireland (N=79) or border region of Ireland (N=40) indicated that they undertook R&D&I and were supported by another organisation outside their own jurisdictions i.e. Northern Ireland or the border region of Ireland.

<sup>6</sup> Each output indicator is defined in the 'Output Indicator Guidance' documents for Objectives 1.1 and 1.2.

The contribution that each of the 8 projects is anticipated to make to the Priority's key Output Indicators is detailed below:

<b>Table 1.4: Projects Approved for Funding – Stated Contributions to Output Indicators (source: Letters of Offer issued by the SEUPB)</b>									
<b>Output Indicator</b>	<b>Project Ref</b>								<b>Total</b>
	<b>1.1</b>							<b>1.2</b>	
	<b>BREATH</b>	<b>Renewable Engine</b>	<b>NWCAM</b>	<b>ECME</b>	<b>SPIRE2</b>	<b>CPM</b>	<b>Bryden Centre</b>	<b>Co-Innovate</b>	
No. of enterprises receiving support	5	8	8	10	12	5	30	1,408	<b>1,486</b>
No. of enterprises receiving grants	2	4	2	5	2	3	8	30	<b>56</b>
No. of enterprises receiving non-financial support	5	8	8	10	12	5	30	1,408	<b>1,486</b>
Years of PhD (or above) level research	89.5	57.05	98.5	95	83	80.5	132.5	n/a	<b>636</b>
No. of enterprises cooperating with research institutions	5	8	8	10	12	5	30	50	<b>128</b>
No. of enterprises participating in cross-border, transnational or inter-regional research projects	2	8	8	10	12	5	30	30	<b>105</b>
No. of research institutions participating in cross-border, transnational or inter-regional research projects	3	4	4	5	4	4	5	5	<b>34</b>
No. of enterprises receiving one to one innovation advice								469	<b>469</b>
No. of enterprises in receipt of an innovation capability development programme								94	<b>94</b>
No. of enterprises engaging an innovation intern, on a cross-border basis								70	<b>70</b>



### 1.3 Overview of Projects Supported

Table 1.5 provides an overview of the 8 projects approved by the IVA Programme Steering Committee<sup>7</sup>.

Table 1.5: Summary of Projects Approved for Funding <sup>89</sup>						
Project Ref	Lead Partner	Project Name	Operational start date	Operational end date	Anticipated Project Cost (€)	
<b>Objective 1.1</b>						
045	Dundalk Institute of Technology (DKIT)	BREATH (Border and Regions Airways Training Hub)	01/01/2017	30/06/2022 <sup>10</sup>	€8,506,929	
046	South West College (SWC)	Renewable Engine	01/01/2017	31/07/2021	€6,104,995	
047	Catalyst Inc.	North West Centre for Advanced Manufacturing	01/04/2017	31/12/2021	€8,779,853	
048	Ulster University (UU)	Eastern Corridor - Medical Engineering Centre (ECME)	01/03/2017	31/12/2021	€8,362,917	
049	Ulster University (UU)	Storage Platform for the Integration of Renewable Energy (SPIRE 2)	01/03/2017	31/12/2021	€6,703,246	
052	Ulster University (UU)	Centre for Personalised Medicine: Clinical Decision Making and Patient Safety (CPM)	01/04/2017	31/12/2021	€9,424,927	
053	Queen's University Belfast (QUB)	The Bryden Centre for Advanced Marine and Bio-Energy Research	01/06/2017	31/12/2021	€9,752,680	
<b>Subtotal</b>					<b>€57,635,547</b>	
<b>Objective 1.2</b>						
003	InterTradeIreland	Co-Innovate (The Innovation Pathway Programme)	01/08/2016	31/09/2022 <sup>11</sup>	€22,443,035	
<b>Total</b>					<b>€80,078,582</b>	

<sup>7</sup> The decision as to whether to fund a project rested entirely with the IVA Programme Steering Committee.

<sup>8</sup> Projects were approved at IVA Programme Steering Committees held on: 6/9/2016, 7/9/16, 23/11/2016 and 14/3/2017.

<sup>9</sup> Source (unless otherwise stated): Letters of Offer issued by the SEUPB.

<sup>10</sup> NB: Original LoO was 31/12/2021. It was noted during consultation that the project end date had been extended.

<sup>11</sup> NB: Original LoO was 31/03/2022. It was advised during consultation that the project end date had been extended by 6-months (approved in March 2020).

## 2. IMPACT OF COVID-19

### 2.1 Introduction

Given the unprecedented onset of the COVID-19 pandemic and its potential to impact on both the implementation of the eight Priority Axis 1: Research and Innovation projects and ultimately their ability to achieve their aspirations, SEUPB asked the Evaluation Team to ascertain the impact that COVID-19 was having on the projects. Consequently, the Evaluation Team completed consultations each of the project leads to understand the implications of COVID-19 on their organisation and project, which sought to help SEUPB:

- Identify any issues that the projects are facing and/or the risks to the projects' successful implementation;
- Ensure that projects have considered the implications of the pandemic and that appropriate plans have been put in place in response; and
- Identify any further support that the projects might require to ensure their successful implementation.

### 2.2 Summary of Key Findings

The table below provides a high-level summary of the key findings derived from those consultations:

Table 2.1: R&I Covid-19 Implications Survey Key Findings (Project's Feedback)				
Project	Potential risk that the project will not achieve its aims and objectives	Suggested need for a time extension	Potential for budget underspend at the end of the project period	Adaptions to project activities, target groups and outputs
BREATH	No-Risk	No	No	No
Renewable Engine	No-Risk	No	No	No
NWCAM	High Risk	Yes	No	Yes (Some projects may not be able to carry out testing. Training has been reorganised to online entrepreneurship training.)
ECME	Some Risk	No	No	Yes (Changed the focus of mini-projects from cardiac to Covid-19 specific projects in the WHO priority areas)
SPIRE2	Some Risk	No	Yes (11% underspend)	No (However indicated that whilst their outputs will not change, enterprises involved may change as the pandemic progresses and furlough and other govt support ends.)
CPM	Some Risk	No	No	No
Bryden Centre	Some Risk	Yes (6 Months)	No	No
Co-Innovate	Some Risk	Yes	No	Yes (Taken workshops online as well as Business Status Reviews and innovation audits via online and telephone)

Key points to note concerning Table 2.1 include:

- 6 of the 8 projects consider that the onset of the COVID-19 pandemic and the associated lockdown and disruption to normal working practices have created a risk that their project will not fully achieve its aims and objectives. One project (NWCAM) considered that there was a ‘high risk’ that this was the case;
- 3 of the 8 projects have made some adaptations to their project as a result of the COVID-19 pandemic;
- 3 of the 8 projects consider that their project will likely require an extension to its originally anticipated timescale to complete successfully;
- 1 of the 8 projects considers that they will likely not be able to spend their full budget allocation.

The following sub-sections provided a detailed analysis from the COVID-19 focused consultations with the eight project leads.

### 2.3 Implications of the COVID-19 Pandemic for project implementation

#### 2.3.1 Likelihood of achieving aims and objective as outlined in the LoO

Each of the eight project leads considered that, before the onset of the COVID-19 pandemic, their project was on track with no substantial risk to it fully achieving its aims and objectives as outlined within their LoO, with:

- 3<sup>12</sup> (of 8) projects stating that their project was, before COVID-19, fully on track with little risk to it fully achieving its aims and objectives; and
- 5<sup>13</sup> (of 8) projects suggesting that their project was, prior to COVID-19, mostly on track with no substantial risk to it fully achieving its aims and objectives.

Whilst some projects noted that pre-COVID-19 they had experienced some issues such as changes to the composition of the project partnership<sup>14</sup>, equipment breaking down and in the case of one project, a PhD student having to take a leave of absence, it was considered that these issues were not sufficiently significant to prevent their project achieving its aims and objectives.

Table 2.2: Extent project was on track to achieve its aims and objectives (N=8)		
	Pre-COVID	Current Position
The project was (is) fully on track with little risk to it fully achieving its aims and objectives	3	-
The project was (is) mostly on track with no substantial risk to it fully achieving its aims and objectives	5	2
The project had been changed from that presented in the original project application but was (is) on track to fully achieve its new aims and objectives	-	-
The project was (is) behind schedule and there was (is) a risk that it would (will) not achieve its aims and objectives	-	5
The project was (is) behind schedule and there was (is) a <u>high</u> risk that it would (will) not achieve its aims and objectives	-	1
The project had been changed from that presented in the original project application, and there was (is) a risk that it would (will) not achieve its aims and objectives	-	-
The project had been changed from that presented in the original project application, and there was (is) a <u>high</u> risk that it would (will) not achieve its aims and objectives	-	-

<sup>12</sup> Renewable Engine, SPIRE 2, and BREATH

<sup>13</sup> CPM, ECME, NWCAM, Bryden Centre and Co-Innovate.

<sup>14</sup> NWCAM indicating that the composition of its industrial partners had changed.

However, per Table 2.2, the situation has changed considerably as a result of the COVID-19 pandemic and associated lockdown measures with only two projects<sup>15</sup> continuing to feel that their project is mostly on track with no substantial risk to the project fully achieving its aim and objectives. The remaining six project leads now consider that their project is potentially at risk of not achieving its aims and objectives, with:

- 5<sup>16</sup> (of 8) respondents indicating that their project is behind schedule and there is now a risk that it will not achieve its aims and objectives; and
- 1<sup>17</sup> (of 8) respondent considering that their project is behind schedule and there is a high risk that it will not achieve its aims and objectives.

The project leads highlighted several impacts that COVID-19 has had (or that they anticipate it will have) on their ability to achieve the project's aims and objectives including:

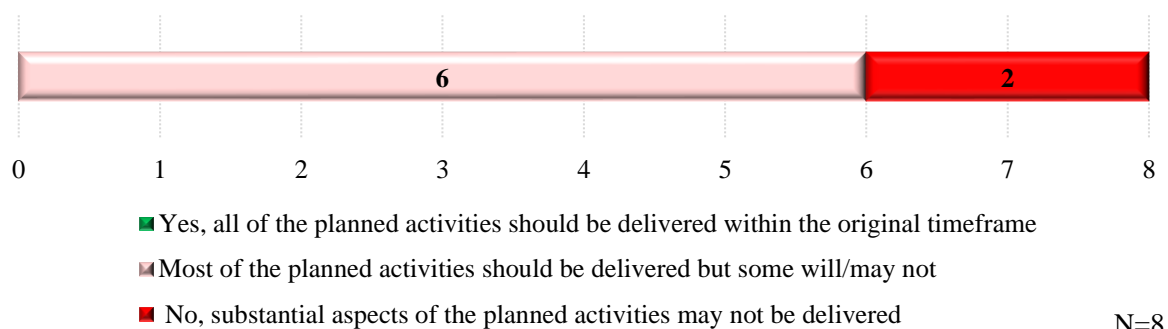
- The need to work remotely with no access or limited access to laboratories or sites which will delay the progression of necessary laboratory/site work; and
- The suspension of patient recruitment and data collection which will delay other project work.

### 2.3.2 Feasibility of Delivering the project's planned activities within the original timeframe

All eight project leads were of the view that it may no longer be feasible to deliver all of their project's planned activities within the original timeframe.

Specifically, 6<sup>18</sup> (of 8) project leads indicated that most of the planned activities should still be delivered but some may or will not, whilst the remaining two<sup>19</sup> noted that substantial aspects of the planned activities may not be delivered within the original timeframe.

**Figure 2.1: Is it still feasible to deliver all of the project's planned activities within the original timeline?**



The project leads highlighted that the following activities have been (or will be) affected by the COVID-19 pandemic and may no longer be possible to complete:

- Events and conferences;
- Laboratory and site access;
- PhDs' secondments in partner institutions;
- Challenges around joint publications;
- Some PhDs may not finish; and
- Finding new companies to participate.

<sup>15</sup> Renewable Engine, and BREATH

<sup>16</sup> CPM, Bryden Centre, SPIRE 2, ECME and Co-Innovate.

<sup>17</sup> NWCAM

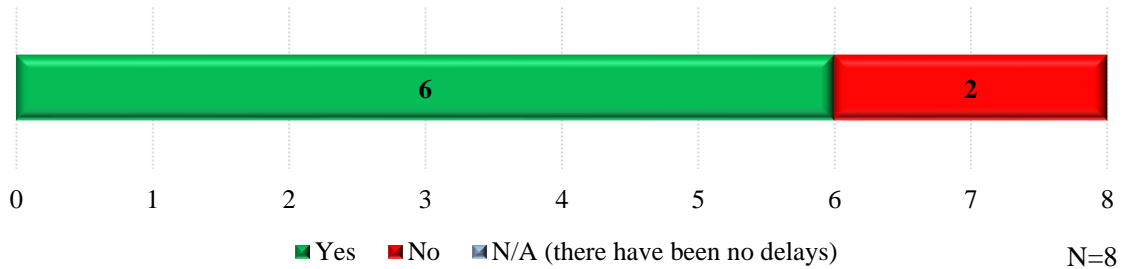
<sup>18</sup> Bryden Centre, SPIRE 2, CPM, ECME, Renewable Engine and BREATH

<sup>19</sup> NWCAM and Co-Innovate.

Encouragingly, the majority (6<sup>20</sup> of 8) of the project leads noted that it would be feasible to make up for any delays to date (i.e. in September 2020) caused by COVID-19. However, 2<sup>21</sup> project leads considered that it may not be possible to make up for the delays experienced, citing the following reasons:

- The time it takes for new projects to be set up; and
- The reduction in research time/years as a result of staff being furloughed.

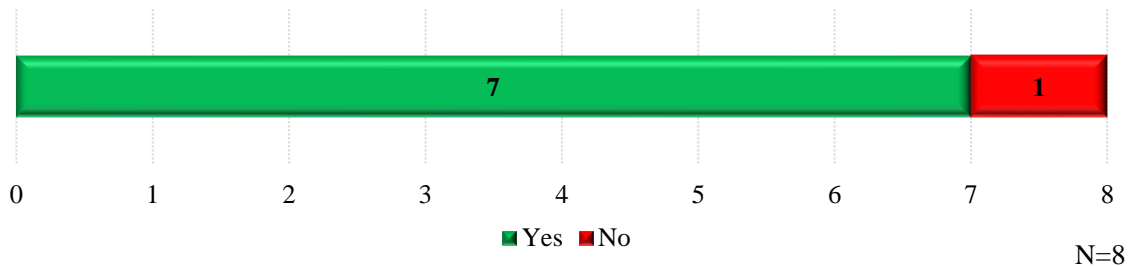
**Figure 2.2: It is feasible to make up for delays caused by COVID-19?**



### 2.3.3 Ability to Deliver Project within Original Budget

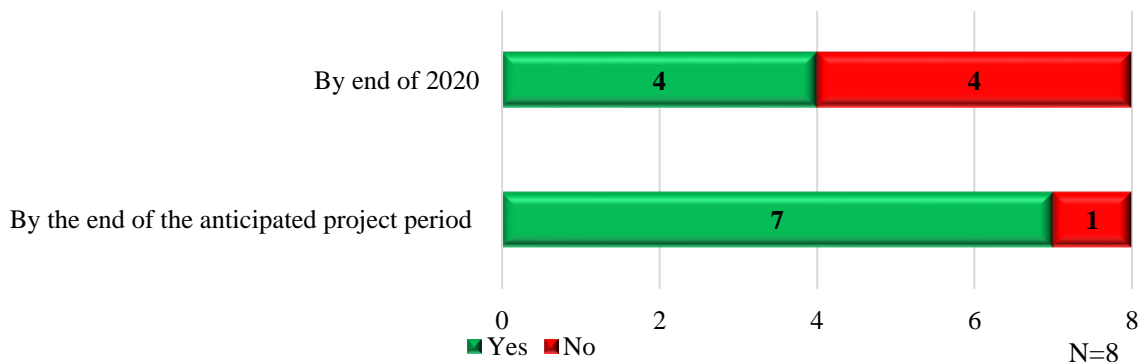
Almost all (7 of 8) of the project leads stated that they will be able to deliver their project fully within its current budget. One<sup>22</sup> project lead indicated that it is unlikely that they will be able to deliver their project fully within its current budget (i.e. COVID-19 has led to an increase in costs).

**Figure 2.3: Deliver project fully within its current budget**



Four<sup>23</sup> (of 8) of the project leads felt that they will not be able to reach their anticipated level of expenditure by the end of 2020. Whilst 7<sup>24</sup> (of 8) project leads were confident that they will spend the full budget allocation by the end of the anticipated project period.

**Figure 2.4: Will you reach the anticipated levels of expenditure.....**



<sup>20</sup> Renewable Engine, CPM, ECME, SPIRE 2, Bryden Centre and BREATH.

<sup>21</sup> NWCAM and Co-Innovate.

<sup>22</sup> NWCAM

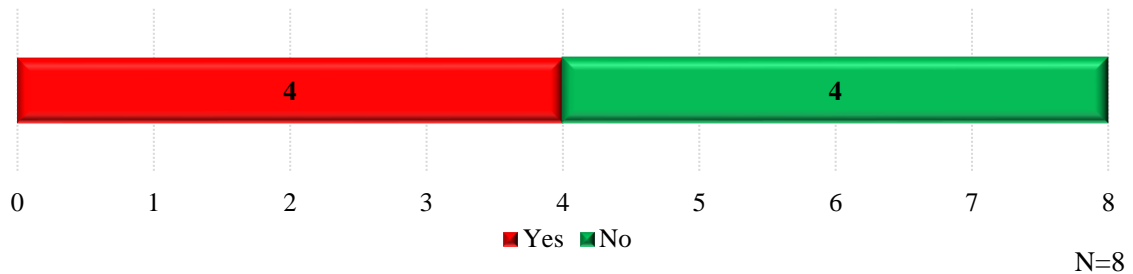
<sup>23</sup> Renewable Engine, SPIRE 2, NWCAM, and Co-Innovate

<sup>24</sup> Renewable Engine, CPM, ECME, NWCAM, Bryden Centre, Co-Innovate and BREATH

### 2.3.4 Risks to the Achievement of Project Results

Of concern, 4<sup>25</sup>(of 8) project leads were of the view that COVID-19 and/or the lockdown measures or matters related to it will jeopardise the expected results of their project.

Figure 2.5: Risks to the achievement of the Project’s results



The four project leads foresee the following impacts that may jeopardise the project’s anticipated results:

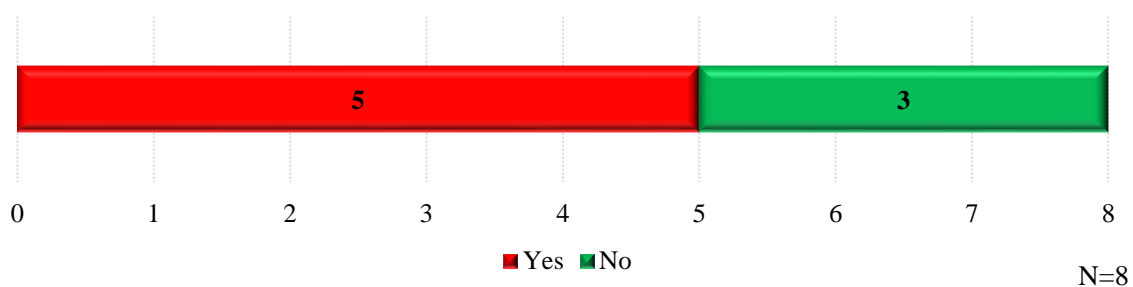
- A shortfall in the number of projects;
- Reduction in the number of joint publications produced;
- No access to laboratories;
- A decrease in the impact/quality of the final product;
- A lack of face to face collaboration and networking at conferences/meetings etc.; and
- A reduction in research years.

### 2.3.5 Other Potential Risks

Most (5<sup>26</sup> of 8) project leads considered that there were further risks posed to their projects due to the COVID-19 pandemic. These included:

- Limited engagement or involvement with industry;
- Mental health concerns relating to project personnel due to isolation; and
- More limited opportunities to transfer knowledge to industry.

Figure 2.6: Further Potential Risks



<sup>25</sup> ECME, NWCAM, Bryden Centre and Co-Innovate.

<sup>26</sup> Renewable Engine, CPM, SPIRE 2, NWCAM and Bryden Centre.

## 2.4 Measures Taken as a Result of COVID-19

Each of the project leads provided information, to the best of their knowledge, on the specific measures that their organisation, their project partners and direct beneficiaries of the project implemented as a consequence of the COVID-19 pandemic. The most common measures implemented were that their organisation, project partners or direct beneficiaries had:

- Staff working remotely instead of at their normal place of work; and
- Furloughed Staff.

Of note, all project leads stated that each of the universities involved in projects had closed their campuses and laboratories during the lockdown period.

## 2.5 Support Requested From SEUPB

6<sup>27</sup> (of 8) project leads indicated that they had requested specific support from SEUPB relating to their project during the COVID-19 pandemic. These requests included:

- An extension to their project timeframe (N=3);
- Permission to vary project activities and associated cost categories (N=4);
- An increase in their funding allocation to cover unforeseen costs associated with the pandemic (N=1); and
- Changes to the structure/membership of the project partnership (N=1); and

Figure 2.7: Requested support from SEUPB

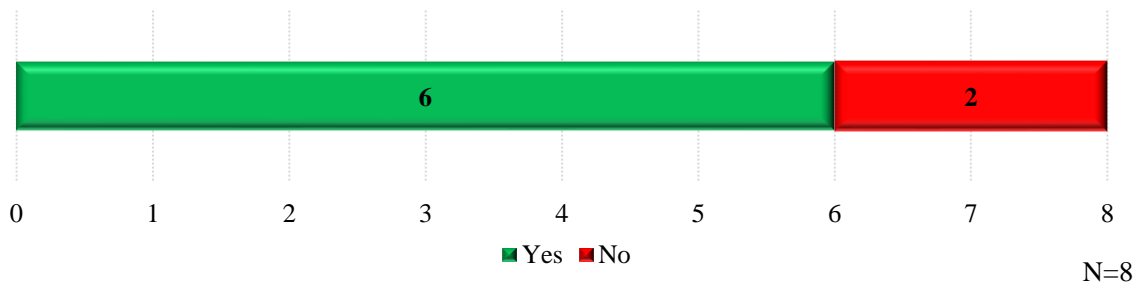


Table 2.3: Support Requested/Required from SEUPB		
	Requested Support(N=6)	Other support Required (N=6)
An extension to their project timeframe	3 <sup>28</sup>	4 <sup>29</sup>
An increase in their funding allocation to cover unforeseen costs associated with the pandemic	1 <sup>30</sup>	1 <sup>31</sup>
Permission to vary project activities & associated cost categories	4 <sup>32</sup>	1 <sup>33</sup>
Permission to vary project targets	-	1 <sup>34</sup>
Changes to the structure/membership of the project partnership	1 <sup>35</sup>	-

<sup>27</sup> CPM, ECME, SPIRE 2, NWCAM, Bryden Centre and Co-Innovate.

<sup>28</sup> Co-Innovate, NWCAM and Bryden Centre.

<sup>29</sup> Bryden Centre, Renewable Engine, SPIRE 2 and NWCAM.

<sup>30</sup> NWCAM.

<sup>31</sup> Bryden Centre

<sup>32</sup> CPM, Co-Innovate, SPIRE 2 and ECME.

<sup>33</sup> BREATH

<sup>34</sup> Co-Innovate.

<sup>35</sup> NWCAM.

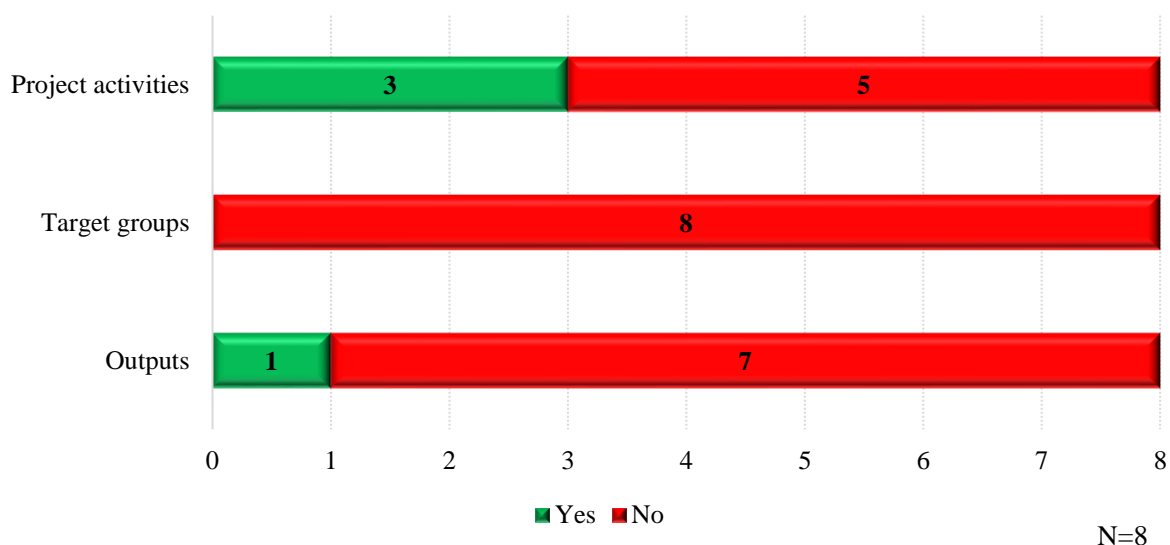
In addition, to support that had already been requested, 6 project leads stated that other forms of support from SEUPB would be beneficial to enable them to deliver their project as fully as possible. These included:

- An extension to their project timeframe (N=4);
- Permission to vary project activities (N=1);
- Permission to vary project targets (N=1); and
- Permission to vary project activities and associated cost categories (N=1).

## 2.6 Potential Adaptations to project activities, target groups or outputs

3<sup>36</sup> (of 8) projects suggested that they had adapted their project activities as a result of the Covid-19 pandemic. One of these projects had also adapted their project outputs.

**Figure 2.8: Have you or do you intend to adapt project activities, target groups and outputs?**



Projects made adaptations to their project activities and/or outputs by refocusing activities, cancelling, or rescheduling activities.

**Table 2.4: Changes made or intended to be made (N=3)**

	Adaptations already made	Intended adaptations
Rescheduled activities	1	-
Cancelled activities	2	-
Refocused activities	2	-

Despite some of the respondents stating that they do not currently intend to adapt project activities, target groups and outputs, it was highlighted that this may change as the COVID-19 pandemic progresses.

Other points to note include:

- SPIRE 2 indicated that whilst their outputs will not change, the enterprises involved may change depending on how COVID-19 affects them when furlough and other government support ends.
- CPM highlighted that they have not and do not intend to adapt their project activities, target groups or outputs, but as a result of the pandemic the Department of Health is now more involved in the project, which is viewed as being a positive development.

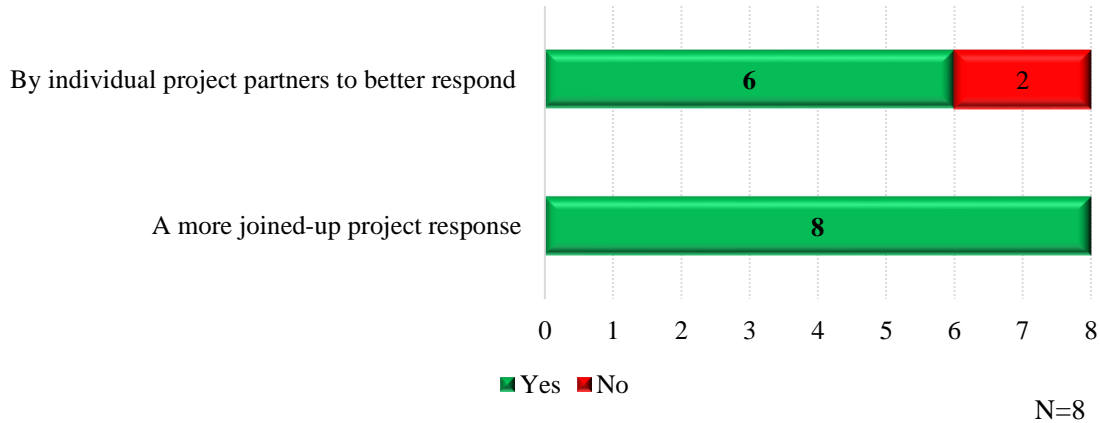
<sup>36</sup> ECME, NWCAM, and Co-Innovate



## 2.7 Cooperative measures implemented

All (N=8) of the project leads indicated that their project partnership had implemented cooperative measures to enable a more joined-up project response, whilst 6<sup>37</sup> (of 8) project leads also indicated that they had implemented cooperative measures to enable the individual project partners to better respond to the pandemic.

Figure 2.9: Cooperative measures implemented



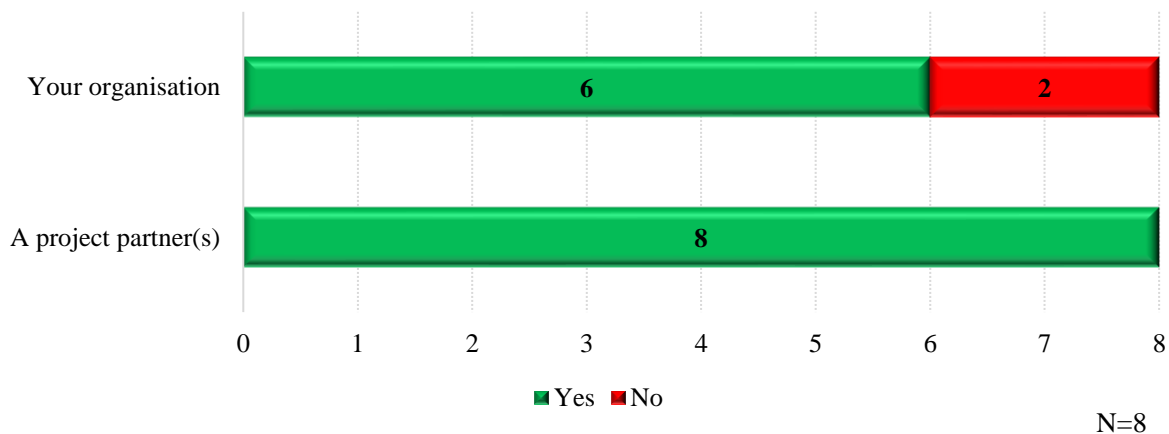
Examples of cooperative measures implemented include:

- More regular communication and virtual/remote meetings;
- Sharing of advice and knowledge; and
- More training and development opportunities offered online.

## 2.8 Direct Involvement in the Response to the Covid-19 Pandemic

All eight project leads indicated that their organisation or one of their project partners had been directly involved in the response to the emergency (beyond actions relating to the project), with 6<sup>38</sup> (of 8) of the project leads' organisations directly involved in the response to the emergency.

Figure 2.10: Directly involved in the response to the emergency



<sup>37</sup> Renewable Engine, SPIRE 2, NWCAM, Bryden Centre, Co-Innovate, and BREATH.

<sup>38</sup> CPM, ECME, SPIRE 2, NWCAM, Bryden Centre and Co-Innovate.

Examples of how the lead organisations and their project partners have been directly involved in the response to the emergency (beyond actions relating to the project) included:

- Involvement in the development of track and trace applications;
- Involvement in research activities related to COVID-19 (e.g. for a vaccine, antibody testing);
- Development of a COVID-19 dedicated website offering advice for businesses;
- Manufacturing of PPE or the respiratory part of the ventilator; and
- A Respiratory Physician was actively involved in managing the pandemic.

## 2.9 Lessons Learned as a result of the Changing Circumstances

The eight project leads highlighted a variety of lessons/best practice that they have learnt when adapting their project to the changing circumstances. Examples included:

- The importance of having good IT infrastructure in place to enable remote working and online meetings to take place;
- The flexibility and convenience of online meetings;
- Appreciation for personal circumstances; and
- The need for greater engagement with students and the efficiency of communication.

## 2.10 A Future Programme's Potential Contribution to Recovery

The project leads identified the following ways in which a future programme could contribute to the recovery from the pandemic:

- Ensuring there is a greater focus on green initiatives;
- Taking cognisance of COVID and the importance of research into pandemics/influenzas;
- Targeting growth areas in MedTech;
- Ensuring a more cohesive link between businesses and local research institutions.

### 3. CURRENT POSITION OF THE PROJECTS

This section provides a summary of the current position (at December 2020) of each of the eight projects.

#### 3.1 Project Expenditure to Date

Table 3.1 provides a summary of the total estimated expenditure to December 2020 and also the proportion of ‘project time’ that has passed at December 2020.

Table 3.1: Project Costs – Anticipated and Estimated Actual December 2020						
Project	Anticipated Total (€)	Anticipated Total at December 2020	Anticipated % of total budget at December 2020	Total Estimated Expenditure in December 2020 <sup>39</sup> (€)	% of total budget	Proportion of Timescale Passed at December 2020
<b>Objective 1.1</b>						
NWCAM	8,779,853	7,116,442	81%	5,380,508	61%	71%
Renewable Engine	6,104,995	5,460,382	89%	4,166,864	68%	85%
Bryden Centre	9,752,680	7,466,789	77%	5,180,299	53%	79%
SPIRE 2	6,703,246	5,273,977	79%	4,449,707	66%	79%
ECME	8,362,917	5,979,953	72%	4,737,172	57%	79%
BREATH	8,506,929	6,198,640	73%	6,147,545	72%	79%
CPM	9,424,927	8,803,279	93%	5,095,011	54%	78%
<b>Subtotal</b>	<b>57,635,547</b>	<b>46,299,462</b>	<b>80%</b>	<b>35,157,106</b>	<b>61%</b>	<b>-</b>
<b>Objective 1.2</b>						
Co-Innovate	22,443,035	19,503,081	87%	6,652,979	30%	70%
<b>Total</b>	<b>80,078,582</b>	<b>65,802,543</b>	<b>82%</b>	<b>41,810,085</b>	<b>52%</b>	<b>-</b>

Key points to note in relation to expenditure (at December 2020) under INTERREG VA Programme<sup>40</sup> Investment Priority 1: Research and Innovation include:

- At an overall Axis level, the eight projects have incurred expenditure of half (52%) of their total budget. However, this differs considerably between the two Objectives:
  - Objective 1.1 projects have incurred expenditure of 61% of their total budget, against a budgeted position of 80% at the same juncture. During consultation, only one Objective 1.1 project (SPIRE 2) considered that there was potential for budget underspend at the end of their project period. However, given that most projects are more than three-quarters of the way through their project period, and expenditure is collectively just over three-fifths (61%) of the available budget, which compares with a budgeted position of 80%, the Evaluation Team considers that there may be a greater risk of underspend at the end of the project periods than anticipated by the projects themselves (perhaps as a result of ‘optimism bias’).
  - Objective 1.2 has incurred an expenditure of 30% of its total budget, against a budgeted position of 87% at the same juncture. Discussion with the Co-Innovate project partnership indicates that they anticipate that there will be underspend at the end of the project period.

<sup>39</sup> Source: SEUPB’s EMS 14<sup>th</sup> December 2020

<sup>40</sup> For Northern Ireland, Ireland and Western Scotland

### 3.2 The Extent to which the Priority Axis Output & Result Indicators have been achieved

#### Specific Objective 1.1

As detailed in Table 3.2, whilst support is continuing to be delivered to business and industry, many of the output indicators have already been achieved and in most cases, exceeded by some considerable margin. Unsurprisingly, given the fact that the research elements of the projects continue to be undertaken, coupled with the reported delays in the recruitment of research staff and impacts of COVID-19 related lockdowns, the number of PhD (or above) level research years is currently 27% below target.

Table 3.2: Overview of progress made towards the Output Indicators under Specific Objective 1.1												
Output Indicator	Programme Target	Combined project targets (based on project applications)	Actual Output <sup>41</sup>								Variance from Programme Target	Variance from Combined project targets
			BREATH	Renewable Engine	NWCAM	ECME	SPIRE2	CPM	Bryden Centre	Total		
No. of enterprises receiving support	20	78	10	8	9	0	8	4	64	103	+415%	+32%
No. of enterprises receiving grants	10	26	0	4	4	5	2	3	-	18	+80%	-31%
No. of enterprises receiving non-financial support	20	78	10	8	9	0	8	4	64	103	+415%	+32%
Years of PhD (or above) level research	514	636	65.5	43.14	52.05	65	41.2	54.24	52.8	374	-27%	-41%
No. of enterprises cooperating with research institutions	10	78	8	8	9	5	8	5	64	107	+970%	+37%
No. of enterprises participating in cross-border, transnational or inter-regional research projects	10	75	2	8	9	5	8	5	64	101	+910%	+35%
No. of research institutions participating in cross-border, transnational or inter-regional research projects	5	29	3	4	4	5	4	4	10	34	+580%	+17%

The activity reported above is that that has been ‘self-reported’ by the projects, and may not yet have been verified by SEUPB.

<sup>41</sup> Source: SEUPB’s quarterly monitoring data: NWCAM, Renewable Engine, CPM and ECME as of September 2020. SPIRE 2 and BREATH as of July 2020 and the Bryden Centre as of February 2020.

NB following the completion of the first in a series of three reports that will provide a longitudinal Impact Evaluation of Priority Axis 1 – Research and Innovation, the Evaluation Team considered that it was evident that some projects were meeting some of the Common Indicator targets with relative ease. Consequently, during early 2020, SEUPB asked Cogent to:

- Review the Cooperation Programme targets and the EU common indicators;
- Review the targets in each of the LoOs, and a comparison of known activity (up to that included in the recent evaluation report), alongside a view on the reasonableness of the targets established (both in terms of scale and appropriateness given the nature of the activity);
- Provide recommendations on the best way forward in terms of any disconnect between the Cooperation Programme and LoO targets;
- Provide recommendations for future target setting on similar R&D focused programmes.

The subsequent report<sup>42</sup> contained the following recommendations amongst others:

1. At the time of writing (February 2020), all of the Priority Axis 1 projects have been operational for a period of circa 3 years, and each has signed Letters of Offer with SEUPB with their project targets featured. Evidently, the output targets set out in the Cooperation Programme are much less than the cumulative values featured in the individual supported projects' Letter of Offer. The Review Team recommends that the targets featured in the Cooperation Programme are replaced, in the first instance, with the cumulative targets featured in the eight Letters of Offer.
2. Where there is flexibility (albeit there may be little as the Letters of Offer are legally binding), SEUPB should consider revising the result indicators for both Investment Priorities.

SEUPB has advised (in December 2020) that based upon these recommendations, the Managing Authority proposes to modify the programme, so that the targets in the Cooperation Programme are the same as those in the projects' Letter of Offer.

<sup>42</sup> INTERREG VA Programme Investment Priority 1: Research and Innovation – Review of Output and Result Indicators (Cogent Management Consulting, March 2020)

In terms of progress towards the Specific Objective's Result Indicator, the Evaluation Team notes that the projects report that 132 peer-reviewed publications with cross-border authorship have been created, 62% lower than the combined projects' targets (albeit it is noted that the results reported will be subject to verification by SEUPB/NISRA). Based on the feedback from the Project Partners, the Priority remains on track to achieve the Result indicator at an overarching level.

Table 3.3: Overview of progress made towards the Result Indicator under Specific Objective 1.1											
Output Indicator	Programme Target (per Annum)	Project targets	Actual Output <sup>43</sup>								Variance from project targets
			BREATH	Renewable Engine	NWCAM	ECME	SPIRE2 <sup>44</sup>	CPM	Bryden Centre <sup>45</sup>	Total	
No. of peer reviewed publications with cross-border authorship	75	343	53	6	2	20	6	43 <sup>46</sup>	2	132	-62%

### Specific Objective 1.2

Whilst progress has been made towards a number of the output indicators, as noted in table 3.4, the COVID-19 pandemic has had a considerable impact on the progress of Strand 4 in particular, and may impact on the project's overall ability to deliver on all of its Output Indicators (at least within the timeframes stipulated within its current LoO).

Table 3.4: Overview of progress made towards the Output Indicators under Specific Objective 1.2			
Output Indicator	Target	Actual	Variance
No. of enterprises receiving support	1,408	1,394	- <1%
No. of enterprises receiving grants	19	8	-58%
No. of enterprises receiving non-financial support	1,408	1,394	- <1%
No. of enterprises cooperating with research institutions	50	29	-42%
No. of enterprises participating in cross-border, transnational or interregional research projects	19	8	-58%
No. of research institutions participating in cross-border, transnational or interregional research projects	5	5	-
No. of enterprises receiving one to one innovation advice	469	331	-29%
No. of enterprises in receipt of an innovation capability development programme	94	92	-2%
No. of enterprises engaging an innovation intern, on a cross-border basis	70	29	-59%

<sup>43</sup> Source: Consultations with project leads: Renewable Engine, ECME and CPM (21/08/2020); NWCAM (26/08/2020); and BREATH (08/09/2020)

<sup>44</sup> During consultation (on 25/08/2020) SPIRE 2 indicated that it was in the process of reviewing publications up to July 2020, following a publication audit in the previous year (July 2019). It was estimated that at July 2020 SPIRE 2 had 54 peer reviewed publications either published or in draft format.

<sup>45</sup> The Bryden Centre progress is as of February 2020 and was sourced from Project Progress Report 11. This collated project progress report was still in progress at the time of writing (October 2020).

<sup>46</sup> This includes 7 peer-reviewed REF standard journal publications and 36 other high-quality peer-reviewed publications in the H&LS Sciences field with cross border authorship. REF (Research Excellence Framework) is the system for assessing the quality of research in UK higher education institutions.

Table 3.5 provides a summary of the progress made towards the Priority's overarching Output Indicators.

<b>Table 3.5: Overarching progress towards the Priority's Output Indicators</b>			
<b>Output Indicator</b>	<b>Target</b>	<b>Actual</b>	<b>Variance</b>
No. of enterprises receiving support	1,428	1,497	+5%
No. of enterprises receiving grants	29	26	-10%
No. of enterprises receiving non-financial support	1,428	1,497	+5%
Years of PhD (or above) level research	514	374	-27%
No. of enterprises cooperating with research institutions	60	136	+127%
No. of enterprises participating in cross-border, transnational or interregional research projects	29	109	+276%
No. of research institutions participating in cross-border, transnational or interregional research projects	10	39	+290%
No. of enterprises receiving one to one innovation advice	469	331	-29%
No. of enterprises in receipt of an innovation capability development programme	94	92	-2%
No. of enterprises engaging an innovation intern, on a cross-border basis	70	29	-59%

## 4. CONCLUSIONS AND RECOMMENDATIONS

### 4.1 Conclusions

#### 4.1.1 *Impact of COVID-19*

The key findings from the Evaluation Team's consultation with project partners include:

- 6 of the 8 projects consider that the onset of the COVID-19 pandemic and the associated lockdown and disruption to normal working practices have created a risk that their project will not fully achieve its aims and objectives. One project (NWCAM) considered that there was a 'high risk' that this was the case;
- 3 of the 8 projects have made some adaptations to their project as a result of the COVID-19 pandemic;
- 3 of the 8 projects consider that their project will likely require an extension to its originally anticipated timescales to complete successfully; and
- 1 of the 8 projects considers that they will likely not be able to spend their full budget allocation.

It should be noted that the Evaluation Team spoke with the projects at a time (end of August/start of September) when COVID-19 restrictions had been eased/lifted to some extent and projects may have been more optimistic about the project's ability to achieve its aims and objectives within the original timeframe. However, at the time of writing (late December 2020) further restrictions are being implemented in Northern Ireland and the Republic of Ireland, which may pose a significant risk to cross-border collaboration activities during their implementation.

Of note, whilst 6 projects felt it was feasible to make up for the delays experienced as a result of COVID-19 (at August/September), they noted that this would depend on how long the lockdown continues for, as although the projects adapted well to remote working, some work cannot be completed remotely (e.g. laboratory-based work). It is the view of the evaluation team that the ongoing uncertainty associated with the duration of lockdowns and the severity of restrictions, there continues to be a significant ongoing risk to the successful completion of the projects.

#### 4.1.2 *The Current position of the projects*

Specific project conclusions are detailed below:

##### NWCAM

NWCAM has been performing well in terms of progress towards its output indicators, having already exceeded a number of targets, as of September 2020. However, the project had only delivered 2 publications with cross-border authorship at August 2020, against a target of 30.

Unfortunately, as a result of the pandemic, the NWCAM project partnership considers that the project is now behind schedule, with a 'high risk' that the project will not fully achieve its aims and objectives. Various staff across the lead partner's organisation, project partners or direct beneficiaries started working remotely and/or were furloughed. This included Glasgow University who furloughed staff, which has had an impact on the number of research years for that period. Subsequently, NWCAM anticipates that it will not be feasible to deliver the project's planned activities within the original timeframe as some projects may not be able to carry out testing, due to research facilities having to close.

Furthermore, NWCAM indicated that additional funding may be required to hire an additional researcher to help to make up for the lost research years. The Evaluation Team considers that this presents a particular risk to the project, particularly in the current uncertain climate, with new lockdown measures coming into force and the threat of further restrictions. Also, as of December 2020, the project had only spent 61% of the total budget (against a forecasted position of 81% at the same juncture), and



71% of the project timescale has now passed. Therefore, without a project extension, there is perhaps a potential risk of underspend associated with the project.

Of note, various project partners have been involved were involved in the response to the COVID-19 pandemic. For example, Armstrong medical, a specialist manufacturer of breathing and respiratory products scaled up its capacity to manufacture disposable breathing circuits and electromedical devices for Intensive Care Units (ICUs) to meet global demand. Recently they launched a range of products including the AquaVENT VT breathing circuit which incorporates some of the research & development (R&D) generated from the NWCAM collaboration with Ulster University.

### Renewable Engine

The Renewable Engine project is making strong progress and all outputs have been, broadly, proceeding according to the workplan, with the project having already achieved all but one of its output indicators. As of August 2020, the project had completed 6 peer-reviewed journal and conference publications with cross-border authorship representing 60% completion against its result target indicator of 10. The project has also supported businesses to take forward commercially-focused R&D which may not have been undertaken in the absence of the project due to their capacity and capability.

Nonetheless, the COVID-19 pandemic has had a considerable impact on staff across the project partners and beneficiaries with most encouraged to work remotely, whilst others (within the industry partners) were furloughed or made redundant. Despite this, discussion with the Renewable Engine project partnership indicates their view that the project continues to be on track with little risk to it fully achieving its aims and objectives.

Some of the project's 2020 planned activities, including planned dissemination activities, are now anticipated to be implemented during 2021. However, the project partners consider that it is feasible to make up for delays caused by the pandemic and suggest that they will be able to deliver the project fully within its current budget, whilst noting that an extension to the project timeframe would be beneficial. This may suggest that there is a risk that the project will not fully achieve its targets within the current timeframe.

Furthermore, the project partners also consider that there is a risk to the project in the form of the economic downturn meaning that some industry partners may not survive, which would erode the connection between the R&I that has been undertaken and potential subsequent industrial impacts.

As of December 2020, the project had only spent 68% of the total budget, against a forecasted position of 89% at the same juncture.

### Bryden Centre

The Bryden Centre is making good progress against most of its outputs indicators. However, whilst it is anticipated that the Bryden Centre Project will contribute 68 peer-reviewed journal and conference publications with cross-border authorship, as of February 2020, the project had only produced 2. Discussion with the project partnership indicates that a number are in development and they anticipate that this element of the project's activity will ramp up as the research progresses.

The project partnership suggests that as a result of the pandemic their project is behind schedule and there is a risk that it will not fully achieve its aims and objectives. In particular, they highlight risk relating to PhD students' progress. Various staff across the lead partner's organisation, project partners or direct beneficiaries have also started working remotely, were furloughed, or were made redundant as a result of the pandemic

Whilst the Bryden Centre project partnership suggests that most of the project's planned activities will be delivered, they consider that there is a risk that some may not without a six-month extension (which the Evaluation Team understands has been requested). The project partners note that an extension was

required even before the onset of the COVID-19 pandemic, but that it would be feasible for the project to make up for COVID-19 related delays and to deliver the project fully within its current budget.

However, the project partnership is concerned about the potential impact of a second period of lockdown (which the Evaluation Team notes, at Late December 2020, has now been implemented), particularly its impact on the time available for PhD students to complete their projects, which might prevent the target of 34 PhDs and associated PhD years not being fully achieved. The Evaluation Team notes that with new restrictions now in place, this is a risk to the progress of this project.

It was further noted by the project partners that some of the industry partners appeared to have become more conservative about taking things forward. However, this has yet to be fully assessed as the project partners' planned visits to the industry partners to see how their Bryden Centre project had impacted the business have had to be cancelled/postponed due to the periods of lockdown.

As of December 2020, the project had only spent 53% of the total budget, against a forecasted position of 77% at the same juncture.

## SPIRE 2

The SPIRE 2 project is making strong progress, with many of the project's output targets almost fully achieved as of July 2020. Concerning the results indicator target, whilst it is anticipated that SPIRE 2 will contribute 78 peer-reviewed journal and conference publications with cross-border authorship, at August 2020, the project had only formally recorded achieving 6 such publications. However, the SPIRE 2 project partnership advised that it was in the process of reviewing publications up to July 2020, and estimated that at July 2020 SPIRE 2 had 54 peer-reviewed publications either published or in draft format.

The SPIRE 2 project partnership suggests that as a result of the pandemic their project is behind schedule and there is now a risk that it will not achieve its aims and objectives due to being unable to access laboratories and also delays in onsite activities, with various staff across the lead partner's organisation, their project partners or direct beneficiaries either working remotely or been furloughed. The Evaluation Team notes that this risk to the project may further be exacerbated moving forward with new lockdown measures and restrictions continuing to be implemented.

Whilst the partnership considers that most of the planned activities should be delivered, some may not be due to the aforementioned limited site access. However, they indicate that this should not affect the project's ability to achieve its outputs and it should be feasible to make up for the pandemic-related delays, provided the project receives an extension. Albeit, the project lead noted that the threat of a second lockdown could hold the project up further.

The project lead notes that they will be able to deliver the entire project within their current budget, but that there may be a c.11% underspend. As of December 2020, the project had only spent 66% of the total budget, against a forecasted position of 79% at the same juncture.

Of note, the project partners' academic institutes were involved in the response to the COVID-19 relief effort including undertaking antibody testing, work on the 'track and trace' application with the Irish government and on a plumbing-free handwash system.

## ECME

The ECME project is making strong progress towards the achievement of the project's output targets. However, the project partnership considers that achieving the result indicator target will be challenging due to the multi-disciplinary nature of the partners engaged in the project and the limited collaborative engagement available during the pandemic. Linked to this, during a consultation, the ECME project partnership consider that as a result of the pandemic their project is behind schedule (with a particular impact being a reduction in students' access to laboratories).

Consequently, the project partnership considers that the project will require an extension.

However, positively, where possible, some of the research has, with SEUPB's agreement, pivoted towards supporting efforts to address the impact of the pandemic, whilst continuing to meet the objectives of the project. In particular, the project altered the industrially focused mini-projects to focus on solutions to the World Health Organisation's identified challenges facing our society. This resulted in the formation of 9 projects, which were awarded up to €30k each in late May.

As of December 2020, the project had only spent 57% of the total budget, against a forecasted position of 72% at the same juncture.

## BREATH

The BREATH project is making strong progress towards the achievement of the project's output targets and the result indicator target.

The BREATH project partners consider that the project is mostly on track with very little risk to the project fully achieving its aims and objectives as a result of the pandemic. It was noted that BREATH's PhD students took the time during the lockdown, when access to laboratories was restricted, to write up and analyse what they had completed up to that point for their theses. The project partners consider that this has helped to mitigate the risk of the project's aims not being fully achieved.

Nonetheless, the BREATH project partnership is of the view that the project may no longer be able to deliver all of its planned activities within the original timeframe citing the lack of laboratory access as the main reason for this. With new restrictions and lockdown measures being implemented, it is the view of the Evaluation Team that this may have a further adverse effect on the delivery of planned activities and could potentially lead to further delays.

As of December 2020, the project had only spent 72% of the total budget, against a forecasted position of 73% at the same juncture.

## CPM

Whilst the CPM project is making progress towards the achievement of the project's output targets and the result indicator target, the project partnership considers that the project is behind schedule and there is a risk that it will not achieve its aims and objectives. Furthermore, the partnership is of the view that the project may no longer be able to deliver all of its planned activities within the original timeframe citing the fact that staff had to work remotely, and patient recruitment had to be suspended in March 2020. Also, there has been an increased workload for some researchers as the pandemic is relevant to the CPM project's area of study, with one doctor that is completing a PhD having to be redirected to clinical work (and away from the CPM project).

The CPM project partnership considers that most of the project's planned activities can still be delivered but some may not, particularly due to the impact of patient recruitment being delayed, events having to be rearranged virtually or cancelled. They consider that there will likely be a need for a project extension due to the delay in staff starting and a requirement for additional personnel. It is understood that the project has submitted a request to SEUPB for these amendments, which they suggest could be covered by an underspend in the project's salary budget.

As of December 2020, the project had only spent 54% of the total budget, against a forecasted position of 93% at the same juncture. Given this disparity, the Evaluation Team is of the view that there is a degree of risk that the project will not be able to deliver all of their planned activities, even with a project extension.

### Co-Innovate

Whilst the Co-Innovate project has made good progress against its anticipated Strands 1, 2, 3 and 5 activity, progress against Strand 4 has been slower, with the project partnership reporting that it has been particularly affected by the COVID-19 pandemic. The project partnership advises that it has little concerns that it will not fully meet the targets established, other than those for Strand 4, within the original project timeframe.

The project partnership considers that it will need a further project extension of circa 6 to 9 months if it is to fully meet the targets associated with Strand 4. NB the project partners had requested a 9-month project extension during March 2020 and received approval for a 6-month extension to September 2022. The Evaluation Team notes that the likelihood of Strand 4 not achieving its target appears to have been exacerbated given the new (at December 2020) lockdown restrictions in both the UK and Ireland.

The Evaluation Team considers that the COVID-19 pandemic and associated restrictions have had an evident impact on the project's ability to recruit SMEs onto Strand 4 and it is likely that the project will not be able to reach its Strand 4 target. However, it should be viewed positively that the project partners consider that they will be able to achieve between 80% and 86% of the Strand 4 target.

Whilst the project partnership considers that there is a sufficient pipeline of projects in both Northern Ireland and Ireland for the project to achieve its Strand 5 targets, they suggest that there is a high risk that the Scottish partners will not be able to achieve their target of Business to Business (B2B) projects. However, it is understood that Co-Innovate has recently proposed a countermeasure<sup>47</sup> to SEUPB to enable the programme to utilise forecasted underspend within the already approved budget for InterTradeIreland to deliver up to three Strand 5 B2B projects led by businesses based on the Island of Ireland, to offset potential projects that will not take place in Scotland. InterTradeIreland noted during consultation that this would have the effect of reducing the 25% project allocation within the Scottish region, but suggested that if they cannot fulfil these projects anyway, the same outcome would ultimately be arrived at (in relation's to Scotland's allocation). InterTradeIreland advises that it could utilise the budget that has already been allocated to the Programme and would not require any additional funds to be provided. The project partners consider that this will help to ensure that the main Strand 5 Output Indicator (i.e. Indicator CO41 "Productive investment: Number of enterprises participating in cross-border, transnational or interregional research projects") is achieved.

The Evaluation Team notes that discussion (during December 2020) with SEUPB's Joint Secretariat indicates that it is working closely with each of the Priority Axis 1 projects to establish the impact of the pandemic on their project and their potential requirements (e.g. project extensions). SEUPB's anticipates that it will receive formal feedback on these matters from each of the projects during early 2021. The Joint Secretariat intends to commission an Independent Project Review during December 2020 which will consider options to address the issues that Co-Innovate is experiencing with its Strand 4 activity. As such, the Evaluation Team considers that any actions relating to Co-Innovate should be informed by that review.

---

<sup>47</sup> Source: 'Co-Innovate Case for Consideration, 16/10/2020' Report.

#### 4.1.3 Programme Expenditure Implications

Key points to note in relation to expenditure (at December 2020) under INTERREG VA Programme<sup>48</sup> Investment Priority 1: Research and Innovation include:

- At an overall programme level, projects have incurred expenditure of half (52%) of their total budget. However, this differs considerably between the two Objectives:
  - Objective 1.1 projects have incurred expenditure of 61% of their total budget, against a budgeted position of 80% at the same juncture.
  - Objective 1.2 has incurred an expenditure of 30% of its total budget at December 2020, against a budgeted position of 87% at the same juncture.
- During consultation, only 1 project (SPIRE 2) considered that there was potential for budget underspend at the end of their project period. However, given that most projects are more than three-quarters of the way through their project period, and expenditure at December 2020 is collectively just over half (52%) of the available budget, which compares with a budgeted position of 82%, the Evaluation Team considers that there may be a greater risk of underspend at the end of the project periods than anticipated by the projects themselves (perhaps as a result of ‘optimism bias’).

#### 4.1.4 Progress towards Priority Axis Output & Result Indicators

##### **Specific Objective 1.1**

Encouragingly, despite the onset of the COVID-19 pandemic and whilst support is continuing to be delivered to business and industry, many of the output indicators under Specific Objective 1.1 have already been achieved and in most cases, exceeded by some considerable margin.

However, perhaps unsurprisingly, given the fact that the research elements of the projects continue to be undertaken, coupled with the reported delays in the recruitment of research staff, the number of PhD (or above) level research is currently 27% below target.

**Table 4.2: Overview of progress made towards the Output Indicators under Specific Objective 1.1**

Output Indicator	Programme Target	Combined project targets (based on project applications)	Total Actual Output for 7 project	Variance from Programme Target	Variance from Combined project targets
No. of enterprises receiving support	20	78	<b>103</b>	415%	32%
No. of enterprises receiving grants	10	26	<b>18</b>	80%	-31%
No. of enterprises receiving non-financial support	20	78	<b>103</b>	415%	32%
Years of PhD (or above) level research	514	636	<b>373.93</b>	-27%	-41%
No. of enterprises cooperating with research institutions	10	78	<b>107</b>	970%	37%
No. of enterprises participating in cross-border, transnational or inter-regional research projects	10	75	<b>101</b>	910%	35%
No. of research institutions participating in cross-border, transnational or inter-regional research projects	5	29	<b>34</b>	580%	17%

<sup>48</sup> For Northern Ireland, Ireland and Western Scotland

In terms of progress towards the Specific Objective’s Result Indicator, the Evaluation Team notes that 132 peer-reviewed publications with cross-border authorship have been created, which is 62% lower than the combined projects’ targets. Based on the feedback from the Project Partners, the Priority remains on track to achieve the Result indicator at an overarching level.

<b>Table 4.3: Overview of progress made towards the Result Indicator under Specific Objective 1.1</b>				
<b>Output Indicator</b>	<b>Programme Target (per Annum)</b>	<b>Combined Project targets</b>	<b>Total</b>	<b>Variance from project targets</b>
No. of peer reviewed publications with cross-border authorship	75	343	<b>132</b>	-62%

### **Specific Objective 1.2**

Whilst progress has been made towards a number of the Specific Objective 1.2 output indicators, as noted in Appendix 10 Sections 10.4 and 10.5, the COVID-19 pandemic has negatively impacted the progress of Strand 4 activity in particular, and may impact on the project’s overall ability to deliver on all of its Output Indicators (at least within the timeframes stipulated within its current LoO).

## **4.2 Recommendations**

The Evaluation Team makes the following small number of recommendations:

1. Given the ongoing impact of the COVID-19 pandemic, it will be of great importance that SEUPB continues (as it has been doing throughout the pandemic) to regularly monitor the activity undertaken and progress made by each project. The Evaluation Team spoke with the projects at a time (the start of September 2020) when COVID-19 restrictions had been eased/lifted to some extent and projects may have been optimistic about their ability to achieve their aims and objectives within the original timeframe. However, at the time of writing (late December 2020), both the Republic of Ireland and Northern Ireland have announced new lockdown conditions that will last until at least mid-February 2021. The Evaluation Team considers that this will again impact the projects’ ability to undertake laboratory and workplace-based research activities.
2. Of note, whilst 6 projects felt it was feasible to make up for the delays experienced as a result of COVID-19 (at August/September), they noted that this would depend on how long lockdown measures continue for, as although the projects adapted well to remote working, some work cannot be completed remotely (e.g. laboratory-based work). It is the view of the evaluation team that the ongoing uncertainty associated with the duration of lockdowns and the severity of restrictions, there continues to be a significant ongoing risk to the successful completion of the projects.
3. SEUPB should engage with projects as soon as possible to discuss potential changes to project activities, timelines or budgets (NB Subsequent discussion with SEUPB’s Joint Secretariat indicates that it has asked each of the projects to formally report back in early 2021 as to any further project amendments that might be required as a consequence of the COVID-19 pandemic. A further point to note in relation to this, is that the Joint Secretariat advised that the Irish Government has offered to cover the cost of any extensions offered to PhD students to allow them to complete their studies, which may represent the potential for some saving to SEUPB).
4. Discussion with SEUPB’s Joint Secretariat indicates that it intends to commission an Independent Project Review during December 2020 which will consider options to address the issues that Co-Innovate is experiencing with its Strand 4 activity. As such, the Evaluation Team considers that any actions relating to Co-Innovate should be informed by that review.