



HCI PILLAR 3 MID TERM EVALUATION REPORT





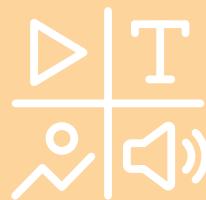
HCI PILLAR 3 MID TERM EVALUATION REPORT

Submitted to HEA

Prepared by
Indecon International Economic Consultants

www.indecon.ie

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EXECUTIVE SUMMARY





Background and Overview

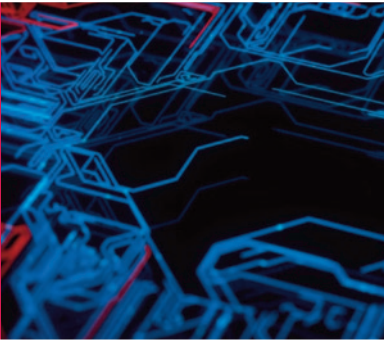
The Human Capital Initiative (HCI), a five year project, investing €300m of NTF funding commenced in 2020. HCI aims to increase capacity in higher education to provide skills-focused programmes designed to meet priority skills needs. Pillar 3 of the HCI is the focus of this mid-term review, which represents an investment of over €200m. Pillar 3 projects are aimed to be focused on innovation and agility, and to be aligned with various national strategic objectives, higher education system objectives and, more broadly, future skills needs for society and the economy. There are 24 innovative and transformational projects. HCI objectives reflected in the work of the 24 projects include the increased provision of skills needs, future proofing graduates, embedding transversal skills, and incentivising continued reform and innovation in higher education. Pillar 3 aims to deliver innovation on more than 200 new and existing higher education courses, projected to impact over 20,000 students. The key outputs at this mid point exceeded this initial target with close to 1,000 new courses and engagement with over 23,000 learners.



Impacting
over 23,000
learners



Investing
€200m of
NTF funding



1,000 new
courses

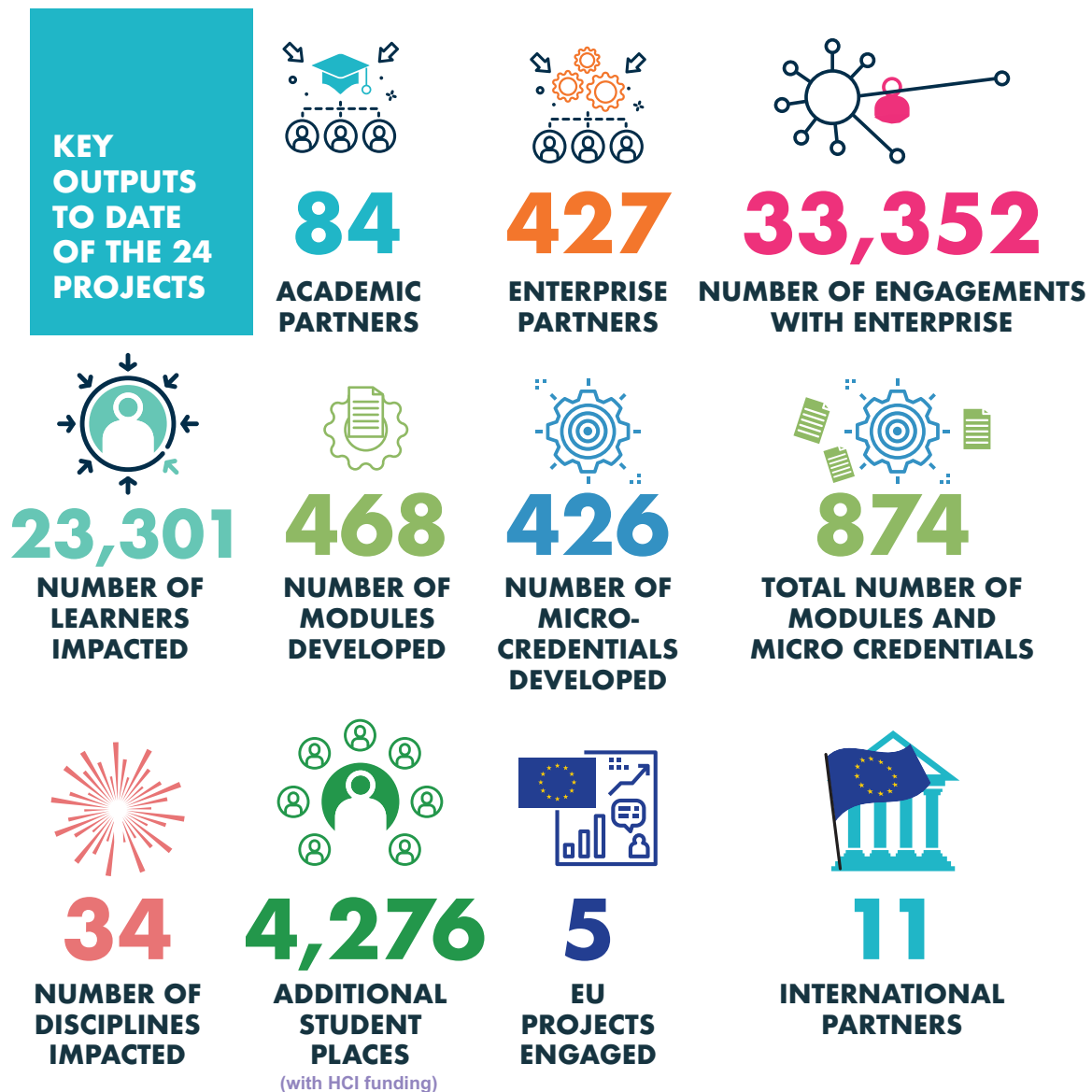


Over 33,000
enterprise
engagements



Key Outputs to Date

The overall HCI programme funding provided under Pillar 3 has already resulted in a number of key outputs, including in terms of additional places being provided. This demonstrates that the funding has had a significant impact already in expanding training to meet priority skill needs.



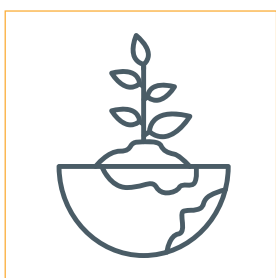
¹ Over 4,000 additional student places have been achieved through direct funding, and a significant number of additional places are still expected as projects mature. Some projects delivered additional places which were not funded, an indication of the wider impacts of the projects, which facilitated the creation of approximately 3,000 additional places beyond those directly funded by HCI.

Policy Alignment

The HCI, and its constituent projects, are aligned with several national and regional policies. The goals of the HCI are aligned with the aims of the National Skills Strategy 2025, which is committed to the growth of the Irish economy, and the development of the skills base within its workforce. This commitment is driven by several key principles. The HCI programme directly addresses these principles, which aim to enhance Ireland’s reputation as a hub of talent, and to directly help address the following national strategic priority goals:



Housing for All



Climate Action Plan 2021



Ireland’s National Skills Strategy 2025



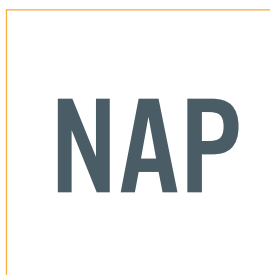
International Financial Services Strategy



Enterprise 2025



Impact 2030: Ireland’s Research and Innovation Strategy



National Access Plan 2022-2028



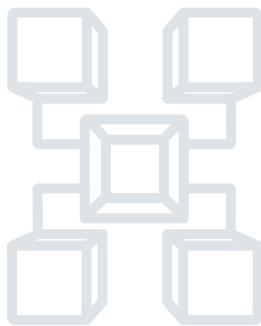
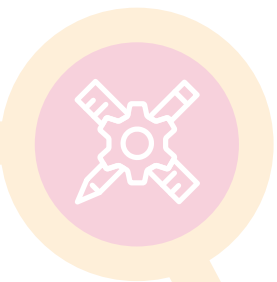
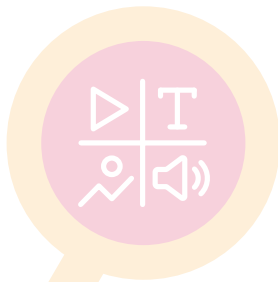
Ireland’s Industry 4.0 Strategy 2020-2025

Some projects are directly relevant to industry-specific or regional strategies. Some examples of these are provided below. A large majority of respondents within the enterprise partners were positive about the level of alignment of the programme to emerging skills needs, and the broader needs of the economy. For learners, there was a highly positive reception to how well aligned the programme is for career development.

² Engineering Industry Ireland (2022). “Engineering Industries Ireland Strategy 2022-2025”. Ibec.
³ Irish Funds (2021). “Leading Together: The Voice of the Funds and Asset Management Industry in Ireland”.
⁴ CyberSkills (2022). “State of the Cyber Security Sector in Ireland 2022”.
⁵ NCSC (2019). “National Cyber Security Strategy 2019-2024”. See: https://www.ncsc.gov.ie/pdfs/National_Cyber_Security_Strategy.pdf
⁶ The Teaching Council (2021). Strategic Plan 2022-2027.
⁷ Ibec (2019). “Ireland – the Global BioPharmaChem Location of Choice.”
⁸ Central Bank of Ireland (2021). “Understanding the Future of Insurance: Climate & Emerging Risk Survey”.

Sector and Project Specific Policy Alignment	
Strategic Policy	Relevant HCI Project(s)
Engineering Industries Ireland Strategy 2022-2025 ²	REEdI- Rethinking Engineering Education in Ireland
Leading Together: ³	Funds Academy
State of the Cyber Security Sector in Ireland 2022 ⁴	Cyber Skills
National Cyber Security Strategy 2019-2024 ⁵	
The Teaching Council Strategic Plan 2022-2027 ⁶	The ADVANCE Centre for Professional Education
	HigherEducation 4.0
	RPL
	Virtual Laboratories in higher education
	TCD: Next generation teaching and learning
	The ADVANCE Centre for Professional Education
A Strategy for the BioPharmaChem Manufacturing Sector in Ireland 2019-2023 ⁷	Enabling Future Pharma
Understanding the Future of Insurance ⁸	CIRDAS

Source: Indecon Analysis



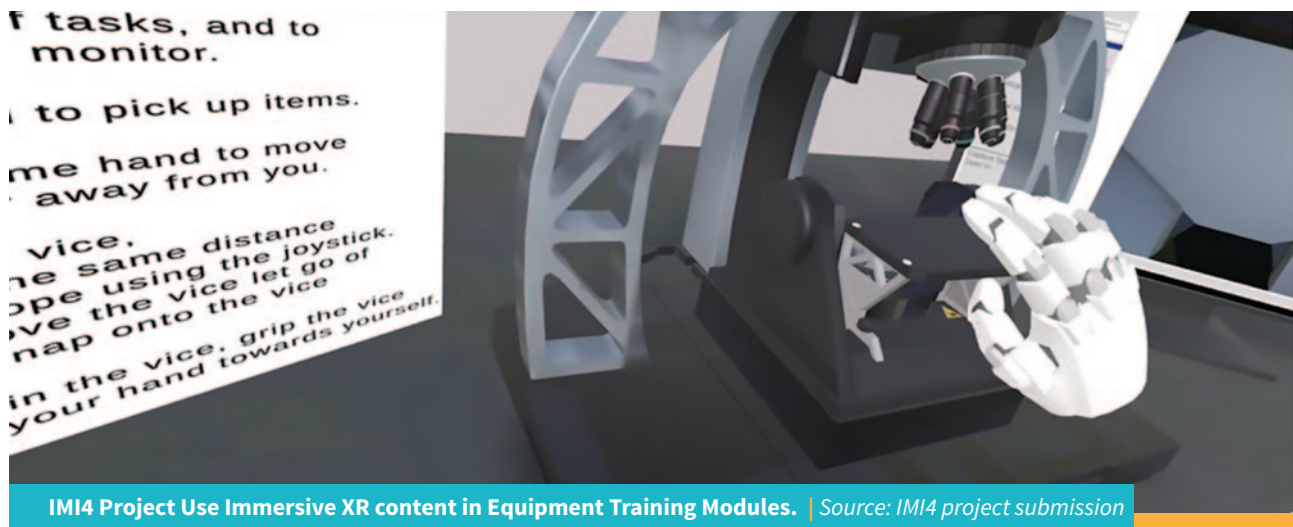
Innovations across teaching and learning

There are many examples of innovations across teaching and learning which have been supported by the HCI. Support provided under the HCI has provided access to technologies (both software and hardware) which are actively being piloted and deployed in learning environments nationally. Some examples of the types of technology being deployed are as follows:

- > The Cyber Skills project has facilitated the procurement and setup of the Cyber Range software system, a virtual controlled, interactive environment that simulates a wide range of security incidents, complex IT environments and real-world threats, that will enhance skills for the cyber security sector
- > The IMI4 project has enabled the development of immersive XR content, and new test equipment training modules in Extended Reality (XR), tethered XR, and a PC-installed version. VR content from partner institutes is being expanded in the current national pilot of the IMI4 programme.
- > The Virtual Labs project has developed the use of virtual laboratories as a teaching tool for the chemical sciences. The project is creating, a dedicated Science Studio at UCC which will provide a state-of-the-art facility to record practical elements of experiments.
- > AMASE is establishing an education and training platform programme in Additive Manufacturing within the South-East Region. Additive Manufacturing will play an important role in the Med-Tech, Bio-Pharma, Aerospace, Agri-Tech, and Precision Engineering sectors.
- > The Creative Futures Academy has invested significantly in technology (software and hardware) in the area of virtual production, audio technology, and sound design making new studio spaces and equipment available to both existing students and to new learners at Levels 8 and 9.
- > Innovative activities of the DASBE project include the design, development and testing of a number of VR tools and software solutions to support in the delivery and assessment of existing and new programmes in sustainable construction practices.



AMASE Project Use of 3D Printing | Source: www.amase.ie



An important aspect of the HCI Project 3 funding is the number of projects which involve innovation in learning. A small number of examples of some of the innovations being piloted and rolled out are set out below.

- > One sub-project being developed by the Higher Education 4.0 project is to develop adaptive learning systems to improve student engagement and performance using technology. This offers a personalised learning environment for students through LTI integration within the VLE to support foundation/basic principles modules in the form of adaptive digital versions of text.
- > The Sustainable Futures project will support the development of a range of virtual experiences that would be difficult or dangerous for students to have in real life. For example, this may include a tour of water treatment plant or a virtual visit to an underwater habitat.
- > The Enabling Future Pharma project is developing innovations in curriculum content. Students receive practical training in applied biopharma techniques and tools and their use, with assessment focused on showing competency rather than knowledge.
- > GROWTHHub is encouraging a growth and entrepreneurial mindset among students and enterprise-based learners. The project has designed an innovative approach using dynamic learning methods containing three phases: Prepare, Engage, and Explore, and is working closely with enterprise partners to develop entrepreneurial skillsets.
- > REEdI has introduced the Engineers in Residence to innovation, which brings industry and academia collaboration into practice, through these formalised posts. These posts are appointed to industry engineers, and provide quality industry partnership to ensure that engineering curricula keeps pace with industry needs.
- > UL@Work engages Professors of Practice to ensure that industry co-design and delivery becomes embedded in university policy.

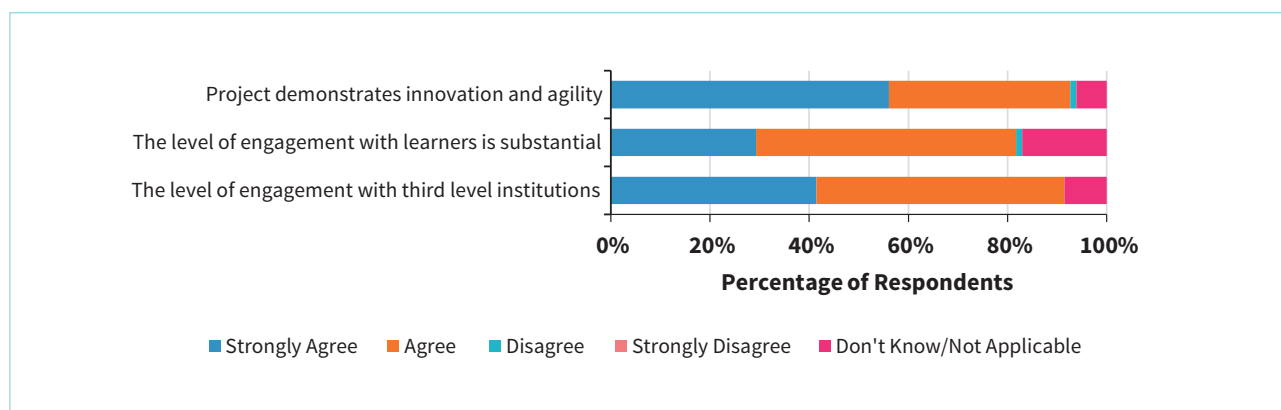
Many projects display innovation in how they develop courses, and how they collaborate with external stakeholders in doing so. Some examples of this are shown below.

- > The MicroCreds project has allowed the development of a single platform for micro-credentials to showcase the micro-credential offerings of all seven partner universities. In addition, it has allowed for the development of an evidence-based model of university-enterprise collaboration for the co-creation of micro-credentials.
- > The UL@work Masters in Professional Practice allows learners to design their own interdisciplinary Masters by combining stackable postgraduate diplomas in over 30 fields.
- > The project to promote the recognition of prior and lifelong learning has been structured so that HEI project partners utilise technology to support a systems approach to enhancing organisational RPL capacity. Examples include the development of an online platform allowing RPL coordinators to work virtually with potential RPL applicants from initial query through to portfolio creation.
- > Ireland’s Knowledge Centre for Carbon, Climate, and Community Action (IKC3) project aims to build a national platform for the development of knowledge and skills to support the transition to a decarbonised, sustainable economy.

Survey Results

Enterprises engaged as part of one or more of the HCI funded projects report very positive views with respect to the engagement with the projects. Survey responses from enterprise partners which relate to aspects of the overall implementation of the programme are shown below. Responses from learners are similarly positive about aspects of programme implementation.

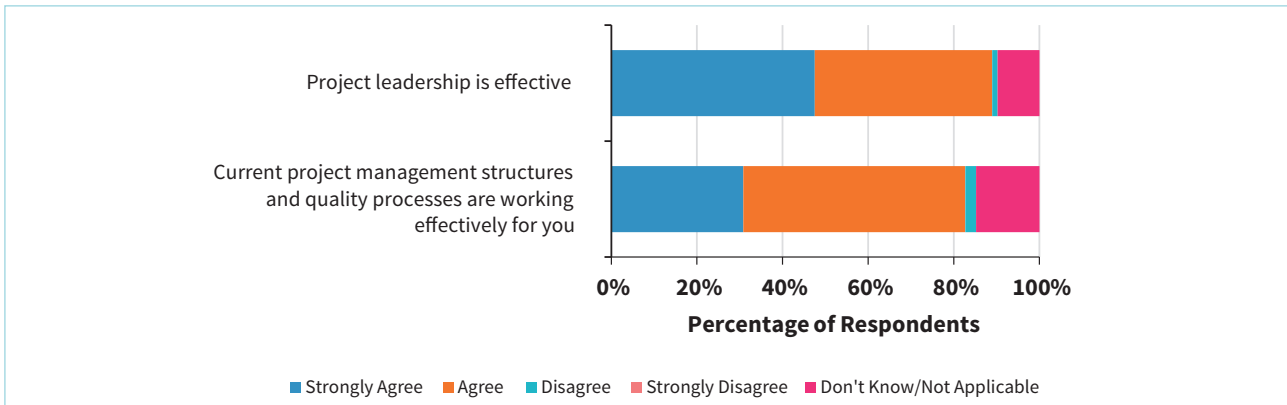
Implementation-Related Survey Responses from Enterprise Partners



Source: Indecon survey of enterprise partners

The overall assessment for programme management among enterprise partners is a positive one, as indicated by the next figure. Almost half of respondents strongly agreed that project leadership is effective, with a further 42.5% agreeing with this. Likewise, over 80% of respondents agreed, or strongly agreed, that current project management structures and quality processes were working effectively for the enterprise partner.

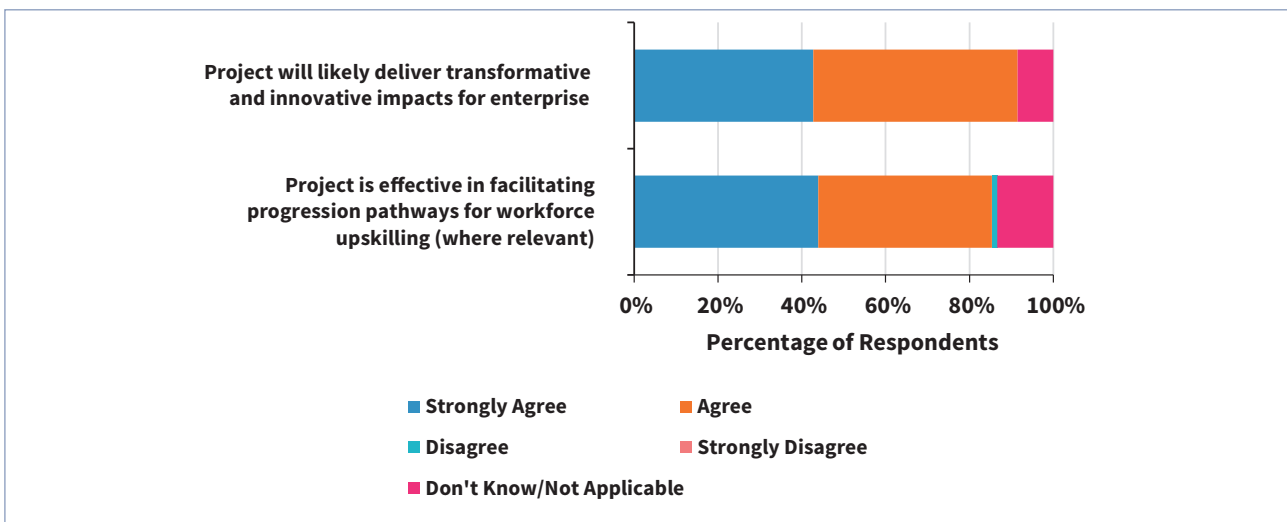
Management-Related Survey Responses from Enterprise Partners



Source: *Indecon survey of enterprises*

Indecon also completed new research with enterprise and students regarding their assessment of the likely impact of programmes. Enterprise partners were positive about the impacts. Over 90% agreed suggested that the projects will likely deliver transformative and innovative impacts for enterprise. Enterprises also indicated their belief that the projects were effective in facilitating progression pathways for workforce upskilling.

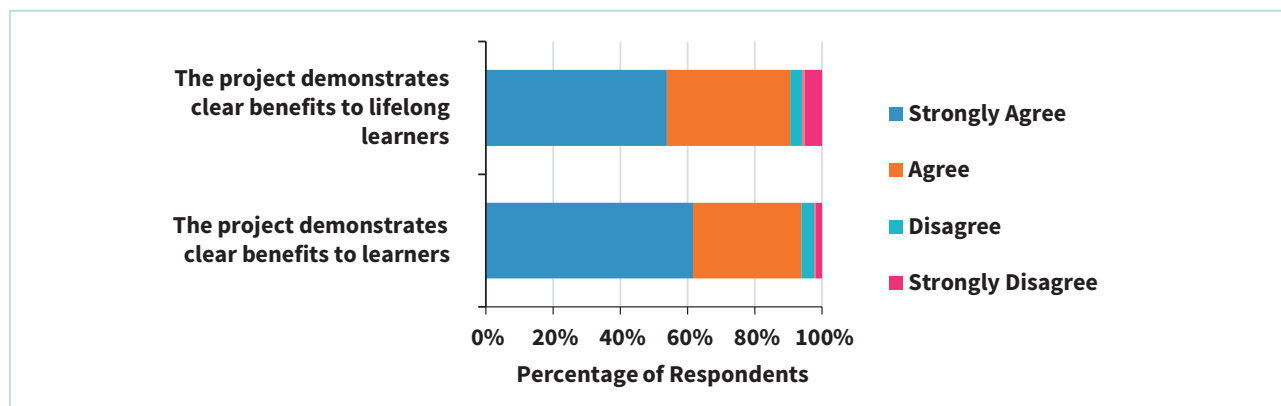
Impact-Related Survey Responses from Enterprise Partners



Source: *Indecon survey of enterprises*

There was also a very strong response among learners about the impacts of the programme. Over 90% of respondents judged that the project demonstrated clear benefits to lifelong learners. Almost 70% of learners said that their participation in the programme had led to new collaborations or opportunities, an indication of the strength of enterprise and industry collaboration as part of the programme.

Impact-Related Survey Responses from Learners



Source: Indecon survey of learners

The next table summarises the proportion of respondents, among learners, who agreed or strongly agreed with each of the relevant survey statements. Additionally, the strength of positive feedback from learners is indicated by the fact that almost all – 94.4% - said that they would be likely, or very likely to recommend participation in the programme to friends or colleagues. There have however been some delays in the implementation of specific projects and a comprehensive assessment of impact will only be evident over time.

Overall agreement with project implementation, management, impact and alignment among learners	
The activities planned have effectively taken place	94.8%
There is extensive public dissemination of the HCI project	63.4%
The project demonstrated innovative teaching and delivery	89.2%
The project activities demonstrate innovation and agility	91.0%
The use of innovative technologies benefited my learning	85.0%
The project demonstrates clear benefits to learners	93.8%
The project demonstrates clear benefits to lifelong learners	90.5%
The project will help my career development	90.4%

Source: Indecon survey of learners

Overall Conclusion

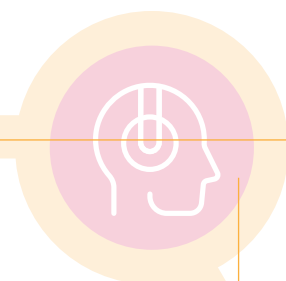
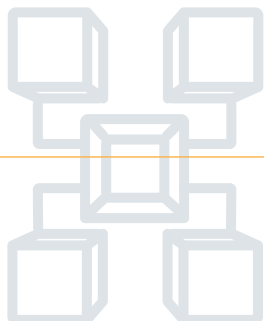
Overall, the programme is exceeding its targets. It has exceeded targets on the creation of new courses (1,000), the delivery of additional student places (over 4,000) and the number of learners impacted (over 23,000).

All 24 Projects have been successfully initiated and are largely on target, with some adjustments made to timeline for a number of projects.

Governance structures have been established at project level, while the HEA has instituted a strong level of monitoring of progress against pre-agreed targets.

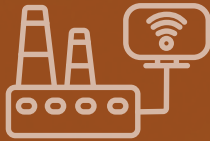
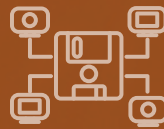
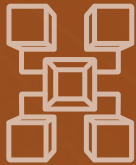
External collaboration with external enterprise partners is a key element for many projects, with strongly positive responses reported by industry. Internal collaboration within the HCI Pillar 3 programme between projects is also evident.

There are numerous examples of innovation in the projects, including in terms of new technologies (both hardware and software); learning methods; and curriculum design.



1

INTRODUCTION





1.1 | Introduction

This report is submitted to the Higher Education Authority by Indecon International Consultants and provides an evaluation of the 24 projects funded by the Higher Education Authority as part of the Human Capital Initiative.

1.2 | Background and Overview

The Human Capital Initiative (HCI), which commenced in 2020, aims to increase capacity in higher education to provide skills-focused programmes designed to meet priority skills needs. The key HCI objectives are shown in the table below.

Figure 1.1: Objectives of HCI

- > Increase provision in areas of identified skills need;
- > Future proof graduates with industry relevant skills for emerging technologies;
- > Ensure that there is a greater focus across the whole spectrum of higher education course provision on promoting and embedding transversal skills; and
- > Incentivise continued reform and innovation in higher education provision building on best practice available nationally and internationally.

Source: HEA
















In addition, there are a number of other key objectives including the aim to ensure there is a greater focus in higher education on promoting and embedding the transversal skills most relevant to the future world of work which will be impacted by digitalisation and automation. The HCI also aims to incentivise continued reform and innovation in higher education provision through such mechanisms as graduate conversion, accelerated course completion, flexible and blended learning, intensified focus on employability, and strengthened linkages and relationships with enterprise.

The HEA aims to achieve its objectives through three pillars of activities as follows:

- > Pillar 1: Provides conversion graduate diplomas in high skills-needs areas.
- > Pillar 2: Provides an incentivised top up funding to HEIs that provide additional full time undergraduate places on specified courses in high skills-needs areas.
- > Pillar 3: Supports innovative and agile projects from institutions or groups of institutions with application and impact across the higher education system.

Pillar 3 is the focus of this mid-term review. The list of HCI funded projects and their Lead Institution, is shown in the next table. Enterprise and other partners for each project were also identified by the Indecon project team in completing this review. A broad overview of the project's initial aims is shown in each of the project chapters.

Table 1.1: List of HCI Projects

 <p>1 ADVANCE Centre</p>	 <p>6 Cyber Skills</p>	 <p>11 GROWTH hub</p>
 <p>2 AMASE</p>	 <p>7 DASBE</p>	 <p>12 Higher Education 4.0</p>
 <p>3 CIRDAS</p>	 <p>8 DCU Futures</p>	 <p>13 The iEd Hub</p>
 <p>4 CONVENE</p>	 <p>9 Designing Futures</p>	 <p>14 MicroCredits</p>
 <p>5 Creative Futures Academy</p>	 <p>10 Enabling Future Pharma</p>	 <p>15 Next Generation Teaching and Learning</p>



16 | Innovative Materials for Industry 4.0



19 | Sustainable Futures



22 | Virtual Laboratories in higher education



17 | REEdI



20 | The Funds Academy



23 | IKC3

Building Change

18 | Building Change



21 | UL@Work



24 | National RPL in Higher Education Project

Source: Project websites and submissions

These projects are aimed to be focused on innovation and agility, and to be aligned with various national strategic objectives, higher education system objectives and, more broadly, future skills needs for society and the economy. For example, many projects aim to directly address various issues outlined in the Climate Action Plan and wider climate policy. These include the Building Change project offered by Technological University Dublin, and Munster Technological University’s (MTU) “Knowledge Centre for Carbon and Climate”, which aims to build a national platform for development and delivery of key skills and knowledge to assist in the net zero, decarbonisation transition. The development of digital skills is also a key feature of various projects under Pillar 3, including MTU’s “Cyber Skills” course which, in direct collaboration with industry experts, has been designed to address the skills needs of the broader IT sector to ensure that the challenges of an increasingly digitalised world are met.

This present mid-term review relates only to Pillar 3 funding and activities. Pillar 3 is building on the existing infrastructure for higher education and enterprise partnerships to provide enhanced collaboration. Pillar 3 aims to deliver innovation on more than 200 new and existing higher education courses, projected to impact over 20,000 students. As of 2023, 24 projects are active under this pillar, involving 84 higher education collaborative partners and 427 enterprise partners. This collaboration is an important component of the projects, with the aim that enterprise partners help to develop innovative and responsive methods of programme delivery to ensure that the higher education system is most adequately and effectively responding to the ever-changing skills requirements.

1.3 | Terms of Reference for Review

A summary of the Terms of Reference for this study is outlined below. Given that this is a mid-term review and that many projects are still being scaled up, the focus of this review is on the earlier stage of the Programme Logic Model,⁹ as the projects will not have reached the stage yet of having significant impacts beyond the providing institutions.

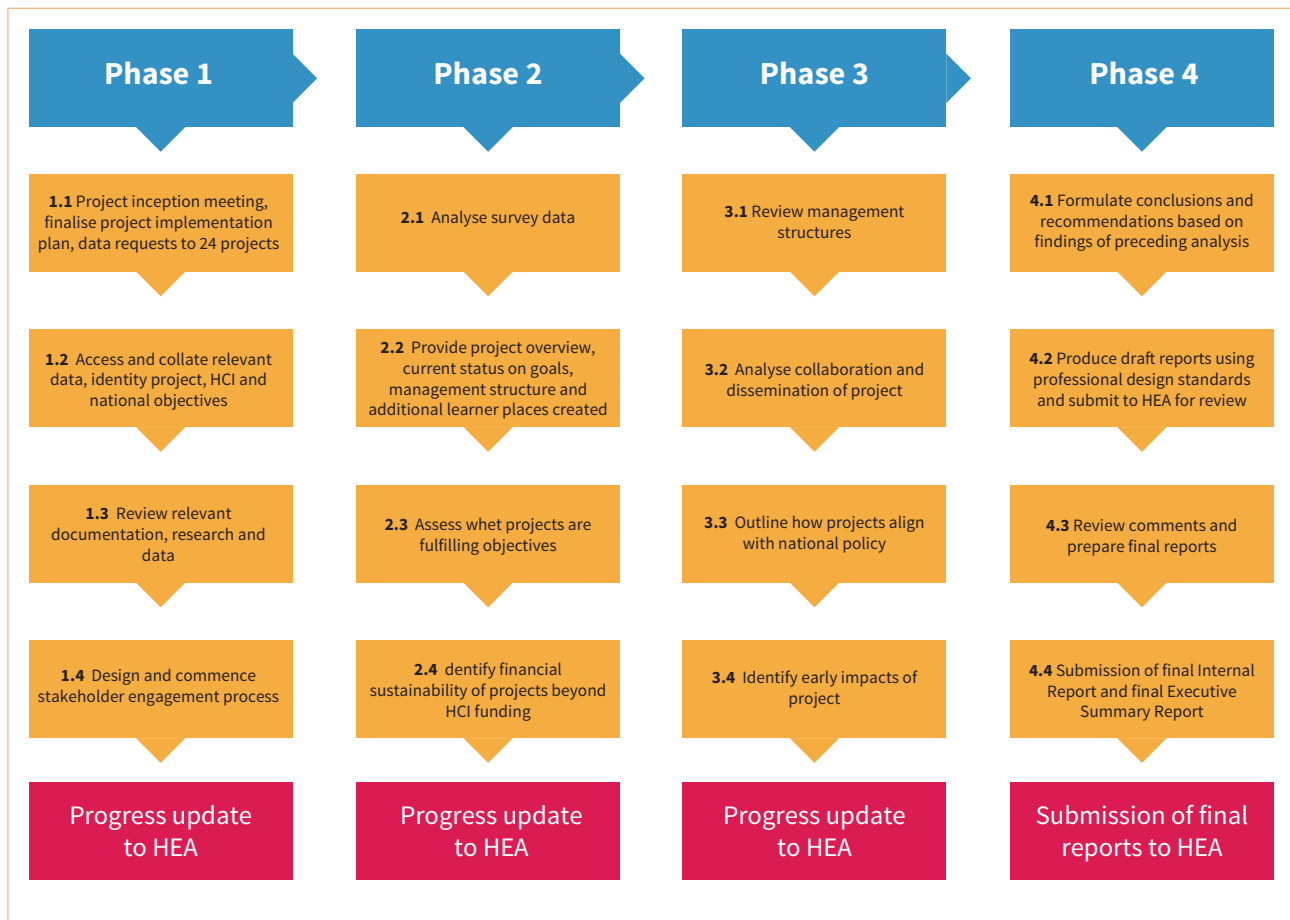
- > **Review of Implementation:** This should include an overview of the project's initial aims and current status, identify project partners; learner places achieved; issues faced; and financial sustainability beyond the lifetime of the HCI funding window.
- > **Management:** Governance, oversight, and project management structures; extent of collaboration; project strengths and weaknesses; awareness of international best practice; and public dissemination.
- > **Impact:** Alignment with key objectives of HCI; outcome measurement; areas of academic excellence; scalability; improved equity of access; and impact that HCI funding has provided.
- > **Alignment:** Identify areas of projects that have meaningfully addressed national government strategies and policies, in skills, higher education, and other policy areas, including the above-mentioned policies.

⁹ Public Spending Code: A Guide to Evaluating, Planning and Managing Current Expenditure

1.4 | Methodological Approach to Review

A rigorous methodology was applied in completing this mid-term review. An overview of the methodological approach to completing the review is presented in Figure 1.2.

Figure 1.2: Overview of Methodological Approach for Mid-Term Review of HCI Pillar 3 Projects



Source: Indecon

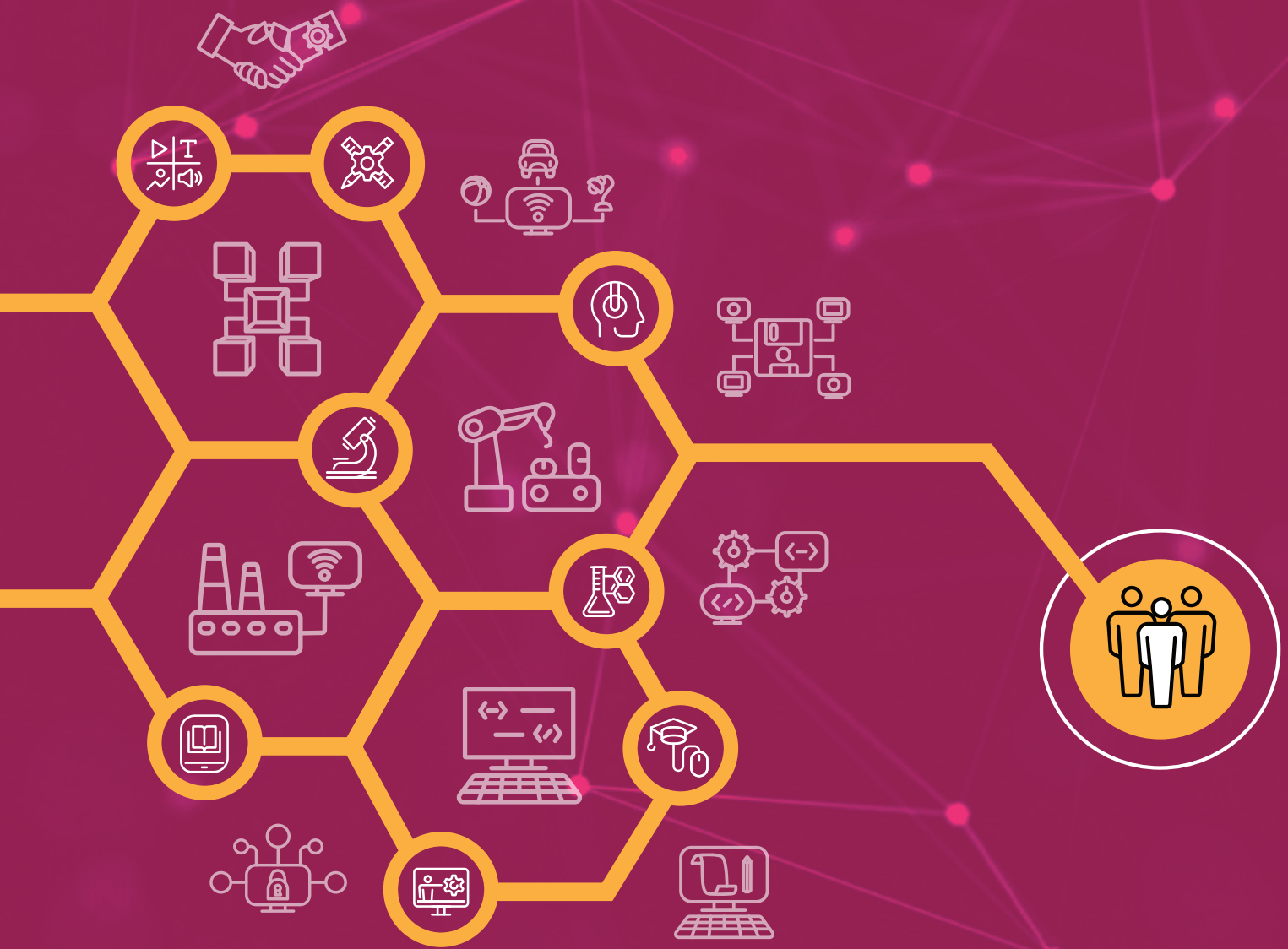
1.5 | Acknowledgements and Disclaimer

Indecon would like to acknowledge the co-operation, assistance, and inputs provided by a range of individuals and organisation during the course of this mid-term review. We would like to thank the staff of the Higher Education Authority for all their advice and other inputs over the course of the study, in particular Dr Vivienne Patterson, SORCHA CARTHY, Dr Kieran McNally, and Alison McDermott. We would also like to thank project leads, other education partners, and other staff who helped compile the response to the Indecon information request issued as part of this project. Finally, we would like to thank all of the enterprises and individual learners who took the time to complete the Indecon surveys which were issued as part of this study. **The usual disclaimer applies and the analysis and findings in this independent report are the sole responsibility of Indecon.**



2

KEY OUTPUTS TO DATE





2.1 | Introduction

This section sets out a summary of the key outputs of the HCI funding to date. Further details of activities at a project level can be found in Section 6.

2.2 | Key Headline Outputs

The table below sets out some of the key highlights in terms of outputs of the 24 projects to date. Indecon note that many projects are still scaling up the level of activity, and that many of the key outputs are likely to experience further growth over the next two to three years.

Of the 24 funded projects, one quarter are individual projects while the majority are collaborative projects with a number of academic partners. The overall number of academic institutions involved, including individual and collaborative projects, is 84 Higher Education Institutions. A single HEI may be involved in several projects and SME mentoring’.

The overall number of enterprise partners indicated by the projects is 427, and the number of engagements is 33,352. Engagement occurred in various ways, from curriculum co design to co-delivery of programmes, Masterclasses, Industry Forums, Site Visits, use of equipment, student mentoring, SME mentoring. As shown in more detail in Section 5.2, the enterprises engaged are active in a wide range of sectors, with Education and Manufacturing sectors being the most popular, though there is also significant engagement with enterprises in other sectors such as Professional, Scientific and Technical Activities, Financial and Insurance Industry, and Information and Communication.

Through its various activities, the projects engaged with over 23,000 learners to date. This includes students of the courses offered, including new modules, Micro-Credentials, and Continuous Professional Development courses. It also includes students engaged with in a variety of other activities, such as support to develop personalised skills and other supports and activities delivered through the project’s structures.

The projects collectively delivered close to 1,000 courses, including over 450 modules or courses and over 400 Micro-credential courses associated with HCI funding. The number of additional learners achieved in delivering these modules and courses is discussed in the following section.

There has been some degree of engagement with European institutions, associations and initiatives by some of the projects. It was common amongst projects to build on international and European frameworks, which were used as guides to develop frameworks tailored to the Irish case. A number of European HEIs have also been involved in the activities of the projects.

Table 2.1: Key Outputs to Date

Indicator	Details	Number
Academic partners	Overall sum of Academic Partners of the 24 projects	84
Enterprise partners	Overall sum of Enterprise Partners of the 24 projects	427
Number of Engagements	Overall sum of Enterprise Engagements of the 24 projects	33,352
Number of learners	Overall sum of Learners engaged with by the 24 projects	23,301
Number of modules	Overall sum of Courses / Modules of the 24 projects	468
Number of Micro-credentials	Overall sum of Micro-credentials of the 24 projects	426
Total number of modules and Micro credentials	Overall sum of Courses / Modules and Micro-credentials of the 24 projects	874
Number of Disciplines Impacted	Overall sum of discipline areas impacted by 24 projects	34
Additional Places	Number of additional student places achieved (with HCI funding)	4,276
EU projects	Number projects engaged with EU institutions/initiatives	5
International partners	Number of international partners engaged with	11

Source: Indecon review of project submissions

Five projects indicated to have engaged with European institutions or initiatives. One of these projects engaged with four European institutions / initiatives, while the other four projects engaged with one each.

- > The EU institutions / initiatives involved are:
- > EU Research Networks;
- > European Council for Small Business;
- > STARS EU;

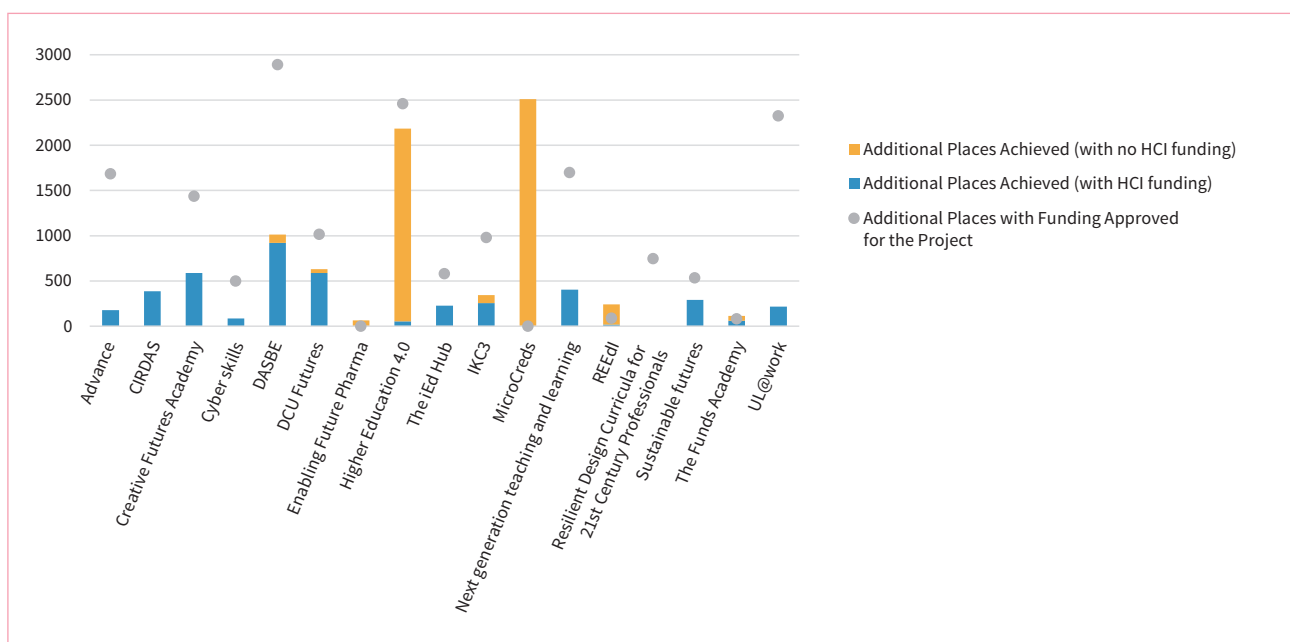
¹⁰ Over 4,000 additional student places have been achieved through direct funding, and a significant number of additional places are still expected as projects mature. Some projects delivered additional places which were not funded, an indication of the wider impacts of the projects, which facilitated the creation of approximately 3,000 additional places beyond those directly funded by HCI.

- > EU Commission (first pilot on EUROPASS interoperability for micro-credentials);
- > European Universities Association;
- > European University Alliances;
- > European Association for Quality Assurance in Higher Education, and
- > European Institute of Innovation and Technology Climate-KIC.

2.3 | Learner Places

The overall HCI programme funding provided under Pillar 3 has already resulted in over 4,000 additional places being provided. This demonstrates that the funding has had a significant impact already in expanding training to meet priority skill needs. Figure 2.1 plots highlighting the range in additional places achieved per project. It shows that a significant number of additional places are still expected, though have not yet been achieved given that projects are still in the process of maturing. The figure also shows that some projects delivered additional places which were not funded, though were achieved in the context of the HCI projects. This is an indication of the wider impacts of the projects, which facilitated the creation of approximately 3,000 additional places beyond those directly funded by HCI.

Figure 2.1: Additional Places per Project



Source: Indecon review of project submissions. Note the figure for additional places with funding approved for the CIRDAS project is 6,440, and is not shown in the figure above.

3

POLICY ALIGNMENT





3.1 | Introduction

The HCI, and its constituent projects, are aligned with several national and regional policies. The key areas of focus for actions under the HCI are as follows:

- > Priority skills needs for society and the economy, particularly in high productivity sectors;
- > Mitigating risks associated with Brexit;
- > Promoting regional development and National Development Plan/Project Ireland 2040 objectives;
- > Innovation and reform in programme provision;
- > Responding to digitalisation and the future world of work;
- > Strengthening relationships with enterprise and addressing identified future skills needs; and
- > Provision of upskilling and reskilling through lifelong learning.

3.2 | Policy Alignment

The goals of the HCI are aligned with the aims of the National Skills Strategy 2025,¹¹ which is committed to the growth of the Irish economy, and the development of the skills base within its workforce. This commitment is driven by several key principles. The HCI programme directly addresses these principles, which aim to enhance Ireland’s reputation as a hub of talent through:

- > The quality and relevance of the education and training base, which is responsive to the changing and diverse needs of Ireland’s people, society and the economy;
- > The strength of relationships and transfer of knowledge between employers, education and training providers, and all sections of society, and the resulting impact on how people are prepared for life and work;
- > The quality of the workforce – a nation of people armed with relevant knowledge, entrepreneurial agility and analytical skills;
- > The effective use of skills to support economic and social prosperity, and to enhance the well-being of the country; and
- > The effective use of technology to support talent and skills provision, to grow enterprise, and to enhance the lives of all within society.

Technology Skills 2022¹² complements both the Future Jobs Ireland and National Skills Strategy agendas by advancing the development of ICT skills in the Irish population, to ensure that future skills needs will be met by future skills supply. The strategy reflects collaboration between government, the education and training system, and industry to ensure that the demands for high-level technology skills are met, focusing on primary school right through to higher education, workers, and lifelong learners. The strategy commits to expanding opportunities to learn, train, and upskill, while also calling on higher education institutions to develop new courses for the employed, apprentices, and trainees. Moreover, there is a commitment to advancing engagement with multinationals and local enterprises to support this expansion of talent. These commitments are supported by the overall aims and structure of HCI Pillar 3, which engages learners, workers, enterprises, industry, and higher education institutions to meet the technological skills needs of the Irish economy.

The National Strategy for Higher Education 2030¹³ demonstrates a long-standing commitment to ensuring that the higher education system is structured in such a way that it can successfully meet the various socio-economic challenges that Ireland will face.

¹¹ Department of Further and Higher Education, Research, Innovation and Science (2021). “Ireland’s National Skills Strategy”. Published June 2021. See: <https://www.gov.ie/en/publication/69fd2-irelands-national-skills-strategy-2025-irelands-future/>

¹² Government of Ireland (2022). “Technology Skills 2022 – Ireland’s Third ICT Skills Action Plan”. See: <https://www.gov.ie/pdf/?file=https://assets.gov.ie/24698/50fcbc8f80ab4a828ab7f44e2114aa7b.pdf#page=null>

¹³ Department of Ireland (2011). “National Strategy for Higher Education 2030”. Published January 2011. See: <https://www.gov.ie/pdf/?file=https://assets.gov.ie/24558/c90f9fae0a70444cbe20feeff7b55558.pdf#page=null>

Future Jobs Ireland 2019¹⁴ is aligned with the goals of Project Ireland and forms another key component of the integrated approach to prepare the Irish economy for the opportunities and challenges of the future. The strategy notes that “... we cannot afford to be complacent in the face of the changes likely to occur in Ireland’s labour market in the coming decades. This requires a continued emphasis on how well the education and training system delivers.” The approach to Pillar 3 of the HCI Programme, which a focus on innovation and agility, is directly aligned with the deliverables and key ambitions set out in the Future Jobs Ireland.

Many of the HCI Programmes are focused on the digitalisation of the Irish economy. This focus is reflected in the strategy and framework for the future of Ireland’s digital industry, which is established in Harnessing Digital – The Digital Framework Ireland 2022.¹⁵ Its overarching policy goal is to ensure Ireland’s trajectory towards becoming a “digital leader at the heart of European and global digital developments.” The Framework states that this enhancement will require a broad, national promotion of the digital agenda. The Framework commits to supporting enterprise across the broad spectrum of digitalisation, through a series of deliverables, including:

- > Develop a comprehensive programme to drive digitalisation across enterprise, in particular in SMEs;
- > Ensure a stakeholder led approach, by engaging with businesses through the newly established Enterprise Digital Advisory Forum;
- > Raise awareness and provide advice and assistance to SMEs in their digital transition working with enterprise agencies (EI, IDA, LEOs, Údarás na Gaeltachta); and
- > Support the development of workforce skills in SMEs to support digital adoption, including promoting the benefits of workplace training.

The goals of the Digital Framework are reflected in HCI Pillar 3’s commitment to investing in higher-education programmes which deliver innovative and agile proposals to prepare the Irish workforce for future skills requirements, while also ensuring a stakeholder-led approach through the engagement of key enterprise partners.

As well as digitalisation, several HCI programmes and innovations focus on Ireland’s drive towards becoming a more environmentally sustainable economy. The Climate Action Plan (CAP)¹⁶ outlines the objectives and aims to assist Ireland in achieving its climate goals. This plan sets a roadmap for taking decisive action to halve Ireland’s greenhouse gas (GHG) emissions by 2030 and reach net zero no later than 2050, as was committed to in the Programme for Government.

¹⁴ Department of Enterprise, Trade and Employment (2019). “Future Jobs Ireland 2019”. Published March 2019. See: <https://enterprise.gov.ie/en/publications/future-jobs-ireland-2019.html>

¹⁵ Government of Ireland (2022). “Harnessing Digital – The Digital Framework Ireland 2022”. See: <https://www.gov.ie/en/publication/adf42-harnessing-digital-the-digital-ireland-framework/>

¹⁶ Climate Action Plan 2021, Securing Our Future, November 2021. See: <https://www.gov.ie/en/publication/6223e-climate-action-plan-2021/>

Project 2040¹⁷ is “the government’s long-term overarching strategy to make Ireland a better country for all and to build a more resilient and sustainable future.” It is comprised of both the National Planning Framework (NPF)¹⁸ and National Development Plan (NDP).¹⁹ The NPF defines the vision and strategy which will inform Ireland’s development through to 2040. Its ambition is “to create a single vision, a shared set of goals for every community across the country” by achieving a number of goals. These goals are expressed in this Framework as ten National Strategic Outcomes (NSOs), the most relevant of which for the HCI Programme are detailed in the table below.

Table 3.1: National Planning Framework - NSO Alignment

NSO	Relevant Details for HCI Programme Alignment
A Strong Economy supported by Enterprise, Innovation and Skills	<i>“This will depend on creating places that can foster enterprise and innovation and attract investment and talent.”</i>
Transition to a Low Carbon and Climate Resilient Society	<i>“Establishes the national objective of achieving transition to a competitive, low carbon, climate-resilient and environmentally sustainable economy by 2050.”</i>
Access to Quality Childcare, Education and Health Services	<i>“Good access to a range of quality education and health services, relative to the scale of a region, city, town, neighbourhood or community is a defining characteristic of attractive, successful and competitive places.”</i>

Source: National Planning Framework

The NPF also includes ten Strategic Investment Priorities (SIOs). Of particular relevance to the HCI programme are SIO 5: Enterprise, Skills and Innovation Capacity; and SIO 8: Climate Action. The National Development Plan (NDP) 2021-2030 outlines the investment portfolio which is needed to realise the balanced growth strategy detailed in the National Planning Framework. The NDP “will play a significant role in addressing the opportunities and challenges faced by Ireland over the coming years.” Several of these issues are aligned with the key areas of focus for actions under the HCI, including Brexit, health, climate action, and a growing and diversifying population.

‘Housing for All - a New Housing Plan for Ireland’ is the Government’s housing plan to 2030, which aims to improve Ireland’s housing system and deliver more homes, and to cater for families with different housing needs. According to Housing for All, the government’s overall objective is that every citizen in the State should have access to good quality homes. The government’s vision for the housing system over the longer term is to achieve a steady supply of housing in the right locations with economic, social and environmental sustainability built into the system. It is estimated that Ireland will need an average of 33,000 new homes to be provided each year from 2021 to 2030. The policy has four pathways to achieve its aims, including by increasing new housing supply. The Building Change project aims to pilot a radical revision in architectural

¹⁷ Project Ireland 2040, October 2020. See: <https://www.gov.ie/en/campaigns/09022006-project-ireland-2040/>

¹⁸ National Development Plan 2021-2030, October 2021. See: <https://www.gov.ie/en/publication/774e2-national-development-plan-2021-2030/>

¹⁹ Project Ireland 2040: National Planning Framework, January 2019. See: <https://www.gov.ie/en/publication/774346-project-ireland-2040-national-planning-framework/>

education to create resilient design curricula embedded with the principles of the UN SDGs with a focus on the Housing for All strategy, as well as climate transition (see below). Further, The Digital Academy for the Sustainable Built Environment (DASBE) is providing blended education in areas needed to upskill the construction and retrofit sectors, and as such is of direct relevance to the Housing for All strategy.

Chapter 7 of CAP 2023 is committed to “*Ensuring a Just Transition to a Climate Neutral Ireland*”. It is underpinned by four overarching principles, most pertinently Principle 2, which aims to ensure “*People are equipped with the right skills to be able to participate in a benefit from the future net zero economy.*” The development of a carbon-neutral, sustainable economy will not automatically be socially inclusive, and thus a comprehensive suite of upskilling is required to ensure that workers are not left behind when it comes to the transition towards net zero, and the skills needs of the future. CAP 2023 states that “pre-emptive workforce development” is required to ensure that workers can upskill, reskill and continue to learn in order to access future work opportunities. These key messages are reiterated in Skills for Zero Carbon, which outlines recommendations for the overall delivery of the aims of the Climate Action Plan. As such, several of the programmes which constitute HCI Pillar 3 are directly aligned with Principle 2 of the CAP.

3.3 | Sector Specific Skills

Indecon would note that while the policy motivation for many projects was high level, some projects were able to reference much more specific policy objectives, including in terms of industry-specific priorities or regional considerations. Some examples of the policies and relevant complementary courses are provided below, though each of the project-specific chapters of this report also discuss alignment with national policy.

Table 3.2: Examples of Sector and Project Specific Policy Alignment

Strategic Policy	Relevant HCI Project(s)
Engineering Industries Ireland Strategy 2022-2025 ²⁰	REEdI- Rethinking Engineering Education in Ireland
Leading Together: ²¹	Funds Academy
State of the Cyber Security Sector in Ireland 2022 ²²	Cyber Skills
National Cyber Security Strategy 2019-2024 ²³	
The Teaching Council Strategic Plan 2022-2027 ²⁴	The ADVANCE Centre for Professional Education
	HigherEd 4.0
	RPL
	Virtual Laboratories in higher education
	TCD: Next generation teaching and learning
	The ADVANCE Centre for Professional Education
A Strategy for the BioPharmaChem Manufacturing Sector in Ireland 2019-2023 ²⁵	Enabling Future Pharma
Understanding the Future of Insurance ²⁶	CIRDAS
<i>Source: Indecon analysis of project returns</i>	

HEA’s Human Capital Initiative is being rolled out in the context of a growth in the number and range of other in-employment training opportunities. A number of HCI projects aim to provide in employment training, with some citing a challenge of recruitment of learners. There are a range of programmes which aim to support in-employment training.

²⁰ Engineering Industry Ireland (2022). “Engineering Industries Ireland Strategy 2022-2025”.

²¹ Irish Funds (2021). “Leading Together: The Voice of the Funds and Asset Management Industry in Ireland”.

²² CyberSkills (2022). “State of the Cyber Security Sector in Ireland 2022”.

²³ NCSC (2019). “National Cyber Security Strategy 2019-2024”.

²⁴ The Teaching Council (2021). Strategic Plan 2022-2027. See: <https://www.teachingcouncil.ie/en/news-events/latest-news/2021/teaching-council-strategic-plan-2022-2027.html>

²⁵ Ibec (2019). “Ireland – the Global BioPharmaChem Location of Choice. A Strategy for the BioPharmaChem Manufacturing Sector in Ireland 2019-2023”

²⁶ Central Bank of Ireland (2021). “Understanding the Future of Insurance: Climate & Emerging Risk Survey”.

3.4 | Summary of Findings

The HCI, and its constituent projects, are aligned with several national and regional policies. A summary of these are as follows:

- > The goals of the HCI are aligned with the aims of the National Skills Strategy 2025, which is committed to the growth of the Irish economy, and the development of the skills base within its workforce. The HCI programme directly addresses the principles of the strategy, which aim to enhance Ireland's reputation as a hub of talent.
- > The National Development Plan (NDP) 2021-2030 outlines the investment portfolio which is needed to realise the balanced growth strategy detailed in the National Planning Framework. Several of the issues identified are aligned with the areas of focus of the HCI, including Brexit, health, climate action, and a growing and diversifying population.
- > 'Housing for All' is the Government's housing plan to 2030, which aims to improve Ireland's housing system and deliver more homes, and to cater for families with different housing needs. HCI projects of direct relevance aim to transform architectural education and upskill the construction and retrofit sectors.
- > The Climate Action Plan 2023 states that "pre-emptive workforce development" is required to ensure that workers can access future work opportunities. Several of the programmes which constitute HCI Pillar 3 are directly aligned with Principle 2 of the CAP.
- > Many HCI projects have a relevance for sector specific strategies, including Engineering Industries Ireland Strategy 2022-2025; National Cyber Security Strategy 2019-2024; Teaching Council Strategic Plan 2022-2027; and Understanding the Future of Insurance.

4

INNOVATIONS ACROSS TEACHING AND LEARNING





4.1 | Introduction

There are many examples of innovations across teaching and learning which have been supported by the HCI. In this section we highlight a small number of examples of the types of innovation and learning being demonstrated by the projects. A summary by project is contained in Section 6.

4.2 | Introducing Innovative Technologies

Access to supports provided under the HCI have enabled access to technologies (both software and hardware) which are actively being piloted and deployed in learning environments nationally. Some examples of the types of technology being deployed are as follows:

- > The Cyber Skills project has facilitated the procurement and setup of the Cyber Range software system, which has two important innovative components: it is a virtual controlled, interactive training environment that aims to simulate a wide range of security incidents, complex IT environments and threats; and enables the delivery and development of advanced cybersecurity skills for academic/work-based learners in a realistic environment.
- > The IMI4 project has enabled both SETU Carlow and DCU to develop immersive XR content. They now have test equipment training modules in Extended Reality (XR), tethered XR, and, for those users unable to connect via XR, a PC-installed version. The latter experience is 2D, the XR experiences are 3D. VR content from both institutes is being piloted in the current national pilot of the IMI4 programme.
- > The Virtual Labs project supports the use of virtual laboratories as a teaching tool for the chemical sciences. The project is developing, at UCC, a dedicated Science Studio which will provide a state-of-the-art facility to record practical elements of experiments. The funding provided has support the licensing of LearnSci Simulation software at MU and TUS, and BeyondLabz licences at UCC. Bespoke software development was procured by DCU from PNx Labs to meet requirements for the development of immersive content for technical training on analytical instrumentation.
- > Undergraduate modules at UCD through the CONVENE project all incorporate technological and/or educational innovation. For example, Designing the Future, an interdisciplinary module conducted in the Innovation Academy's MakerSpace, brings together students from different disciplines to work on technological challenges relating to the circular economy. Virtual Reality for Future Skills teaches learners transversal skills through the medium of Virtual Reality.

- > The Additive Manufacturing Advancing the South East (AMASE) is a South East Technological University initiative across the Waterford and Carlow campuses to establish an education and training platform programme in Additive Manufacturing within the South-East Region. Additive Manufacturing, frequently referred to as 3D Printing, is a rapidly developing technology, which will likely play an important role in the future production of physical products across all business sectors and particularly in the high value Med-Tech, Bio-Pharma, Aerospace, Agri-Tech, and Precision Engineering sectors, which include both SME and large scale multi-national firms.

The Creative Futures Academy has invested significantly in technology (software and hardware) in the area of virtual production, audio technology, and sound design making new studio spaces and equipment available to both existing students and to new learners at Levels 8 and 9. An image of a project studio in use is shown in Figure 4.1.

Figure 4.1: Creative Futures Project - Image of Studio



Source: www.creativefuturesacademy.ie

Innovative activities of the DASBE project include the design, development and testing of a number of VR prototypes to support the delivery and assessment of existing and new programmes. The primary investment so far has been on technical expertise within the DASBE team. A range of VR tools and software solutions have been procured to enable of VR product development. An image of the showcasing of this educational technology is shown in Figure 4.2.

Figure 4.2: DASBE Showcasing of VR Educational Technology



Source: www.dasbe.ie

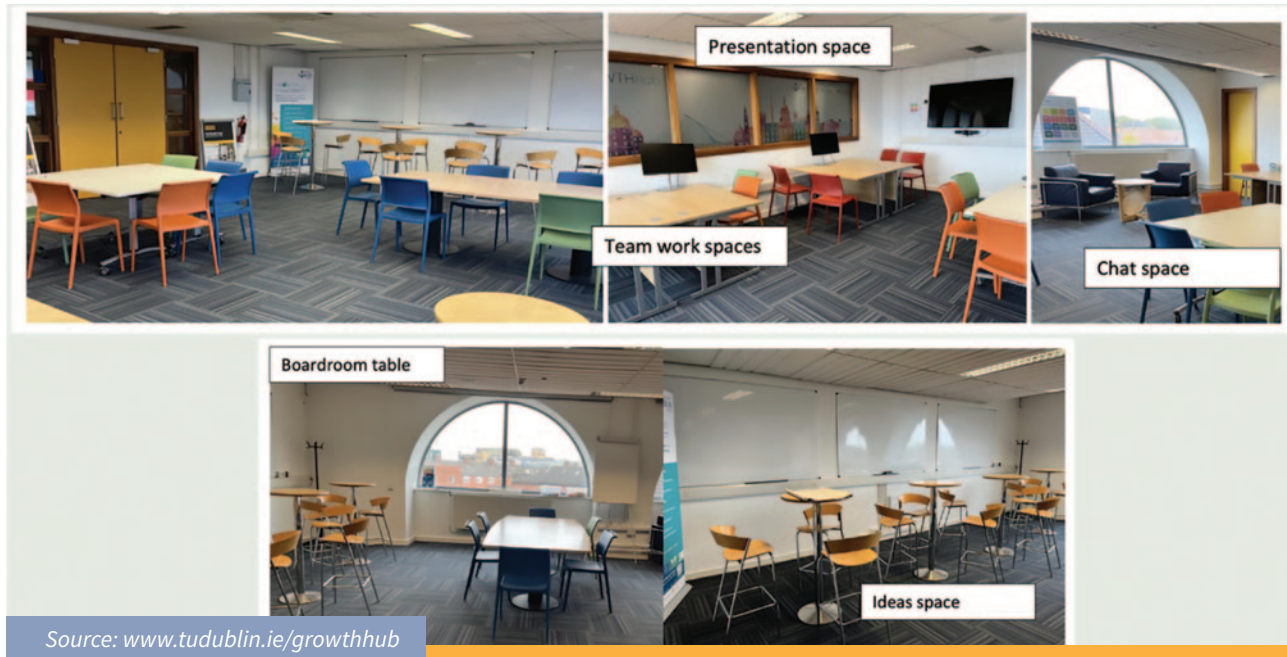
4.3 | Innovation in Learning

An important aspect of the HCI Pillar 3 funding is the number of projects which involve innovation in learning. A small number of examples of some of the innovations being piloted and rolled out are set out below.

- > One sub-project being developed by the Higher Education 4.0 project is to develop adaptive learning systems to improve student engagement and performance using technology. A collaborative team from all three campuses of the ATU has been formed to implement an adaptive learning system which offers a personalised learning environment for students through LTI²⁷ integration within the VLE to support foundation/basic principles modules in the form of adaptive digital versions of text.
- > The Sustainable Futures project will support the development of a range of virtual experiences that would be difficult or dangerous for students to have in real life. For example, this may include a tour of water treatment plant or a virtual visit to an underwater habitat.
- > The curriculum content of the Enabling Future Pharma project is innovative in that students do not just learn about techniques or tools; they receive practical training in their use, with assessment focused on showing competency rather than knowledge. The programme also dedicates a full block (15 ECTS) to transversal skills development, but at a higher order relevant to MSc students with areas such as contemporary issues and innovation. A platform was developed to facilitate student access to large data sets on a 24-hour basis.
- > The aim of GROWTHhub is to encourage a growth and entrepreneurial mindset among students and enterprise-based learners. The project has designed an innovative approach using dynamic learning methods containing three phases: Prepare, Engage, and Explore. In the first phase, the students will have access to the content before the lecture takes place with videos, activities, quizzes, case studies, and presentations. In the second phase, the students will actively participate during the lectures with dynamic activities, forums, individual and group discussions, key word finding, case studies and applications discussions. In the third phase, the students will be proposed a number of activities to deepen understanding of the contents delivered. The figure below shows images of the GROWTHhub ideation lab, which provides creative and collaboration space where learners can work on the development of ideas.

²⁷ Learning Tools Interoperability - Support for digital learning, making learning tools/platforms work together.

4.3: GROWTHhub Ideation Lab



4.4 | Innovation in Course Design and Collaboration

Many projects display innovation in how they develop courses, and how they collaborate with external stakeholders in doing so. Some examples of this are listed below.

- > The MicroCreds project has coordinated the development of a single platform for micro-credentials (MicroCreds.ie) to showcase the micro-credential offerings of all seven partner universities. In addition, it has allowed for the development of an evidence-based model of university-enterprise collaboration for the co-creation of micro-credentials. MicroCreds Innovate is a sustainable model for data informed university - enterprise collaboration for micro-credentials.
- > There are exemplary flexible pathways for interdisciplinary professional learning. The Professional Diploma for Quantum Engineering and Computing (Advance Centre) enables learners to combine modules on quantum engineering and quantum computing. The Masters in Professional Practice (UL@work) allows learners to design their own interdisciplinary Masters by combining stackable postgraduate diplomas in over 30 fields.
- > The project to promote the recognition of prior and lifelong learning (RPL) has been structured so that HEI project partners utilise technology to support a systems approach to enhancing organisational RPL capacity. Examples include the development of an online platform (myCareerPath.ie) allowing RPL coordinators to work virtually with potential RPL applicants from initial query through to portfolio creation. Other technological innovations include testing an online platform for the application and assessment of RPL with a particular focus on the capacity of the platform to map and assess non-formal and informal learning.

- > Ireland's Knowledge Centre for Carbon, Climate, and Community Action (IKC3) project aims to build a national platform for the development of knowledge and skills to support the transition to a decarbonised economy, sustainable. The image below shows an organic farming workshop run as part of the project in Kerry.

Figure 4.4: IKC3 Organic Farming Workshop



Source: www.ikc3.ie

There are many examples of innovations across teaching and learning which have been supported by the HCI.

- > The expansion across the higher education system of new innovative technologies. Examples of technologies that have been facilitated by the HCI project include the introduction of innovative equipment such as XR; dedicated spaces such as a Science Studio; and specific software such as the Cyber Range software system.
- > Innovation in learning techniques and pedagogies across multiple disciplines is embedding more realistic, real-world practical skills and applications to support theoretical learning, and providing a richer learning experience to train in simulations of real-world environments that would otherwise be difficult to do so.
- > Many HCI projects involve extensive collaboration and the development of innovative approaches to course design, allowing more student-centred approaches, including flexible pathway learning with core and optional modules, enabling students to design their own learning journey.

5

SURVEY RESULTS





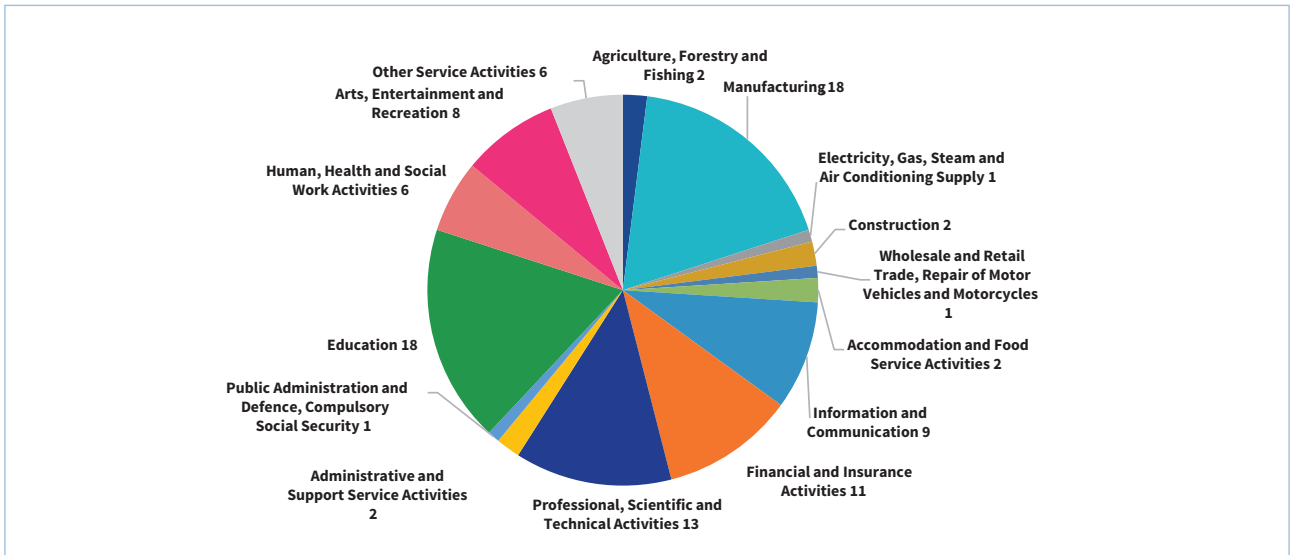
5.1 | Introduction

An extensive programme of primary or survey research has been completed to gauge the views of both enterprise partners and learners who have engaged with one of the projects funded under HCI Pillar 3. The main survey streams and number of responses received are shown below. The very high response from the new survey research greatly assists in the assessment of industry and learners experience of the programme. The main results are discussed subsequently.

5.2 | Views of Enterprises

A wide range of enterprises have already engaged with the HCI projects, including both foreign-owned and indigenous enterprises, covering a wide range of economic activities. Figure 5.1 shows that the Education and Manufacturing sectors were the most observed sectors of respondent enterprise partners, followed by Professional, Scientific and Technical Activities, and the Financial and Insurance Industry. Of the projects surveyed, over one-quarter had already availed of upskilling. Given that many projects are still maturing to full scale, it is possible that this figure will grow in the next couple of years.

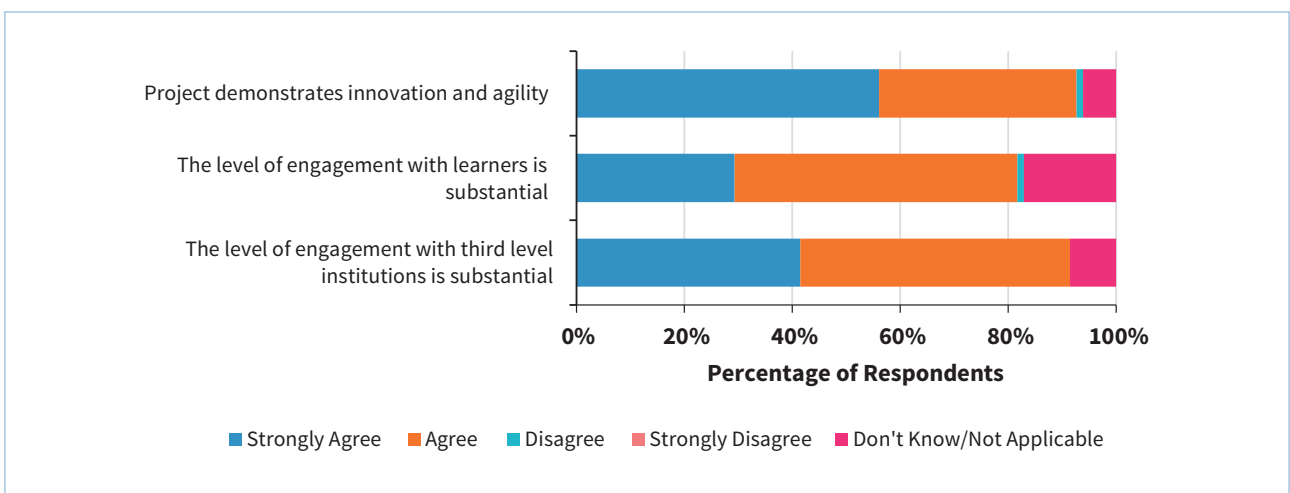
Figure 5.1: Sectoral Breakdown of Enterprise Partner Respondents



Source: Indecon Survey of Enterprise Partners

Enterprises engaged as part of one or more of the HCI funded projects report very positive views with respect to the engagement with the projects, as shown in Figure 5.2. The responses indicate that over 80% of respondents agreed, or strongly agreed, that there was a substantial level of engagement with learners through the projects, with over 90% agreeing that the projects demonstrate innovation and agility, and that there was a substantial level of engagement with third-level institutions.

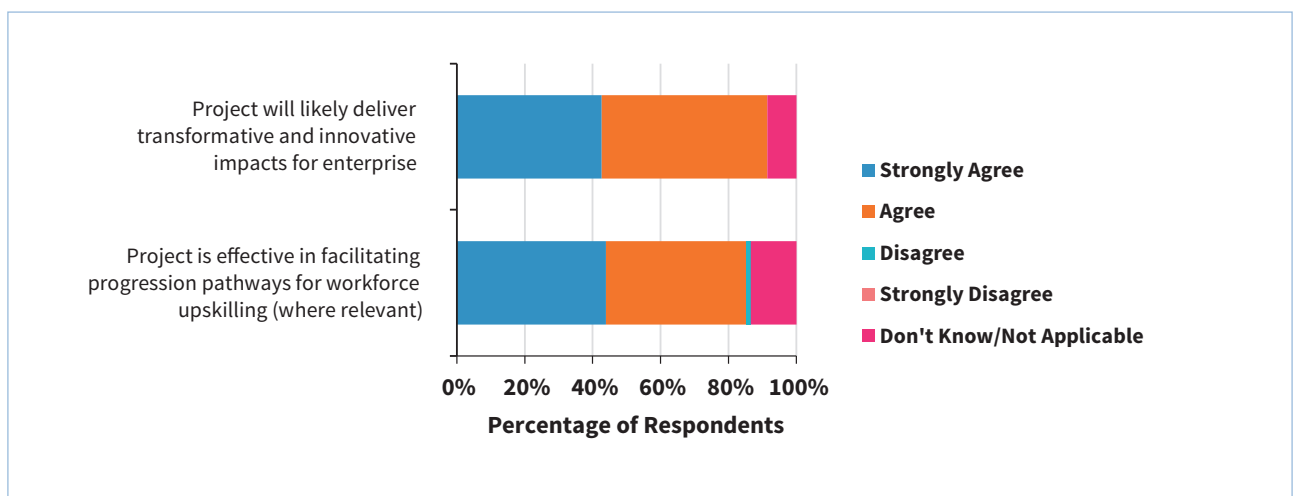
Figure 5.2: Implementation-Related Survey Responses from Enterprise Partners



Source: Indecon Survey of Enterprise Partners

Enterprise partners were positive about the impacts that the programme will likely have. Over 90% agreed that the project will likely deliver transformative and innovative impacts for enterprise. Likewise, 43.9% strongly agreed that the project was effective in facilitating progression pathways for workforce upskilling, with the same proportion agreeing with this statement. There was a negligible level of disagreement in terms of the positive impacts of the programme.

Figure 5.3: Impact-Related Survey Responses from Enterprise Partners



Source: Indecon Survey of Enterprise Partners

The alignment of the projects to national policy can be gauged in relation to its impact on business. A large majority of respondents within the enterprise partners were positive about the level of alignment of the programme to emerging skills needs, and the broader needs of the economy. Over 60% of enterprise partners who responded to this question strongly agreed that the project was responding to emerging skills needs, while a further 35.8% agreed. Similarly, enterprise partners reported that the collaboration developed in the programme was meaningful, close and beneficial to the economy.

The respondents to the survey of enterprise partners were also positive about the expected outcomes and impacts of the projects. Approximately 85% of respondents felt that the projects are being effective in facilitating pathways to upskilling, and 91.5% indicated that transformative and innovative impacts for enterprise are likely.

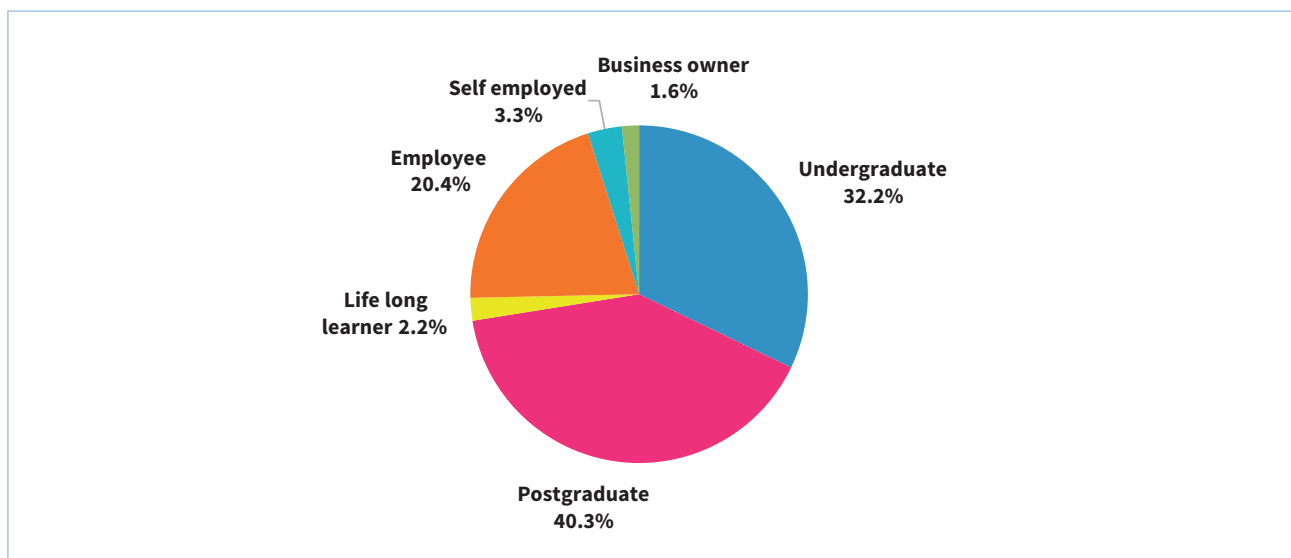
Table 5.1: Overall agreement with project implementation, management, impact, and alignment among Enterprise Partners

The collaboration is meaningful and close and of benefit to economy	98.8%
Project is responding to emerging skills needs	96.3%
Project is effective in facilitating progression pathways for workforce upskilling	85.4%
Project will likely deliver transformative and innovative impacts for enterprise	91.5%
<i>Source: Indecon Survey of Enterprise Partners</i>	

5.3 | Survey of Learners

A range of learners have already participated in a HCI funded project. The breakdown of the respondents to the learners' survey, by status of education is provided in Figure 5.4. The majority of respondents – 40.3% - were postgraduate students, with 32.2% of respondents being undergraduate students. The third highest proportion of responses came from employees.

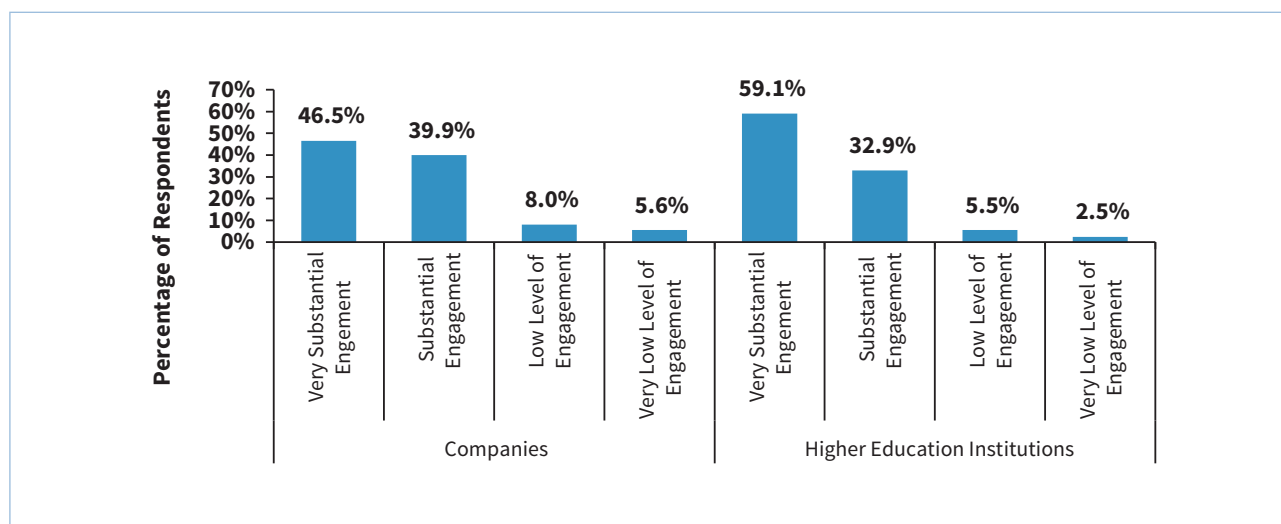
Figure 5.4: Status of Learners



Source: Indecon Survey of Learners

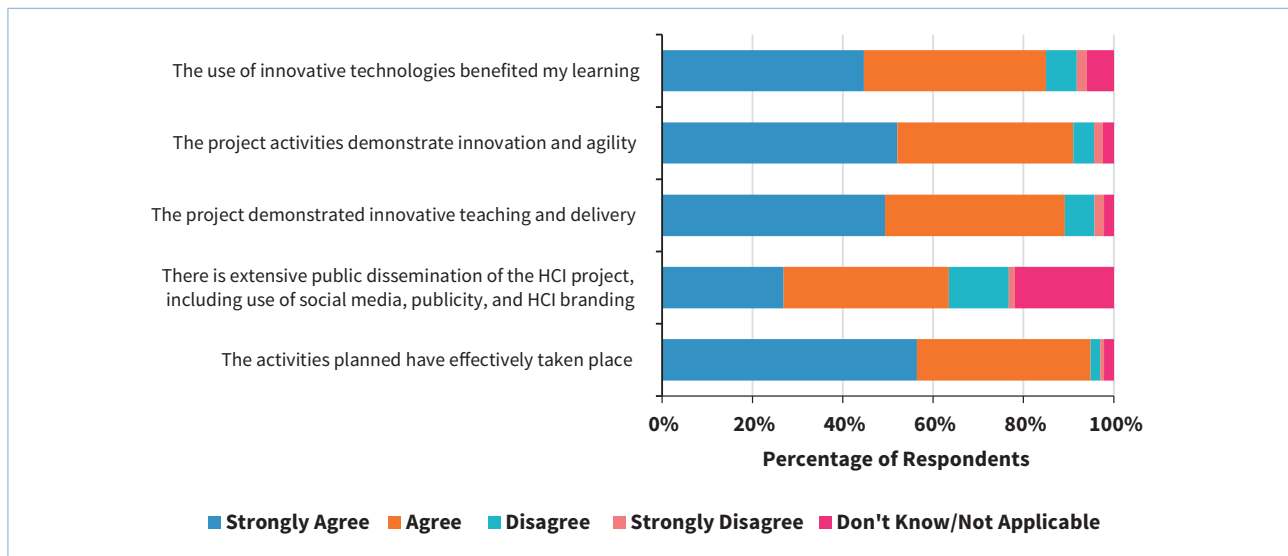
Learner-respondents strongly believed that their programme was strongly aligned to the skills needs for their career development. The majority – 54.8% - strongly agreed that project would help their career development. A further 36% agreed with this statement, while only 5.5% responded that they did not know, or that the question was not applicable. In terms of industry engagement, a key policy initiative as discussed in the policy background section, over 60% of learners indicated that their interaction in the programme involved engagement with an Enterprise Partner. Course attendance was the most frequent format for enterprise partner engagement, with comparatively few opting for focus groups or placement. Mentoring and workshops were also frequently used forms of engagement. Lastly, the quality of this engagement was deemed to be particularly high, with learners reporting substantial engagement with both companies and higher education institutions, as shown in Figure 5.5.

Figure 5.5: Quality of Engagement with Project, Survey of Learners



Source: Indecon Survey of Learners

Learners were similarly positive about the way their programmes were being implemented. Around 44% of respondents strongly agreed that the use of innovative technologies on the programme strongly benefitted their learning, with a further 41% agreeing with this. There was a similar level of agreement when respondents were asked whether the project activities demonstrate innovation and technology, and whether the projects demonstrated innovative teaching and delivery. Positive responses were also reported regarding the public dissemination of the HCI projects, with overall agreement above 60%. Lastly, over 90% of respondents agreed or strongly agreed, that the programmes had effectively taken place. These results are illustrated below.

Figure 5.6: Implementation-Related Survey Responses from Learners

Source: *Indecon Survey of Learners*

There was also a very strong response among learners about the impacts of the programme. Over 90% of respondents judged that the project demonstrated clear benefits to lifelong learners. Even greater was the positive response to the sentiment that the project demonstrates clear benefits to learners. In this case, over 60% of respondents strongly agreed, with a further 32.2% agreeing. There were minimal levels of disagreement in both cases, indicating the positive impact that the programme has had on those engaged with the projects.

Table 5.2 summarises the proportion of respondents, among learners, who agreed or strongly agreed with each of the relevant survey statements. Almost all learners said that they would be likely, or very likely to recommend participation in the programme to friends or colleagues. For learners, there was a highly positive reception to how well aligned the programme is to the skills needs for a respondent's career development. The majority – 54.8% - strongly agreed that project would help their career development. A further 36% agreed with this statement, while only 5.5% responded that they did not know, or that the question was not applicable. In terms of industry engagement, a key policy initiative as discussed in the policy background section, over 60% of learners indicated that their interaction in the programme involved engagement with an Enterprise Partner. Course attendance was the most frequent format for enterprise partner engagement, with comparatively few opting for focus groups or placement. Mentoring and workshops were also frequently used forms of engagement.

Table 5.2: Overall agreement with project implementation, management, impact, and alignment among Learners

The activities planned have effectively taken place	94.8%
There is extensive public dissemination of the HCI project	63.4%
The project demonstrated innovative teaching and delivery	89.2%
The project activities demonstrate innovation and agility	91.0%
The use of innovative technologies benefited my learning	85.0%
The project demonstrates clear benefits to learners	93.8%
The project demonstrates clear benefits to lifelong learners	90.5%
The project will help my career development	90.4%
<i>Source: Indecon Survey of Learners</i>	

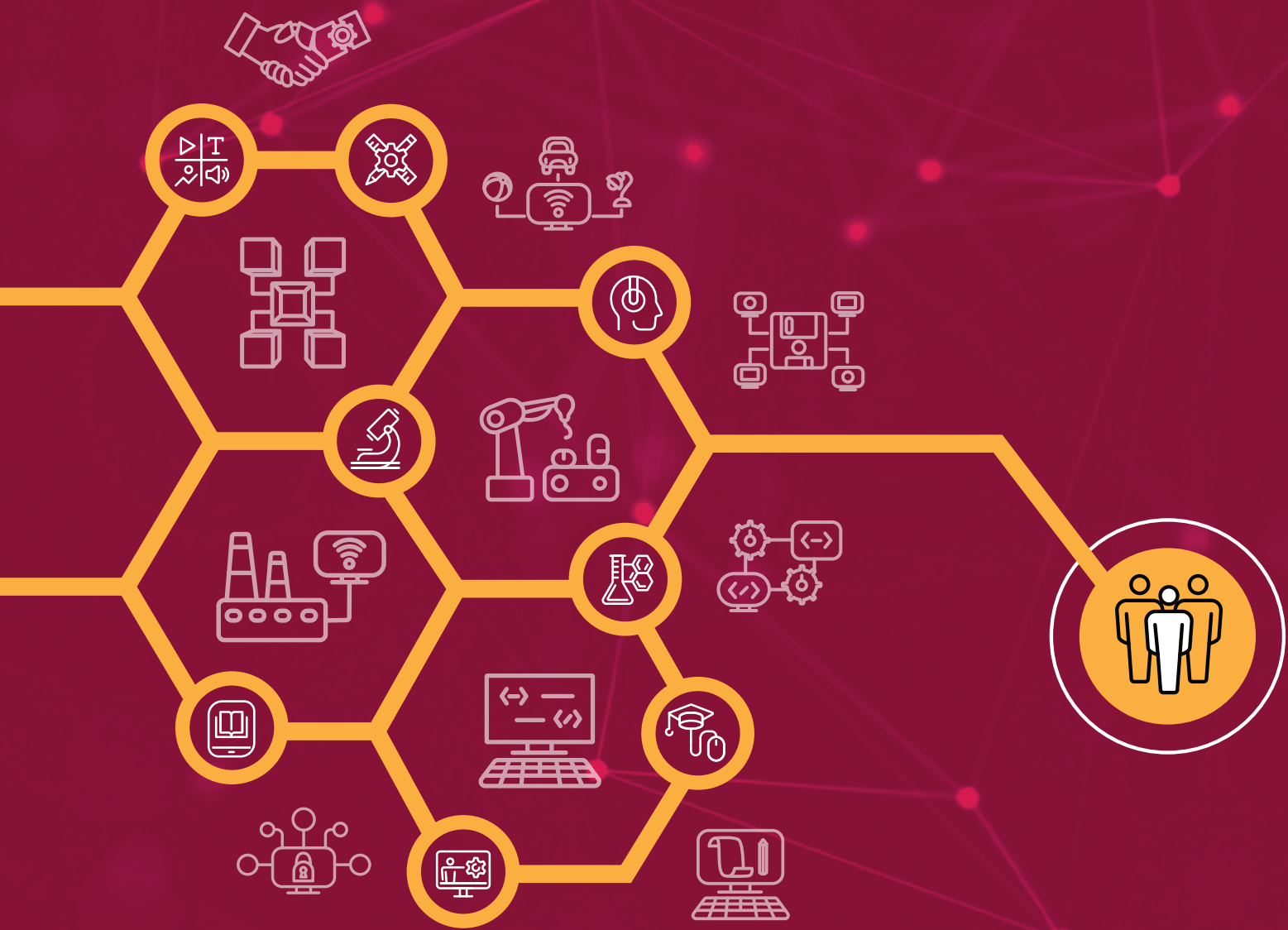
5.4 | Summary of Findings

The key findings of the consultation programme conducted with enterprises and learners conducted as part of this review are as follows:

- > A wide range of enterprises have already engaged with one of the HCI projects, including foreign-owned and indigenous enterprises, covering a wide range of economic activities. Over one-quarter of respondent enterprises had already availed of upskilling.
- > Enterprises engaged as part of one or more of the HCI funded projects report very positive views with respect to the engagement with the project. Further, over 90% agreeing that the projects demonstrate innovation and agility.
- > Learners' respondents strongly believed that their programme was strongly aligned to the skills needs for their career development. In terms of industry engagement, over 60% of learners indicated that they had engaged with an Enterprise Partner.
- > Learners also reported positively on the use of new technologies as part of their learning. 95% of respondents agreed or strongly agreed that the use of innovative technologies on the programme strongly benefitted their learning. There was a similar level of agreement that projects demonstrated innovative teaching and delivery.

6

PROJECT SUMMARIES



6.1 | Advance Centre for Professional Education

Introduction

The Advance Centre for Professional Education is an industry-academic initiative founded in 2020 by UCD, ATU Sligo, and TU Dublin, aimed at facilitating the development and delivery of high-quality industry-relevant education in the area of digital transformation. The Centre aims to bring together academic experts and industry leaders from across the high-tech sector to deliver modules and courses aimed at addressing industry's future skills needs in the digital arena.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > In the area of Digital Manufacturing, projects underway include the addition of a robotic cell and a pilot process line/learning factory; and in the area of Digital Agriculture, a remote sensing equipment lab for agriculture usage is being established.
- > The project also shows good collaboration with other HCI projects. The Advance Centre is collaborating with the Higher Ed 4.0 HCI project in ATU around the provision of flexible learner pathways, and support for skills identification. Additionally, sharing of know-how and expertise is underway with the Convene HCI project to leverage their expertise in AR/VR within the Digital Manufacturing theme initially, and providing links to academic experts that can add expertise to their courses. The Advance Centre is also collaborating with the Micro-Credentials HCI project to align resources for the development of new courses in a number of Schools in UCD.
- > A first cohort of ATU students have received a Digital Badge for completion of a supplementary 'hands-on' robotics course from IMR (Irish Manufacturing Research). Similar activities are planned with the AMTCE²⁸ in Dundalk, which offers introductory and intermediate level courses in robotics.
- > A further aim is to be able to demonstrate to local SMEs on the benefits of AR/VR and manufacturing digitisation through local and regional research and development centres such as: PEM Centre, AIM Centre and BORMAC in ATU.
- > A flexible Professional Diploma in Quantum Engineering and Computing will be starting in September 2023. The modules are fully online, but some can also be taken in a blended manner. Learners can choose which pathway best fits their needs by selecting three modules from the eight optional modules.

In terms of the alignment of the project with government policy:

- > The Advance Centre is focused on skill needs in digital transformation, a key area of policy focus.
- > In terms of the National Industry 4.0 policy, the project directly contributes to the five goals, and several of the strategic actions.
- > Specific benefits includes the delivery of increased cybersecurity; and compulsory computer science in education. In particular, a pathway award has been developed in Cybersecurity, where a learner can take the Certificate, continue to the Diploma, and finally the MSc in Cybersecurity as the complete either additional modules, or industry specific projects.

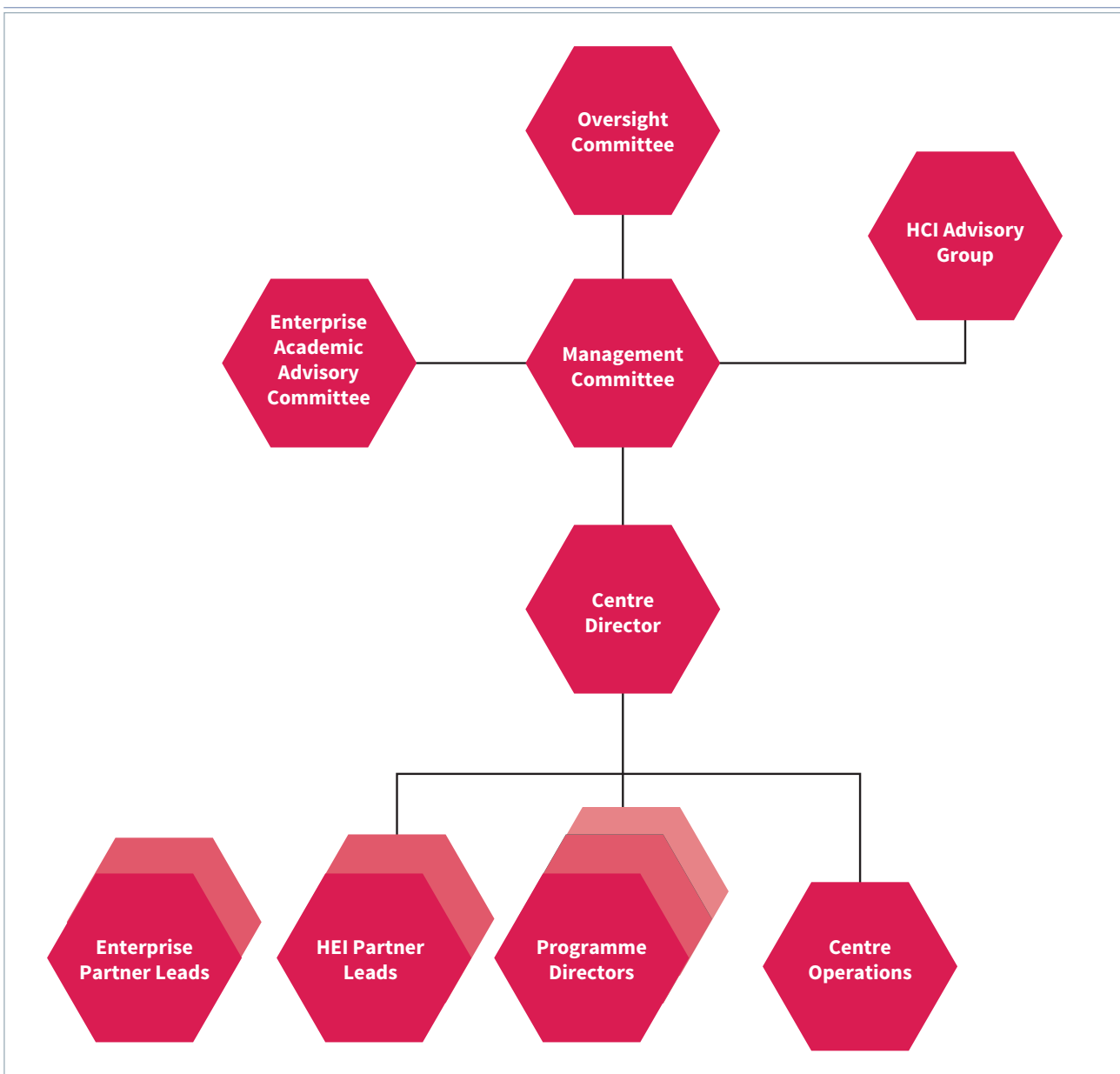
²⁸ Advanced Manufacturing Training Centre of Excellence

- > The project is also working to recognise industry experience when assessing learning requirements for a programme award.

Management

The project has an Oversight Committee and a Management Committee, supported by the Centre Director, HEI Partner Leads, Programme Directors (from each of the Schools), and Centre Operations. There is also an Enterprise-Academic Advisory Committee which interacts with Enterprise Partner Leads. An overview of the governance structure is illustrated below.

Table 6.1: Governance Structure – Advance Centre



Source: Project return to Indecon



Source: ADVANCE Centre project submission

Conclusion

Indecon's conclusion is that the Advance Centre project has successfully been established, governance and project management structures created, and that overall delivery is on target, though student numbers will need to be continually reviewed with possible changes needed in response. HCI funding has already enabled the creation of an individual module booking system in UCD; the coordination of over 150 modules; conversion of some existing programmes to an online format, and creation of new programmes in Digital Transformation; creation of flexible learning pathways; de-risking the creation of new content and programmes; increase capacity on programmes; new industry engagement; new capital equipment; and support for collaboration costs with industry partners.



6.2 | AMASE

Introduction

The Additive Manufacturing Advancing the South East (AMASE) is a South East Technological University initiative across the Waterford and Carlow campuses to establish an education and training platform programme in Additive Manufacturing within the South-East Region. Engineering employers in the region have identified as a priority the need for education, training, and upskilling of existing employees at NFQ Level 7 to become Additive Manufacturing Production Specialists. AMASE is delivering a new NFQ Level 7 Bachelor of Engineering Degree in Additive Manufacturing incorporating five embedded awards.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project, for example:

- > Additive Manufacturing, frequently referred to as 3D Printing, is a rapidly developing technology, which will likely play an important role in the future production of physical products across all business sectors and particularly in the high value Med-Tech, Bio-Pharma, Aerospace, Agri-Tech, and Precision Engineering sectors, which include both SME and large scale multi-national firms.
- > Developing the South East capacity in additive manufacturing with experts from across the world. The AMASE project has established positive and active relationships with twenty enterprise partners, located primarily in the US and Europe.
- > Integrating additive manufacturing and its applications to transform teaching methods and to foster hands-on educational experiences for students in the form of workshops in close collaboration with enterprise at the technology gate partners.
- > Leveraging on the expertise of both faculty members and industry guest lecturers, one of the programme modules is designed to accommodate the constantly evolving technology, post-processes, and material advancements by incorporating a high level of flexibility and adaptability into its generic descriptions, content, and learning outcomes.
- > The program is structured around a learner-centred, flipped classroom approach and active learning experience, which is facilitated through various teaching methodologies such as peer assessment, live workshops, case studies, forum discussions, problem-solving tasks, a glossary, database, and quizzes.
- > The project has designed an innovative approach using dynamic learning methods containing three phases: Prepare, Engage, and Explore, enhancing the students practical learning experience.

In terms of the alignment of the project with government policy:

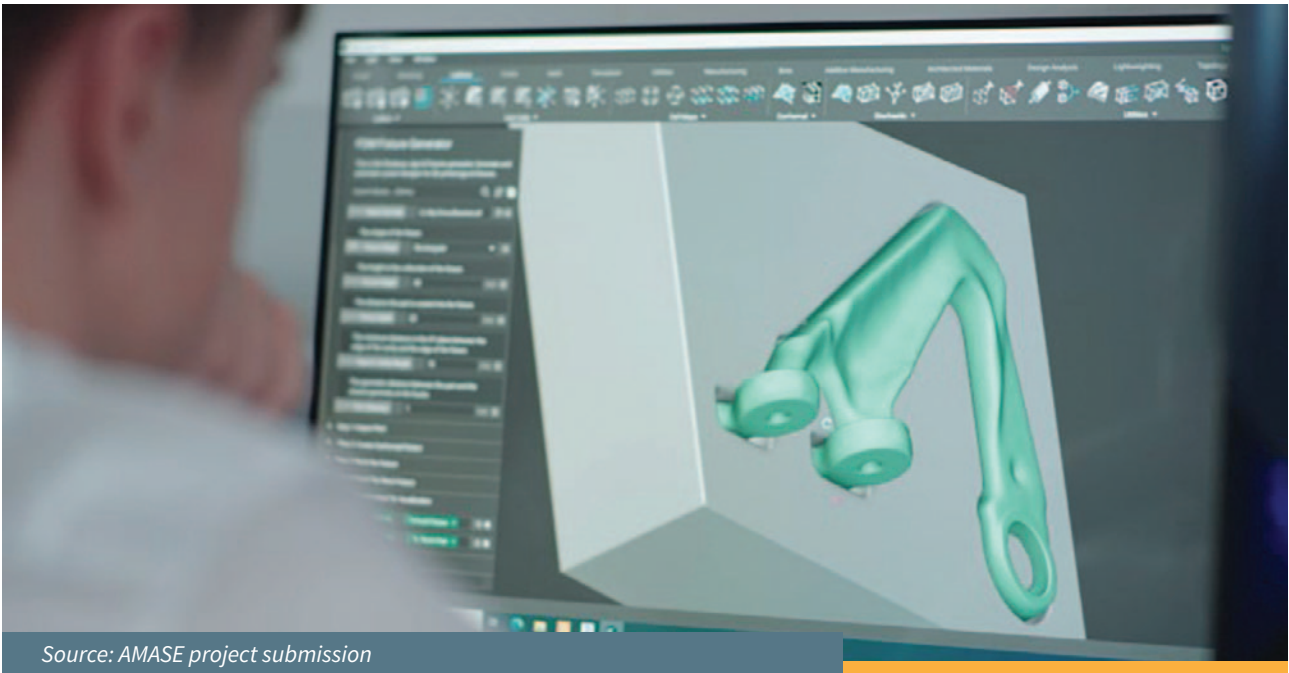
- > AMASE is focused on skill needs and higher education, a key area of policy focus.
- > Partnerships with key external organisations contribute to alignment with national policies and strategies.
- > Specific benefits includes the delivery of new content focused on technology.

Management

The governance structure for this project include a Steering Board to oversee all aspects of the project, including the programme as well as the wider AMASE activities; a Programme Board composed of the Project Manager and Programme Coordinator, Heads of Faculties, Heads of Schools, Heads of Department, lecturers and student representative; and a Programme Examination Board with the same composition as the programme board, excluding project manager and student representative and including internal and external examiners.



Source: AMASE project submission



Source: AMASE project submission

Conclusion

Indecon's conclusion is that AMASE has successfully been established, governance and project management structures created, and that overall delivery is on target with some adjustments to timelines. HCI funding has already enabled the project to attract and collaborate with experts from across the world; to integrate Additive Manufacturing and its applications to transform teaching methods; and to foster hands-on educational experiences for students in the form of workshops at the technology gate partners.



6.3 | CIRDAS

Introduction

The Centre for Insurance, Risk and Data Analytics Studies (CIRDAS) was created by South East Technological University (SETU) Carlow Lifelong Learning (LLL), Insurtech Network Centre (INC), and Atlantic Technology University Letterkenny (ATU) as HEI partner. Its aim is to become the education partner of choice for the insurance/financial services sector providing bespoke, subsidised and accredited education for existing insurance/financial services professionals who would like to future proof their career or organisation.

Innovation & Alignment

There are many examples of innovation supported by the project.

- > Project partners are collaborating to develop a new framework and certification for Equality, Diversity, and Inclusion (EDI) for the insurance and financial services sector. This engagement has facilitated the co-creation of educational content and ensures it remains relevant whilst adding value for the work-based learner.
- > The EDI Maturity Framework is a dynamic data-driven process taking data from the Inclusio platform within participating institutions, which will open the avenue for research and publication of same for this pioneering project within the Insurance sector.
- > The VOiCE programme is aligned with and aims to build upon its bi-annual series of five (EDI) online Masterclasses and provides participants with the foundational knowledge to partake in the framework or free accredited certificates in EDI through SETU Carlow. VOiCE provides participants with a clear understanding of how to build a more diverse and sustainable workplace, addressing CBI concerns and complying with upcoming reporting under the Non-Financial Reporting Directive (NFRD).
- > Accessibility offering multiple entry and exit points to major awards plus options to exit major awards with standalone certificates at Levels 8 and 9.

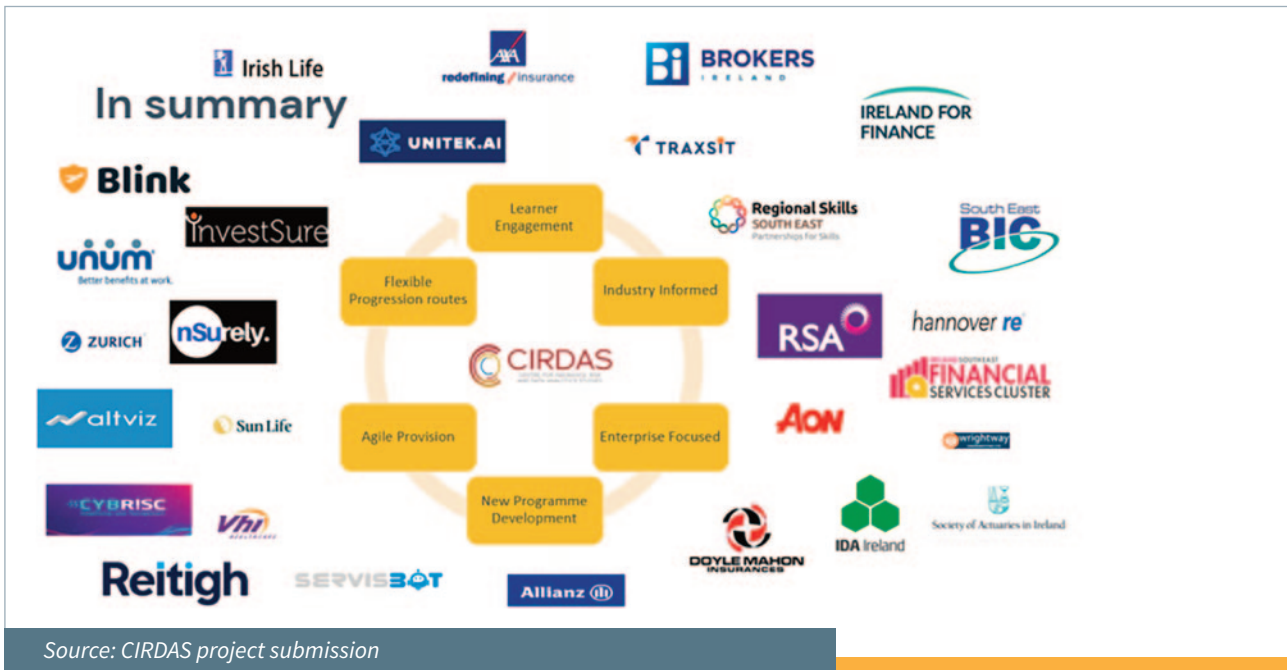
In terms of the alignment of the project with government policy:

- > CIRDAS supports Ireland for Finance Action Plans 2022-2023 addressing strategies in Fintech and Digital Finance; Diversity and Talent; and Regionalisation and Promotion.
- > The project supports compliance with Central Bank regulation by providing means to address failings highlighted by Central Bank audits.

CIRDAS has sought to provide the means for the insurance industry to address the failings highlighted by Central Bank thematic audits in the area of EDI (Electronic data interchange).

Examples of engagement with industry partners is shown in the figure below.

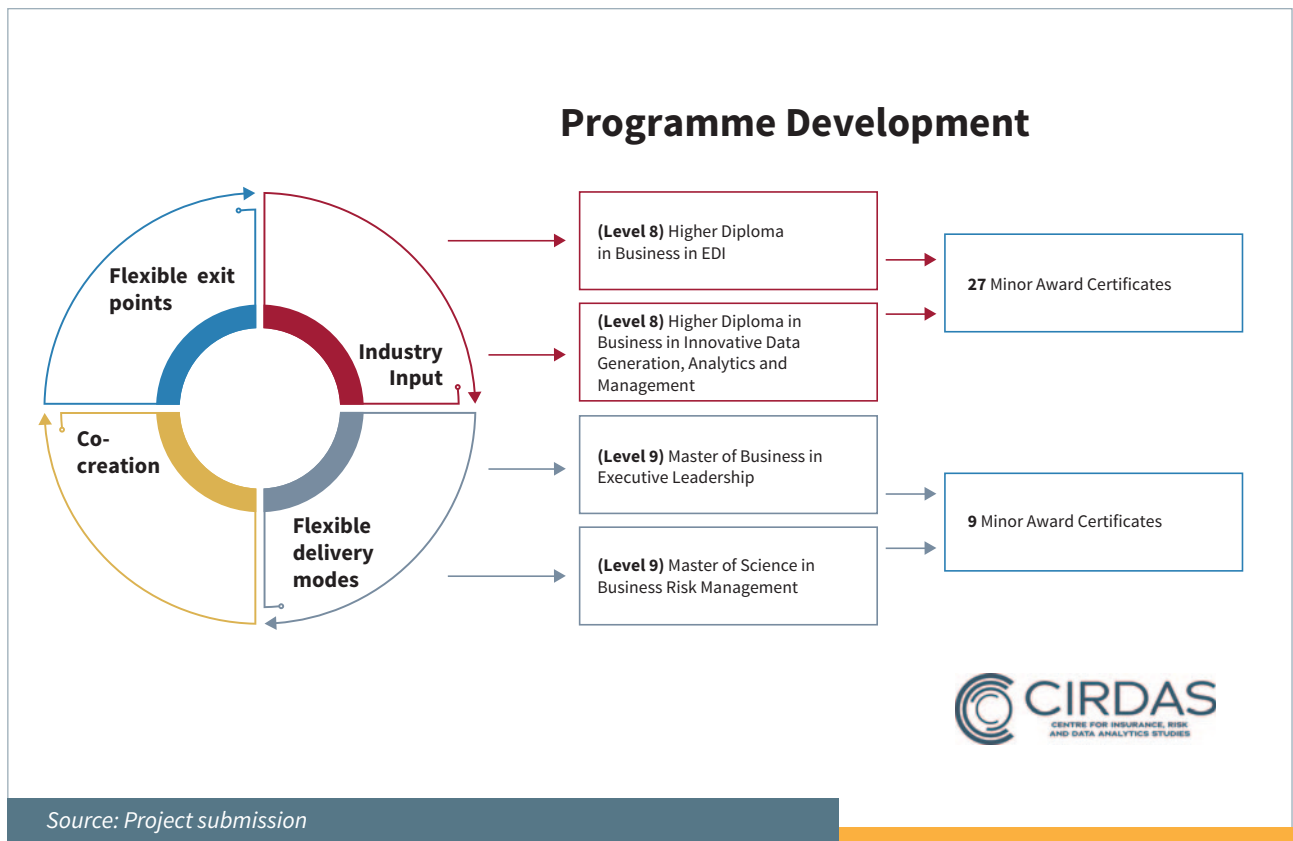
Figure 6.1: CIRDAS Industry Partners



Management

The project has created a governance structure with an Advisory Board and a dedicated CIRDAS Manager. The process of engagement around programme development was initiated with industry representatives. From these consultations, the need for flexible programmes was established which offered work-based learners the opportunity to upskill or reskill through unaccredited and accredited programmes. The figure below illustrates CIRDAS programme development.

Figure 6.2: CIRDAS Programme Development Model



Conclusion



Source: CIRDAS project submission

Indecon’s conclusion is that CIRDAS has successfully been established, governance and project management structures created, and that overall delivery is on target, with significant engagement with 50+ enterprise partners participating. HCI funding has already enabled this partnership-led development of initiatives with multiple entry, exit, and progression routes from Masterclasses, Certificates, Higher Diplomas, and Masters degrees, and formally recognises prior experience for work-based learners. Delivery of such a programme would not be possible without accessible timetabling and flexible/blended learning options for work-based learners.

Minister Sean Fleming Minister of State at the Department of Finance, Damian Rossiter Programme and Development Manager CIRDAS, Sandra Healy CEO and Founder, Inclusio.



6.4 | CONVENE

Introduction

Convене is a co-learning partnership between the recently established Enterprise Academy at Technological University Dublin (TU Dublin) and University College Dublin's Innovation Academy. As first-of-their kind, discipline-neutral units within Ireland's two largest universities, both Academies span enterprise, academia, and innovation. Both seek to adopt a more responsive, agile approach to talent development and cross-disciplinary programme provision, working in partnership with enterprise. We share our learning as exemplar models of university-enterprise engagement that can be adopted across the Irish higher education system.

Innovation & Alignment

CONVENE has designed and delivered several innovations:

- > CONVENE was pivotal to the establishment of the Enterprise Academy at TU Dublin, a dedicated unit to broker cross-disciplinary partnerships between enterprise and faculties, with a specific focus on lifelong learning.
- > Development of a comprehensive (and growing) suite of postgraduate programmes and pathways into and through the booming screen industry in collaboration with Screen Ireland and the TU Dublin School of Media.
- > The project's first major collaboration, the co-design and launch of the UCD-TU Dublin Joint Professional Diploma in Transversal Skills, took place in 2020 as a response to unemployment, particularly in the hospitality and tourism sectors, caused by the COVID-19 pandemic and lockdowns.
- > CONVENE fellowships allow time, space and support for entrepreneurial faculty, and have led to a series of innovations, including development of the first accredited programme for professionals in the Brewing & Distilling industry.
- > Incorporation of challenge-based pedagogy brings together enterprise and students from different disciplines to work on industry challenges.
- > CONVENE has supported the design of new enterprise centred UCD undergraduate modules, new lifelong learner programmes in Sustainability and Digital Transformation, as well as the incorporation of technological innovation through Virtual Reality and creative technologies in the CONVENE MakerSpace.
- > Co-designed with enterprise, Virtual Reality for Future Skills is the world's first transversal skills programme in VR and the winner of a University Industry Innovation Network (UIIN) Innovation in Education award.
- > Revolution Farm, a campus circular economy micro-enterprise at UCD where students work with enterprise to learn vital future skills.

In terms of the alignment of the project with government policy, the following policies are supported by CONVENE:

- > National Skills Strategy 2025
- > National Development Plan 2021-2030
- > Skillnet Ireland Workforce Development for SMEs
- > National Strategy for Higher Education to 2030
- > Impact 2030: Ireland's Research and Innovation Strategy

Management

The CONVENE team manages governance through a CONVENE Executive Board. The group meets monthly and includes the Project Leads from both institutions, UCD Innovation Academy's Head of Strategy and Partnerships and the Enterprise Academy Manager at TU Dublin. Meetings focus on strategic planning, problem-solving, operational innovations, sharing lessons learned and best practice with a particular focus on communications and impact. Exchange has generated broader university collaborations across issues of shared interest and concern such as sustainability, immersive technologies and entrepreneurship.



The MakerSpace includes a range of 3D printers, plastics recycling and repurposing equipment, vacuum forming and mould making equipment, laser cutters and virtual reality headsets.

Source: CONVENE project submission



Source: CONVENE project submission

Conclusion

Indecon's conclusion is that the CONVENE project has successfully been established, governance and project management structures created, and that overall delivery is on target, including student enrolment numbers. HCI funding has already enabled the creation of new modules with over 750 enterprise learners and 1,800 on-campus learners from more than ten disciplines. Models are being developed to allow for significant scalability and repeatability in coming years. Over 250 collaborators have engaged with CONVENE from across seven sectors of focus, combining elements of education, technology, and entrepreneurial skills for the future.

Through Convene, the UCD Innovation Academy is building on this track record to pioneer innovative new methods of teaching and delivery and to pursue new models of enterprise partnership.

6.5 | Creative Futures Academy

Introduction

The Creative Futures Academy (CFA), is a collaborative partnership between NCAD, IADT, and UCD with the aim of helping create a sustainable and vibrant creative and cultural sector. Courses focus on the creative and cultural industries and include: screenwriting; film, media and broadcasting; creative and cultural management, new platforms for artists; new technologies, such as augmented and virtual reality, strategic and user-centred design and sustainable design practice. CFA offers a range of undergraduate, postgraduate, and short courses; many delivered in hybrid formats to suit professionals and creative practitioners looking to upskill.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > In the area of intra-and inter-institutional mobility, delivery of a new postgraduate programme provides an opportunity for awarding micro-credentials and flexible modes of study within art and design provision.
- > The programme has introduced trans-disciplinary electives also facilitating intra-institutional mobility.
- > Internship modules enable flexible modes of placement within industry, cultural, and social host companies and organisations.
- > New Digital Lab and Black Box studio spaces are being equipped to professional specifications and designed to accommodate contributions from enterprise partners to student learning.
- > CFA has invested significantly in technology (software and hardware) in the area of virtual production, audio technology, and sound design making new studio spaces and equipment available to both existing students and to new learners at Levels 8 and 9.
- > Pedagogical frameworks to enable agility through micro-credentials have been developed. The implementation of these frameworks greatly enhances institutional ability to respond to the emerging skills needs of the creative arts and industries and promote learner engagement in lifelong learning.
- > CFA is engaging across its Industry Council on the co-development and delivery of key programmes including: Irish Manufacturing Research, Design & Crafts Council on Circular by Design; IMMA for a series of Summer Intensives focusing on pertinent themes to do with sustainability, ecology and critical race theory; The Arts Council on 'Sustainable Exhibitions'; RTÉ on 'The Rewrite Creative Future Summer School' an equality, diversity and inclusion programme; and with the Institute of Designers Ireland on design related modules, including Designing Diversity, in partnership with DesignOpp.
- > Full and part-time BA and MA pathways with a range of entry and exit points include credited professional certs and diplomas.

In terms of the alignment of the project with government policy:

- > Creative Futures Academy supports the Future Skills Needs forecasts in the Together by Design report.
- > Participation in and contribution to Expert Groups on Future Skills needs and through the Department of Environment, Climate and Communications Textile Advisory Group.
- > The project offers Levels 8 and 9 learning across strategic, product, service, UX, UI, and med tech design.
- > The CFA Programme Director participates in the Dublin Regional Skills Forum, which focuses on education-to-enterprise employability, FET to HE pathways, and apprenticeships.
- > CFA programmes improve access, diversity and inclusion across the creative industries and provide relevant training for sustainability and the circular economy.

Management

The project is governed by a Management Committee consisting of representatives from each institution. A Finance Subcommittee oversees disbursements and the risk register. Memoranda of Understanding have been signed between NCAD, IADT and UCD. It details: the nature of the agreement; the roles and responsibilities of partners; principles of collaboration; governance; charges and liabilities; the term of the project; waivers; and severability and termination. The Academic Development Group consists of representatives from each member institution. They contribute to academic development in areas of programme provision, learner pathways, mobility frameworks, teaching and learning scholarship and case studies, pilot evaluations, learner profiles.



Students from 'Design for Technical Arts' course run by IADT

Source: Creative Futures Academy project submission



Circular by Design Innovation Festival took place, a CFA at NCAD partnership with the Design & Crafts Council Ireland (DCCI), at Smock Alley Theatre, Dublin. Over 100 stakeholders from across Ireland’s textiles supply chain came together to chart the barriers and opportunities to change, and to identify practical actions and solutions needed to make the transition to a circular textiles system. The festival closed with a showcase and pitch-presentations from the 11 Irish companies pioneering circular design solutions within the pilot training programme.

Source: Creative Futures Academy project submission

Conclusion

Indecon’s conclusion is that Creative Futures Academy has successfully been established, governance and project management structures created, and that overall delivery is on target. HCI funding has already supported the development of teams within each institution who are working alongside tenured and sessional staff to develop modules and curriculum plans informed by new programme architectures to provide new course offerings and award frameworks. This aims to improve the level of responsiveness to industry, provide resources for the strategic development of new systems and facilitate a degree of risk-taking and experimentation, piloting, and testing. The project lead reports that this has provided time for staff to support new ideas, to experiment with technology, to investigate best practice internationally, to collaborate with partners, and to design and trial pilots and projects with partners.

6.6 | Cyber Skills

Introduction

The Cyber Skills project aims to provide pathways and micro-credentials that have been specifically designed and created by industry and academic experts and align to the NIST NICE Cyber Security Workforce Framework to address skill shortages in the area of cybersecurity. Project programmes provide the knowledge, skills, and training needed to upskill and enhance a career in cybersecurity. The Cyber Skills project team brings together existing expertise in the area of cybersecurity from Munster Technological University, University of Limerick, and TU Dublin.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > The project has 12 collaborative partners. Two US-based institutes of technology share international best practice on the topic of workforce development. The National Cybersecurity Centre (NCSC), Ireland, contributes to Ireland's National Cybersecurity Policy. The Garda National Cyber Crime Bureau contributes to the various webinars to increase public awareness of cybercrimes and cyber hygiene practices. The National Defence Forces is a key partner on building the vision for the Cyber Range simulation platform and personnel have participated in Cyber Range training.
- > Cyber Range has two important innovative components: it is a virtually controlled, interactive training environment that aims to simulate a wide range of security incidents, complex IT environments and threats; and enables the delivery and development of advanced cybersecurity skills for academic/work-based learners in a realistic training environment.
- > Lectures use peer-to-peer learning approaches and reinforcing content with practical exercises on the Cyber Range and/or the use of assessment mechanisms which allow the student to apply the learnings to a workplace problem.
- > Staff engagement ranges from lecturing on technical aspects of cyber skills courses (e.g. penetration testing and vulnerability analysis, hardware security, and software security and electronics) and legal aspects such as cybercrime and digital forensics, and to teaching support for cyber skills activities.

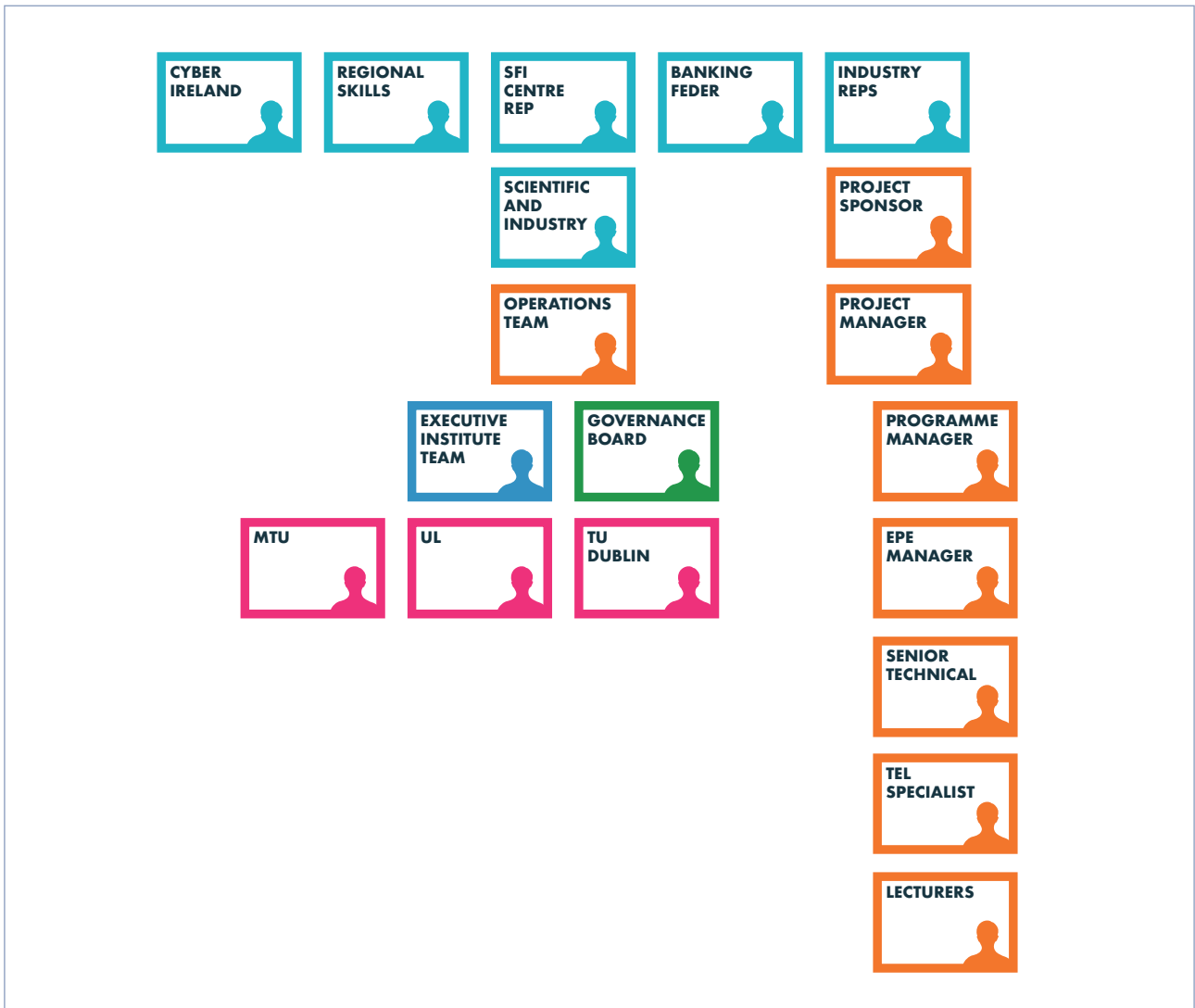
In terms of the alignment of the project with government policy, the following policies are supported by the project to address the urgent skill shortage in the cybersecurity sector:

- > Ireland's 2019 National Cybersecurity Strategy
- > Harnessing Digital: The Digital Ireland Framework
- > Enterprise 2025 Renewed
- > Ireland's Industry 4.0 Strategy
- > Project Ireland 2040

Management

A governance structure has been established to oversee the project, as illustrated below. The Executive Institute Team is comprised of the academic leads from each academic institution. One member from each HEI also sits on the governance board. The IE team provides technical and operational guidance and steers the strategic direction of the project. The Operations team works to deliver the strategy and achieve the outcomes as defined by the IE team; and Advisory Groups are convened as required by working group chairs and programme development boards. These provide input and guidance on the direction of programs to suit industry needs. The project has engaged with the highest levels of HEI senior management which is evidenced by the signed Memorandum of Agreement (MoA) and Memorandum of Understand (MoU) by the relevant HEI presidents.

Figure 6.3: Governance Structure – Cyber Skills



Source: Project return to Indecon



Minister of State with responsibility for Public Procurement, eGovernment and Circular Economy, Mr Ossian Smyth, welcomes the collaboration between Cyber Ireland and Cyber Skills on The State of the Cyber Security Sector report in Ireland.

Source: Cyber Skills project submission

Conclusion

Indecon's conclusion is that the Cyber Skills project has successfully been established, governance and project management structures created, and that overall delivery is on target. HCI funding has already allowed Cyber Skills to build capacity and expertise to respond to cybercrime vulnerability arising from rapid digitalisation, post-pandemic hybrid nature of work, and technological advances associated with the rapid growth of the internet.



6.7 | DASBE

Introduction

Digital Academy for the Sustainable Built Environment (DASBE) seeks to create a National Digital Academy that enables the construction industry, SMEs, manufacturers and workers to upskill and gain new knowledge in a cost effective learning environment. DASBE upskills the building sector on a range of topics ranging from low energy building design to the application of Virtual Reality in building surveying, by providing programmes from Level 6 to Level 9 on the NFQ. These programmes include providing construction workers and professionals with the opportunity to access and engage in upskilling, short courses, micro-credentials, and Minor and Major programmes on matters relevant to sustainability, including energy efficiency, circular economy and digitalisation.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > The DASBE platform itself enables users to access their Higher Education Institute (HEI) programmes directly through a programme directory and to develop a portfolio of their experience and qualifications.
- > Design, development, and testing a number of VR prototypes which support the delivery and assessment of existing and new programmes. The primary investment so far has been on technical expertise within the DASBE team.
- > A drone programme was developed by TUS to support the digitalisation of the construction industry. This will work alongside the retrofit and management programmes as additional skills development and encourage a younger interest in construction.
- > ATU has engaged an instructional designer on the DASBE Team to support the development of all new DASBE related programmes.
- > Two full Level 9 MSc programmes were developed in 2020-2021, one in Circular Economy Leadership in the Built Environment and the other in BIM and Digital Leadership in the Built Environment.

In terms of the alignment of the project with government policy, the DASBE project focus on sustainable built environment is responding to the following policies at the EU and national levels:

- > EU Energy Efficiency Directive
- > Renewable Energy Directive
- > Energy Performance of Building Directive
- > The Skills Pact
- > Climate Action Plan 2021/23
- > Circular Economy Plan Education for Sustainable Development Strategy (2021)
- > National Digital Strategy 2022

Management

There is a Memorandum of Understanding in place between all partners. The overall project coordinator connects the project to the senior management team within the lead HEI. A project Steering Committee has representatives from each of the partners.



Students of the Certificate in Community Energy Project Development on a site visit.

Source: DASBE project submission

Conclusion

Indecon's conclusion is that the DASBE project has successfully been established, governance and project management structures created, and that overall delivery is on target, though some delays required adjustments to timelines due to staffing shortages. HCI funding has already enabled collaboration between academics from two Technological Universities across 15 campuses, in excess of 35,000 students, covering a geographical region from Donegal to Tipperary. The Digital Platform is integrated with the DASBE website (portal) to offer a standalone centralised location for construction-related programmes, CPD, micro-credentials, Minor and Major awards. Twenty-seven new programmes were developed to date within the DASBE project.



6.8 | DCU Futures

Introduction

DCU Futures aims to re-imagine undergraduate education to ensure students can succeed in an increasingly unscripted world defined by volatility, uncertainty, complexity, and ambiguity. DCU Futures is structured around three pillars – what students learn, how students learn, and embedding the transversal skills for students to thrive. It will deliver over 1,000 new graduates across ten new undergraduate programmes or specialisms, who will have benefited from the objectives to: 1) Prepare students to thrive in an unscripted world defined by unprecedented technological and social change; 2) Adopt innovative pedagogic methods that can best equip students for an uncertain world; and 3) Position DCU as a leading and competitive educational institution.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project, that complement the curriculum and have a positive impact on student engagement, experience, and learning outcomes:

- > Adoption of innovations in education, technology, and entrepreneurial skills.
- > Blended Delivery to support development of lifelong learners (15% of each programme) delivered online via custom designed online learning modules that include interactive experiences, gamification, virtual laboratories and online quizzes.
- > Challenge-based learning via multidisciplinary “hackathons” and learning sprints.
- > The use of virtual reality has supported a variety of pedagogies, including inquiry based learning, gamification, and a flipped classroom learning environment.
- > Authentic assessments, including 100% continuous assessment programmes, peer assessments, interactive oral assessments, and reflective journals.
- > Interaction points with enterprise for students throughout their programme include guest lectures, industry placements, mentoring, challenged based learning projects, judging of hackathons, and design sprints, which focus on industry-relevant topics and case studies.

In terms of the alignment of the project with government policy, given the broad and cross-cutting nature of the project, many policies are addressed including:

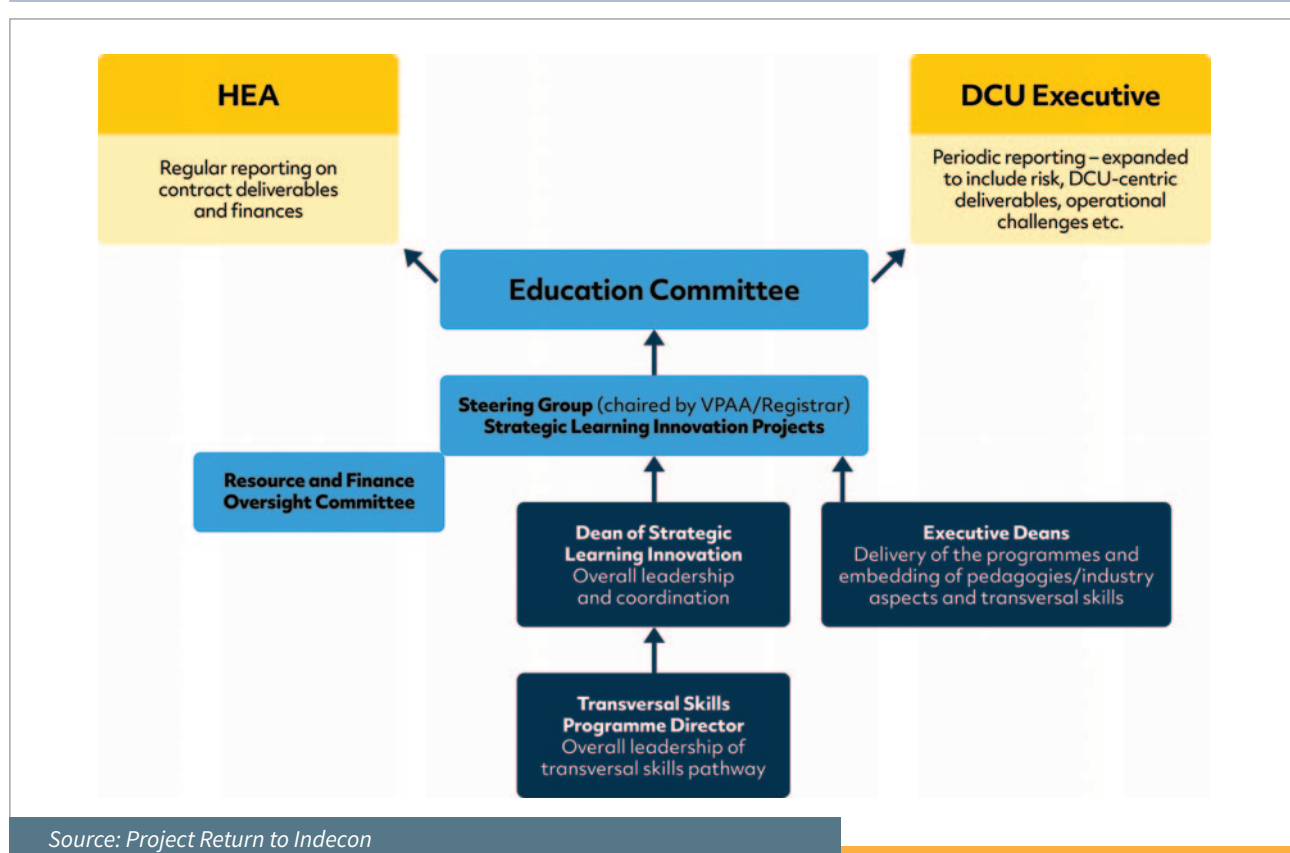
- > National Skills Strategy 2025
- > Economic Recovery Plan 2021
- > 2022 Harnessing Digital – the Digital Ireland Framework
- > Ireland’s Climate Action Plan 2023

- > Strategy on Education for Sustainable Development – ESD to 2030
- > National Development Plan 2021-2030

Management

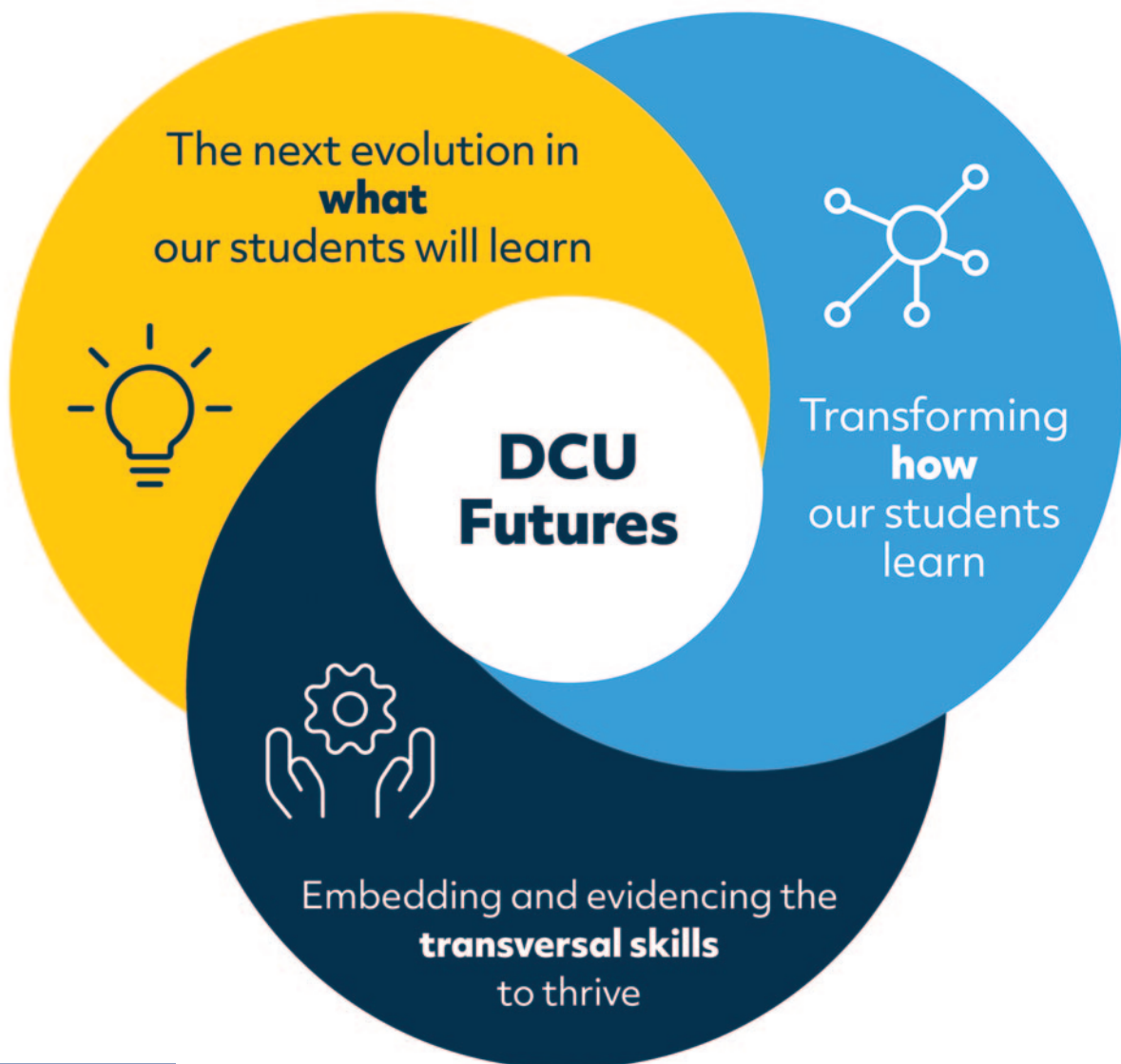
A Steering Group (Strategic Learning Innovation Projects Steering Group) has been set up to provide strategic guidance, direction and oversight of all five HCI 3 projects, including DCU Futures, under DCU Education Committee which has formal responsibility on behalf of Academic Council for strategic academic developments. The Steering Group is chaired by the Vice President of Academic Affairs and membership has been drawn from a wide range of representative senior roles across DCU. The Finance and Resource Committee provides oversight of the budget, costs and resource management. The Dean of Strategic Learning Innovation is charged with overall leadership and coordination of work across Faculties (including external partner engagement) and management of the Project Management team. Faculties, led by Executive Deans, are responsible for the development and delivery of the new programmes. The governance structure of the project is illustrated below.

Figure 6.4: Governance Structures - DCU Futures



Conclusion

Indecon’s conclusion is that the DCU Futures project has successfully been established, governance and project management structures created, and that overall delivery is on target, with some adjustments to timelines. HCI funding has already helped to generate a substantial level of activity regarding how the university delivers education. Ultimately, the goals of the project are to help generate a talent pipeline in key industry sectors whilst providing a transformed learning experience.



DCU Graph 1



6.9 | Designing Futures

Introduction

Designing Futures aims to drive transformational change in the University of Galway, and support the evolution of the educational experience for students, staff and enterprise partners. The project has been developed to enhance the employability of graduates by offering additional practical and creative teaching, learning and skills development alongside traditional degree studies. This is achieved through a personalised skills development pathway that is supported by a team of student success coaches; the creation of opportunities for students to have practical skills achievements recognised on graduation alongside their degree; enable students to succeed in their future world of work; cultivate curiosity and ideation; nurture creativity, innovation and entrepreneurship through IdeasLab; enhance University of Galway's position as an innovative student-centred and industry engaged institution; and leverage local and global partnerships.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > The creation of a process for the development of Transdisciplinary Modules and Vertically Integrated Projects in the curriculum. This is based on research into innovative pedagogies and facilitates student-centred learning.
- > The IdeasLab cultivates a vibrant community that fosters and empowers the next generation of design thinkers, problem solvers, and change agents. It extends beyond the confines of traditional education, embracing a dynamic and multidisciplinary approach that integrates diverse perspectives and disciplines.
- > The newly designed Empathy Lab empowers students to consider the deeper layers of the human experience, using technology and human simulation to capture the essence of our real, messy, human selves and is the first of its kind in the world.
- > The introduction of a Skills Passport which represents a full and formal acknowledgement of students' skills development, activities and achievements, including academic curricular, co-curricular achievement both inside and outside the classroom.
- > This project has introduced the role of Student Success Coach to support students to take an active role in 'designing their lives' to achieve their unique academic, personal and life goals during their time at University of Galway.

In terms of the alignment of the project with Irish Higher Education policy, namely:

- > National Skills Strategy (DoE 2017)
- > Technology Skills 2022
- > Ireland's Third ICT Skills Action Plan (DoE 2018)
- > Project Ireland 2040 (DHPLG 2018)

Management

Designing Futures is led by a Steering Committee which reports to the University Management Team. The Steering Committee oversees the four work-packages through which the project deliverables are managed. Each Work Package Lead and core team manages the work package activities (Goals, Tasks, KPIs and Budget). Work Package 4 (implementation and evaluation) oversees the operational activities of the entire project.

In addition, three committees support the project team:

1. The **Designing Futures Advisory Committee** takes a strategic role, shaping the development of the Designing Futures Project in accordance with the University's strategy and the HEA Human Capital Initiative (Pillar 3)
2. The **Enterprise Advisory Committee** supports the project by identifying skills need for enterprise and working with Designing Futures to develop meaningful relationships with enterprise for co-design, co-delivery and co-development of programmes and content (both curricular & co-curricular)
3. The **Transdisciplinary Module Committee** oversees the design, development and promotion of transdisciplinary teaching, learning and assessment

Conclusion

Indecon's conclusion is that Designing Futures has successfully been established, governance and project management structures created, and that overall delivery is on target, with student enrolment exceeding expectations. HCI funding has already provided the university with a dedicated set of resources to focus on student centred learning approaches. In addition, this project has allowed for a new approach to enterprise engagement away from a transactional focus on securing student placements or individual pieces of work to one of partnership and active two-way engagement between the university and the enterprise partner.



Source: Designing Futures project submission

IdeasLab, a core pillar of the Designing Futures project, is where our community of students, enterprise partners, alumni and staff are engaged in design thinking, creativity and entrepreneurship to advance innovation in and for the world.

6.10 | Enabling Future Pharma

Introduction

The RCSI School of Pharmacy and Biomolecular Sciences project, entitled ‘Enabling Future Pharma – Beyond the Pill’ is developing a suite of programmes, aimed at creating graduates skilled in emerging and future pharma technologies, to address skills gaps in industry and enable future growth. As the life sciences sector embraces the fourth industrial revolution in health and healthcare, characterised by the fusion of the digital, biological, and physical worlds, there is an increasing need for certain specialist skills to enable and support future career pathways. This project seeks to provide a range of programme options, including micro credentials, delivering flexible pathways to prospective learners to develop these specialist skills.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > Innovative curriculum content provides students with practical training in precision medicine techniques and tools.
- > Assessments focus on demonstrations of competency rather than solely testing knowledge.
- > Learners complete a full block dedicated to transversal/power skills development, focused on contemporary issues.
- > Platform developed to facilitate student access to large data sets on 24-hour basis.
- > Undergraduate learners will complete an 8-month work placement within Industry to enhance their preparedness for professional scientific practice.
- > Learners have the option of completing their research projects with industry partners, and are provided with industry mentors to ensure graduates are workplace ready.

In terms of the alignment of the project with government policy, Enabling Future Pharma supports these policies:

- > National Development Plan 2021-2030
- > Ireland’s National Skills Strategy 2025
- > Enterprise 2025
- > Impact 2030 (Pillar 4, Talent at the heart of the R&I ecosystem)

Management

The project governance structure includes an Oversight Committee and External Advisory Board at the oversight level. The Project Coordination Team reports to the Oversight Committee, and consists of a Project Manager, two Project Directors, and various support personnel within RCSI, such as legal, marketing, finance, HR, etc. Reporting to the Project Coordination Team are the Work Package Managers, with each Work Package having a leader and individual task leaders.

Conclusion

Indecon’s conclusion is that Enabling Future Pharma has successfully been established, governance and project management structures created, and that overall delivery is on target, despite initial delays and HR challenges. HCI funding has already enabled research expansion in areas including precision medicine, data analytics, and computational biology. Expansion of these areas into the undergraduate teaching space represents a significant body of expertise of national value.



Source: Enabling Future Pharma project submission



The programmes under the Enabling Future Pharma project have been specifically designed to meet the new needs driven by a major shift in the bio/pharmaceutical sector such as precision medicine, bioinformatics, immunotherapeutics, AI (Artificial Intelligence), and digital and connected health.

6.11 | GROWTHhub

Introduction

GROWTHhub is a collaborative project involving Technological University Dublin and South East Technological University (Waterford campus). The project mission is to encourage a growth and entrepreneurial mindset among students and enterprise-based learners. GROWTHhub defines entrepreneurship as a transversal competence, which applies to all spheres of the lives of the community of learners: from personal development, to actively participating in society, to innovating as an employee, and also to starting up ventures (cultural, social or commercial).

Innovation & Alignment

There are a number of examples of innovation that have been supported by the project.

- > Blended delivery capabilities have been developed for wider learner engagement (i.e., online and in-person learning), opportunities have been provided to over 3,500 students. Engagement is with students from NFQ level 6 to PhD level.
- > Increased Engagement in entrepreneurial activities across all academic disciplines; Business, Engineering, Computing, Health Sciences, Science and Education and Life-long learning. Evolving cross-discipline entrepreneurship education community of practice.
- > Enterprise partners have been involved by developing and/or providing live events and challenges for students, including training, discussion sessions, competitions, and simulations.
- > Digital and physical resources have been invested to support collaborative working, i.e., digital screens, software, and hand-held digital devices for students.
- > Entrepreneurship education bursaries which target the delivery of innovative entrepreneurship education pedagogies and instil innovative best practice have been awarded to learners.
- > The extent to which the project has engaged with partners for joint activities is impressive and includes: European Council for Small Business (Dublin), Irish Academy of Management (Dublin), Enterprise Evolution (UK), Policy Experimentation and Evaluation Platform (Portugal), Enactus (Dublin), Climate Launchpad (NL), Simon Community (Dublin), TU Dublin incubation centres LINK, Syergy, and Hothouse (TU Dublin), Guinness Enterprise Centre (Dublin), National Standards Authority of Ireland, Technology Ireland Skillnet, IDA Ireland, Lancaster University Entrepreneurs in Residence Programme (UK), ArcLabs (SETU), B!G Idea (Carlow), LEO (Waterford), IPOI (Kilkenny), SEAM (Waterford), SEBIC (Waterford), Waterford Area Partnership, and Waterford City Library.
- > Development of initiatives for groups where there is an under-representation of participation in entrepreneurship (e.g., women – PG Certificate in Entrepreneurship and Innovation for Women).

In terms of the alignment of the project with government policy:

- > GROWTHhub is underpinned by the National Strategy for Higher Education to 2030.
- > European Commission EntreComp Framework.
- > This provides useful tools for demonstrating the transversal value of entrepreneurship competences as related to creation of economic, social, cultural, and environmental value.

Management

The initial HCI Programme Board members are the Chairperson (nominated by the President), the lead for each HCI project for which TU Dublin is lead (including GROWTHhub), the project lead for HCI project for which TU Dublin is partner, University Registrar Quality Assurance nominee, Chief Operations Officer, VP for Partnerships, an appropriate nominee with experience in enterprise, engagement or partnerships, a designated Finance person to provide the expertise to review and advise the Board on financial matters, two Faculty deans, and representative from the Programme Management Office and the Strategic Planning Office.



Participants of the Hackathon Innovation Group Challenge. GROWTHhub is collaborating with industry to engage alumni in innovation hackathons to address important issues.

Source: GROWTHhub project submission

Conclusion

Indecon's conclusion is that the GROWTHhub project has successfully been established, governance and project management structures created, and that overall delivery is on target, with strong student enrolment and course offering numbers. HCI funding has already provided opportunities for over 3,500 students at TU Dublin and SETU to engage with enterprise-oriented programmes and activities, as well as funding for the underlying technical support required for programme content.



Alannah Pardy (GROWTHhub student), 2022 Grant Thornton High Achiever Winner – Recapture One, Student Entrepreneur Awards

Source: GROWTHhub project submission



6.12 | Higher Education 4.0

Introduction

Higher Education 4.0 is an innovative project of the Atlantic Technological University with the aim of transforming the way adult learners and employers engage with third level education. By developing a new suite of tools and services, including an online platform “myCareerPath.ie” that provides customised career services, Higher Education 4.0 aims to improve access to third-level education, enhance partnerships with employers, and meet more diverse student needs. Higher Education 4.0 has two distinct themes:

1. Learning Pathways into and through Higher Education
2. Lean Agile Programme and Content Creation

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > The myCareerPath.ie portal is providing online career development services, including 1-to-1 mentoring, to a wide range of new learners, employees, and entrepreneurs increasing accessibility to Higher Education and future proofing learners with industry relevant skills. This includes developing career and learning pathways for disengaged youth.
- > The project is collaborating with enterprise and industry through: new programme development, work-based learning qualifications, (e.g., Hospitality Management) co-designed with industry, which recognises the workplace as a place of learning and opens up higher education to a new cohort of students ; industry engagement steering committee for the Career and Learning Pathways Service; industry pilots of MyCareerPath programme which lead to continuing improvement of service; Breakfast Briefing Webinar series; the Digital West yearly conference aimed at gathering digital skills requirements from industry; and a Business Liaison Officer focused on engaging with industry to identify training needs.
- > Implementation of the “Connect” adaptive learning system for first-year Engineering modules, which offer personalised learning environment through LTI integration.
- > New project-based learning pedagogies for students including weekly asynchronous assignments to prepare for synchronous classes.
- > Projects completed to date include a work-based learning programme in Furniture Design and Manufacturing, a bridging certificate in computing for learners in the MSc Data Science delivered using reusable learning content, a BA in Hospitality Management which is earned through work-based learning, and the development of a ‘Maker Space’ for ATU students which will also be accessible to local schools and youth groups.
- > Over 436 industry learners and 337 ATU undergraduate learners have completed their career and learning pathway on www.mycareerpath.ie

- > Bridging courses (for example computing for Data Analysis) has opened up this in-demand skill to a whole new cohort who would not have been able to engage with the course due to an absence of a computing degree.
- > Development of micro-credentials and digital badges in collaboration with the Insurance Institute of Ireland to support rapid upskilling for in demand skills.

In terms of the alignment of the project with government policy, the project supports the following:

- > HCI-funded national Recognition of Prior Learning (RPL) Framework and Definitions.
- > RPL Practitioner Network Ireland which works to inform policy development and resources.
- > National Skills Strategy 2025
- > Action Plan for Education 2018
- > National Strategy for Higher Education to 2030



MyCareerPath.ie is a service available to people in the workplace, returners to education, entrepreneurs seeking to upskill and people looking to accelerate their career and progress within their organisation.

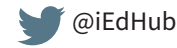
<p style="text-align: center;">Employers</p> <p style="text-align: center; font-size: small;">Do you want to further develop your team through upskilling and career development learning pathways? Visit the Employer's Area to find out how</p>	<p style="text-align: center;">Learners</p> <p style="text-align: center; font-size: small;">Do you want to further develop your career and learn new skills? Visit the Learner's Area to find out how</p>
<p>www.mycareerpath.ie provides RPL and careers/study advisory services focused on accessibility and future proofing learners with industry relevant skills. The development of this website is informed by engagement with enterprise via the Business Liaison Team and various industry engagement events.</p>	
<p>Source: www.mycareerpath.ie</p>	

Management

The Higher Education 4.0 project Steering Group is responsible for the oversight, financial management, governance, and risk management of the project, and meets quarterly. The Operational Management Team is responsible for project oversight, operational matters, risk management, and budget review. This team meets monthly with representatives from each of the three pathways to manage operational matters. The core team meets bi-annually for a workshop day for dissemination opportunities and to present ongoing project progress. Sub-project groups continue to provide regular reports on updates to the Pathway Leads.

Conclusion

Indecon's conclusion is that Higher Education 4.0 project has successfully been established, governance and project management structures created, and that overall delivery is on target, with adjustments to timelines. HCI funding has already enabled the development of work-based learner courses as it has allowed teaching staff to spend time engaging with industry to ensure the courses can meet their needs.



6.13 | iEd Hub

Introduction

The iEd Hub is an educational consortium featuring the Cork region's universities, enterprise stakeholders, and companies in the Health and Life Sciences sector. The project aims to co-design and deliver a suite of new postgraduate programmes for the Health and Life Sciences industry sector, including indigenous and multinational companies. iEd education targets both technical and non-technical skill sets, with students spreading their time between industry sites and academic campuses.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > Operations of the iEd Hub platform are iterative, focussing on 'Design-Build-Test-Learn'. iEd Hub bespoke content and orchestration framework includes individual module content, their method of delivery, and their combinations to achieve a qualification that aligns with industry needs.
- > The project team collaborates with 13 industry partners in the MedTech and Biopharma sectors, including some of Ireland's largest employers in these areas. Industry in particular has been very vocal about the joint capabilities, such as the health domain expertise and networks of UCC coupled with the engineering and applied teaching track record of MTU.
- > The iEd Hub Digital Academy is co-located with ASSERT on the UCC campus, a facility which links education, training, research and innovation through the application of Technology Enhanced Learning including Simulation Based Training and Virtual Reality Based Training.
- > UCC and MTU are collaborating in capabilities, expertise, and experience in the design of new courses, and are establishing joint masters programmes.

In terms of the alignment of the project, iEd Hub supports the following government policies:

- > National Skills Strategy 2025
- > Impact 2030: Ireland's Research and Innovation Strategy
- > HEA 2018-2022 Strategic Plan
- > Action Plan for Education 2016-2019
- > Ireland's Industry 4.0 Strategy 2020-2025 (DETE)

Management

The Head and Vice-head of the iEd Hub report to the Executive Steering group, which features the project PIs and selected industry leads. For approval of new iEd Hub courses, single institution courses go through the UCC or MTU approval process as relevant, while joint courses follow the (pre-existing) joint UCC-MTU board directed approval process. The governance structure of the project is shown below:



iEd Hub at STEM South West Industry event

Source: iEd Hub project submission

Conclusion

Indecon’s conclusion is that the iEd Hub project has successfully been established, governance and project management structures created, and that overall delivery is on target, following project revisions. HCI funding has already facilitated the building of a unique industry-experienced course design team. It has enabled focussed time to analyse the market, build a network, design multiple courses, and source appropriate infrastructure and equipment to help deliver them.



6.14 | MicroCreds

Introduction

MicroCreds is a five-year, €12.3 million project (2020-2025) led by the IUA in partnership with seven IUA universities: University College Dublin, University College Cork, University of Limerick, Trinity College Dublin, Dublin City University, University of Galway, and Maynooth University. IUA project partner universities are collaborating to develop, pilot, and evaluate the building blocks required for a transformation in lifelong and life-wide learning through micro-credentials. The project team works in partnership with learners and the Enterprise Advisory Group, comprising senior enterprise members from business representative organisations, enterprise agencies, private sector companies, and state bodies with responsibility for skills to change thinking about and engagement structures with university learning. The project focus is on learners who are seeking to up-skill, re-skill, return to employment or change careers and the promotion of micro-credentials to achieve these goals.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > A national framework for micro-credentials is developed and implemented through the programme. Ireland will be the first European country to establish a coherent national framework for quality assured and accredited microcredentials.
- > The project has developed a single platform for micro-credentials (MicroCreds.ie) which will showcase the micro-credential offerings of all partner universities. The platform has a strong focus on optimised user experience and is the only online portal where universities have, to date, collaborated on such an initiative. The platform will be the catalyst for national promotional activities to embed micro-credentials in lifelong learning in Ireland.
- > The project has developed an integrated approach to MicroCreds.ie with EUROPASS both as a potential digital rucksack solution which allows learners curate and share their credentials, and also to showcase MicroCreds micro-credential offerings on the EUROPASS platform.
- > An evidence-based model of university-enterprise collaboration for the co-creation of micro-credentials was created. MicroCreds Innovate is a sustainable model for data informed university - enterprise collaboration for micro-credentials.
- > The MicroCreds project is helping to embed micro-credentials across university infrastructures - from Admissions, Registry, Quality Assurance and ICT. This work has significantly aligned the awareness of the third level sector, employers and learners with the value that micro-credentials can bring to the wider lifelong learning landscape nationally.
- > The MicroCreds project has ensured that Ireland is viewed internationally as a leader in micro-credentials for lifelong learning, particularly by the European Commission who view Ireland with a "first in Europe" approach with regards to the advances in micro-credentials directly progressed by the MicroCreds project.

In terms of the alignment of the project, MicroCreds supports the following government policies for Ireland and the EU:

- > National Strategy for Higher Education 2030
- > European Commission Skills Agenda (2020)
- > European Council Recommendation on a European Approach to Micro-Credentials for Lifelong Learning and Employability (2022)
- > European Skills Agenda (2020)
- > National Skills Strategy 2025
- > Impact 2030: Ireland's Research and Innovation Strategy
- > Project Ireland 2040

Management

MicroCreds has several governance structures and procedures in place to ensure the appropriateness of activities across the IUA and university partners, in strict adherence to the HCI Pillar 3 guidelines and regulations. MicroCreds has four standing groups: Steering Group; Project Leads Group; Enterprise Advisory Group; and Communications Group. Ad hoc subgroups have been established when required by MicroCreds for specific time-limited purposes. The Enterprise Advisory Group is comprised of a wide range of enterprises, covering priority sectors and including SME representation.

Conclusion

Indecon's conclusion is that the MicroCreds project has successfully been established, governance and project management structures created, and that overall delivery is on target, with adjustments to timelines. HCI funding has already enabled the project to influence the development of micro-credentials, targeting areas of high-level priority skills gaps for enterprise, at the European level from a shared university perspective. This has provided enhanced opportunities for high-level strategic collaboration between university partners in a neutral space for the pursuit of common goals. Funding has provided for scoping, tender, design, and development of the micro-credential platform with a focus on user experience and subsequent supporting awareness and marketing campaigns.



Ireland will be the first European country to establish a coherent National Framework for quality assured and accredited micro-credentials. IUA project partner universities are collaborating to develop, pilot and evaluate the building blocks required for a transformation in lifelong and life-wide learning through micro-credentials. Micro-credentials developed at partner universities will set the standards for excellence in flexible and agile learning.



6.15 | Next Generation Teaching & Learning

Introduction

Next Generation Teaching and Learning transforms the ability of Trinity College Dublin to promote and deliver innovation and agility in its teaching provision. The suite of sustainability-focused programmes combine to represent a core learning pathway that delivers the critical skills needed across multiple domains to address the extraordinary challenges facing the planet and its people. These programmes are embedded not only in STEM, but also in the Social Sciences and Business, as well as the Humanities. The original project proposal was revised in early 2023 to redirect some funds and activities towards the development of an Enterprise Eco-System infrastructure to coordinate strategic level enterprise engagement and realise sustainable long-term partnerships in the design and delivery of flexible education offerings.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > Continuing Professional Development and the development of a suite of Micro-credentials to enable learners to undertake flexible and innovative learning that fits around their work and personal commitments.
- > Courses have added new content or adapted existing content directly linked to new industry advancements.
- > Courses facilitate flexible and innovative professional development and lifelong learning, particularly for those already in employment with a variety of delivery modes, e.g. part-time, online, blended.
- > The project offers unique opportunities for students to try new ways of learning, which move away from the traditional model of education provision thus opening up our offerings to a more diverse range of learners. It also helps the university to determine market interest in its new offerings and more closely align this learning to labour market needs where relevant, including collaboration in curriculum design and delivery with enterprise in high value sectors of the economy.

In terms of the alignment of the project, Next Generation Teaching and Learning supports the following government policies for Ireland and the EU:

- > National Strategy for Higher Education to 2030
- > European Commission Skills Agenda (2020)
- > European Council Recommendation on a European Approach to Micro-Credentials for Lifelong Learning and Employability (2022)
- > OECD Skills Strategy Ireland (2023)

Management

Governance of the project is provided by a HCI Steering Committee chaired by the Vice-Provost/Chief Academic Officer, responsible for the execution of the deliverables. Reporting directly to the HCI Steering Committee, the HCI Logistics Advisory Group is chaired by the Dean of Graduate Studies. This group acts as the link between the HCI Steering Committee and the relevant support areas in College. A Change Control Board considers all requests from Human Capital Initiative Work Package Leads for changes to previously submitted and approved work packages to the HEA and all such requests for change are then communicated to the HEA for approval.

Conclusion

Indecon’s conclusion is that the Next Generation Teaching and Learning project has successfully been established, governance and project management structures created, and that overall delivery is on target, after initial project revisions. HCI funding has provided the resources to recruit new academic and professional staff for Schools and the opportunity to develop new programmes. New digital learning infrastructure has been supplied in the form of MakerSpace technology, virtual laboratories on quantum programming, and advanced experimental equipment for energy research, e.g., hydrogen fuel cell and electrolyser test benches. HCI funding has also provided the resources to establish a new team dedicated to supporting the development and delivery of Micro-credentials as a new educational offering at Trinity.



Masterclass in Pharmaceutical Innovation: Creative Collaboration in Pharmacy – CPD participants

Source: Next Generation Teaching and Learning project submission



6.16 | Postgraduate Cert in Innovative Materials (IMI4)

Introduction

This project, provided through South East Technological University and Dublin City University, represents a materials-focussed, industry-led applied academic course to help meet the need for training on advanced manufacturing processes. The course aims to deal with the technology noted as Industry 4.0 and Industry 5.0, and aims to address a perceived lack of materials expertise required to facilitate this transition. The limitations of materials education in Ireland have been identified which this programme aims to address. Training and upskilling of current staff is one of the solutions to address the skill shortage as it can eliminate the skill gap within an organisation, boost retention, improve employee engagement, and enable business expansion. The project delivers content in both co- and multi- location scenarios using Blended Learning Technologies, such as Virtual Learning Environment (VLE), and Artificial Reality (AR). This project aims to be informed by industry and underpinned by identified current and future skills needs.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > The project is delivering novel content through new innovative media, and is unique in the use of Extended Reality (XR) and 360 immersive content in the pedagogical landscape in Ireland.
- > Experiential training methodology uses XR combined with Interactive Audio-Visual Content simulates real-world scenarios for multiple learners providing greater access and efficiencies, and delivering instruction in a safe engaging immersive training environment.
- > Interactive demonstration videos deliver segmented training experiences, combined with embedded interactive content, providing learners with greater control in their knowledge progression. The content, though developed separately by SETU and DCU, will be shared in collaboration between both institutes across the delivery of all modules.
- > Both SETU Carlow and DCU are delivering a number of interactive demonstration videos, which will complement and precede the VR Training. These videos will deliver segmented training experiences, with embedded interactive content, such as multiple-choice questions, multiple choice answers, or descriptor queries.
- > Both SETU Carlow and DCU are also continuing their development of the immersive XR content. They now have test equipment training modules in Extended Reality (XR), tethered XR, and, for those users unable to connect via XR, a PC-installed version. The latter experience is 2D, the XR experiences are 3D.

In terms of the alignment of the project, IMI4 supports the following government policies:

- > Project Ireland 2040
- > Future Jobs Ireland 2019
- > National Skills Strategy 2025
- > Technology Skills 2022
- > Climate Action Plan 2019

Management

All IMI4 programmes are governed by SETU Governance and Quality Control regulations. The project also has a formal governance structure with a Steering Committee guiding the Project Team. These both control and inform the delivery of the programme, which is additionally guided by the internal academic boards, such as the Academic Council, and the Programme and Exam Boards. The IMI4 programme is supported by senior management in both institutes. In SETU Carlow programme validation involved the Aeronautical and Mechanical Engineering Head of Dept., the Engineering Head of Faculty, the Registrar, and the President. Similarly, in DCU, validation of the modules involved the Head of School of Mechanical and Manufacturing Engineering and the Dean of the Faculty of Engineering and Computing. In terms of staff directly involved in the IMI4 programme, there are six in SETU Carlow and four in DCU.



The developers of the Extended Reality and Immersive Content (FourthReality, PNX Labs), and the SETU Intern team, have become de facto partners in this project. These companies have provided personal insights in the development of a holistic and realistic experience for the learners.

Source: IMI4 project submission

Conclusion

Indecon’s conclusion is that the IMI4 project has successfully been established, governance and project management structures created, and that overall delivery is on target, with adjustments to timelines. The concept of education using Extended Reality as a reliable tool is costly, so the funding provided by the HCI for the development of the IMI4 programme has been important in terms of its potential success and professional delivery.



6.17 | REEdI – Rethinking Engineering Education in Ireland

Introduction

Rethinking Engineering Education in Ireland (REEdI) aims to transform undergraduate engineering education, with tailored options to diverse learner cohorts, while providing opportunities for upskilling industry professionals and mature students. REEdI combines cutting-edge content delivery methods with immersive technologies and flexible learning approaches to deliver a programme of self-directed and personalised learning for engineering professionals within the manufacturing sector in Ireland. Within the REEdI framework, students navigate an interactive learning map and engage with subject branches, choosing material to suit their individual needs. REEdI has three central pillars: eLearning, projects, performance planning and review.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > REEdI has introduced the Engineers in Residence to innovation which brings industry and academia collaboration into practice through these formalised posts. These posts are appointed to industry engineers and provide quality industry partnership to ensure that engineering curricula keeps pace with industry needs.
- > REEdI Staff and subsequently first year REEdI Student engineers engaged in a session on student entrepreneurship and innovation in December 2022. The topics and initiatives presented to the students included the MTU innovation challenge, the MTU Prize for innovation and the student accelerator programme Student Inc.
- > All students and faculty staff have access to hardware and software such as META Quest 2 VR headsets, drones, LiDAR scanners, and 3D imaging technologies.
- > The project team plan regular reviews of emerging technologies and research to inform the project.
- > Project plans are in place to partner with third-party partners to create and distribute an access model for the creation of immersive content.
- > The project has introduced several immersive practical lab solutions currently available, including Tensile Strength Testing.
- > The program is also leveraging industry partners to deliver solutions that span multiple disciplines, ranging from 3D scanning, 360 videos and imagery including drones, LiDAR technologies for creating digital twins, and solutions to create immersive learning content.

In terms of the alignment of the project, REEdI supports the following government policies as they relate to the manufacturing sector in Ireland:

- > Ireland's Industry 4.0 Strategy (2022-2025)
- > Future Jobs 2019
- > Enterprise Renewed 2025
- > National Development Plan 2018-2027
- > Innovation 2020
- > Future Skills MedTech Report 2020
- > Future Skills Requirements of the Manufacturing Sector 2020
- > Technology Skills Plan to 2022



The REEdI project has developed an agile and innovative framework for the design, development and delivery of engineering education in Ireland.

Source: REEdI project submission



The project has built on the success of world-leading cutting-edge models of engineering pedagogy to deliver a transformative programme of self-directed and self-scheduled learning for the next generation of engineers.

Source: REEdI project submission

Management

The Steering Committee Terms of Reference (TOR) covers membership, responsibilities, quorum, proxies, meeting schedule for duration of the project, and general terms. In addition, the REEdI Governance policy was developed covering the high-level roles and responsibilities of the Steering Committee, Operational Excellence Committee (OEC), the Operations Core Project Team (O-CPT) and the Industry REEdI Curriculum Development Working Groups/ Workshop membership (CurDevWGs). The policy also documents reporting structure and communication methods and frequencies.

Conclusion

Indecon's conclusion is that the REEdI project has successfully been established, governance and project management structures created, and that overall delivery is on target. HCI funding provided has allowed for the REEdI Engineers in Residence concept, which is key in providing the quality of industry partnership required to ensure that engineering curricula keeps pace with industry needs. It is also a key concept in ensuring a successful work placement for student engineers and in ensuring engaged industry partners. The funding has also allowed the recruitment of a dedicated Engagement Officer to work with REEdI students and ensure student success and engagement throughout their programme.

Building Change

6.18 | Building Change: Designing a Resilient Future through Architecture Education

Introduction

The six Schools of Architecture in Ireland (Technological University Dublin, University College Dublin, the University of Limerick, South East Technological University, Atlantic Technological University and the Cork Centre for Architecture Education, a joint initiative of University College Cork and Munster Technological University), have formed a national strategic partnership to deliver the Resilient Design Curricula for 21st Century Professionals project. The project has two main focus areas: reconfiguring the professional curricula in architecture to empower future graduates with the knowledge, skills and, most importantly, the mind-set, to address the sustainability challenges society faces; and the provision of related Continuous Professional Development (CPD) to support educators, architecture graduates and those in related fields.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project. A selection is presented below.

- > Student pilot project “The Constructive Idea” includes technological advances in design and construction such as material prototyping and digital fabrication tools.
- > Climate Studio software runs environmental modelling simulations of existing buildings and models for proposed design.
- > Multidisciplinary workshops are held between staff and students of architecture and sustainable engineering exploring existing city blocks in Waterford City under headings of Energy Assessment and Sustainable Communities. Problems were identified and potential improvements visualized. New methodologies of analysing sites were developed.

In terms of the alignment of the project, Building Change supports the following government policies as they relate to the manufacturing sector in Ireland:

- > UN Sustainable Development Goals 2030: Climate Action (13.3) and Sustainable Housing (11.1)
- > Ireland’s Climate Action Plan
- > Housing for All

Management

A Steering Board has been formed and is accountable to the TU Dublin President's Group through the TU Dublin HCI Pillar 3 Programme Board. The Steering Board has established two subcommittees: the Architecture Design Studio subcommittee and the CPD subcommittee, which have provided frameworks to coordinate the studio pilots activity and the CPD activity, respectively. The Steering Board is currently working towards setting up an Industry Advisory Board. A Consortium Agreement has been developed.

Conclusion

Indecon's conclusion is that the Building Change project has successfully been established, governance and project management structures created, and that overall delivery is on target. It is too early to identify definitive impacts, given the project has only been running since March 2022. However, the project team report that it has already improved academic cooperation. The project brings all the Schools of Architecture in Ireland, with the aim of refocussing the architecture curriculum to have a sustainability focus.



Students collaborate to develop their skills and techniques in responding to project objectives around climate action and the housing crisis.

Source: Building Change project submission

6.19 | Sustainable Futures

Introduction

The Sustainable Futures project has a focus on climate action, sustainability, and the national and global policy objective of achieving net zero in industry and enterprise. Sustainable Futures is led by University College Cork in collaboration with Maynooth University, Atlantic Technological University and multiple industry partners. The project involves the co-development of a systemic and integrated suite of new courses under the theme of Sustainability in Enterprise: Delivering a Low Carbon Future, designed to respond to emerging priority skills needs for enterprise during the transition to a circular and clean economy; deliver opportunities to diverse learners; and, be delivered in varied formats exploiting learner-centered approach, peer-to-peer, experiential and reflective learning opportunities and flexible delivery capacities of the partners. The programmes, community and collaborative environment are producing leaders who are equipped and empowered to lead the transition a sustainable, net zero and nature-positive future and become transformative agents of change.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > Innovation stems from the programme's inter-disciplinary and inter-institutional composition nature, new innovative programmes established include the PGCert/MSc in Sustainability in Enterprise, which is informed by latest developments in the area.
- > The Sustainable Futures project is developing a range of virtual learning experiences that would be difficult or dangerous for students to have in real life, enabling wider access to these learning experiences inside and outside their learning environments. For example, this may include a tour of water treatment plant or a virtual visit to an underwater habitat.
- > Flexible and stackable course offerings align innovation and agility with national strategic objectives, and future skills needs for society and the economy. The project is developing Micro Credentials and jointly delivering courses across UCC, MU and ATU.
- > The project is developing practical and pragmatic not-for-credit Continual Professional Development (CPD) offerings, including the Transformational Leadership in Sustainability senior executive education programme in collaboration with the Irish Management Institute.
- > The range of courses are available for all levels and aimed at individuals, enterprises and industry at every stage of their sustainability journey.

In terms of the alignment of the project, Sustainable Futures supports the following government policies:

- > Sustainable Futures has as a central focus the Irish Government's Climate Action Plan.
- > The team is further working with the NCCA and Green Campuses on the implementation of the Second National Strategy on Education for Sustainable Development (ESD) to 2030.

- > Sustainable Futures actively contributes to Ireland’s Enterprise 2025 policy by anticipating future ways of working and resilient skills development meeting enterprise needs.
- > In terms of the National Skills Strategy 2025, the enterprise-informed educational offerings aim to be responsive, address skills gaps in Engineering, Environmental Science, Renewable Energy, Retrofitting Occupations and broader skillsets.

Management

The Sustainable Futures project is led by UCC, with MU and ATU as co-leads, representing a broad geographical spread. MIT is also providing international leadership on the project. The academic leads and lecturers are from various sustainability areas within Environmental Engineering, Environmental Science and Business/Management. Sustainable Futures aims to foster sustainability not just in the curriculum, but also in the management and governance of institutions, enhancing institutions’ role as effective learning environments. The project has created a governance structure which aims to set out performance criteria and governance arrangements. An Independent Advisory Board decides when independent scrutiny of project and project management system is required, and implements such scrutiny accordingly. There is a structure for detailing risks and issues, which can then be elevated to appropriate levels as required by the project. The project team also aim to foster a culture of improvement and of open reporting and internal disclosure. The structure aims to ensure that project stakeholders are engaged at the level that is commensurate with their importance to the project and organizations, and in a manner that fosters trust and collaboration.

Conclusion

Indecon’s conclusion is that the Sustainable Futures project has successfully been established, governance and project management structures created, and that overall delivery is on target. HCI funding provided has allowed for economies of scale, as work will not be replicated across the three HEIs. For example, the jointly delivered PG Cert/MSc in Sustainability in Enterprise programme brings together complementary expertise from three HEIs. The value added of the HCI funding has also allowed for the development of physical spaces used for education, research, citizenship and outreach activities and initiatives at UCC, and would not have otherwise been renovated.

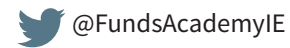
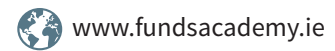
Sustainable Futures Lead Dr Marguerite Nyhan attended COP27 with the aim of bringing the experience and knowledge gained at these global climate negotiations back to the Postgraduate Certificate Sustainable Futures /MSc in Sustainability in Enterprise students.

Source: Sustainable Futures project submission



Panel discussion entitled ‘Sustainability in Enterprise: Delivering on a Sustainable, Net Zero & Nature-Positive Future’ chaired by Dr Marguerite Nyhan at the Sustainable Futures Lab at University College Cork. Panellists included Caoimhe Donnelly from CIE Group, Dr Kevin Marshall from Microsoft, Prof Frances Lucy from Atlantic Technological University, Prof John Cullen from Maynooth University and Robert O’Mahony from Logitech.

Source: Sustainable Futures project submission



6.20 | The Funds Academy

Introduction

The Funds Academy was established to promote executive education and development within the investment fund industry. The academy represents a partnership between SETU, the lead partner, and MTU, the secondary educational partner. The first project was to develop and deliver a Masters in Investment Fund Administration. The programme delivers joint conferences targeted towards individuals working in the Investment Fund sector and to provide other specialised programmes that promote executive development. To help those deciding on their career, the project promotes the investment fund administration sector as a career option for undergraduates. The Funds Academy aspires to impact the national discourse on investment fund education and to develop expertise in executive education and development in the investment fund sector.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > The academy operates on a dual delivery model, whereby each module has a core lecturer but topics are delivered between academic lecturer and a ranges of relevant guest speakers including many enterprise guest speakers.
- > The academy is addressing regional visibility challenges facing the industry. The project has brought all the regional fund administration companies together to raise their regional profile, and alert undergraduate students of the industry and the opportunities that exist within their region.
- > In addition to video conferencing software such as Zoom and GatherTown and the instructionally designed Virtual Learning Environment, Moodle, the Masters in Funds Administration has integrated the latest communicative technology to benefit the students.
- > The academy undertook research into issues causing significant gender imbalance in its cohort and designed modifications to the programme to improve the gender balance. Impact was significant.

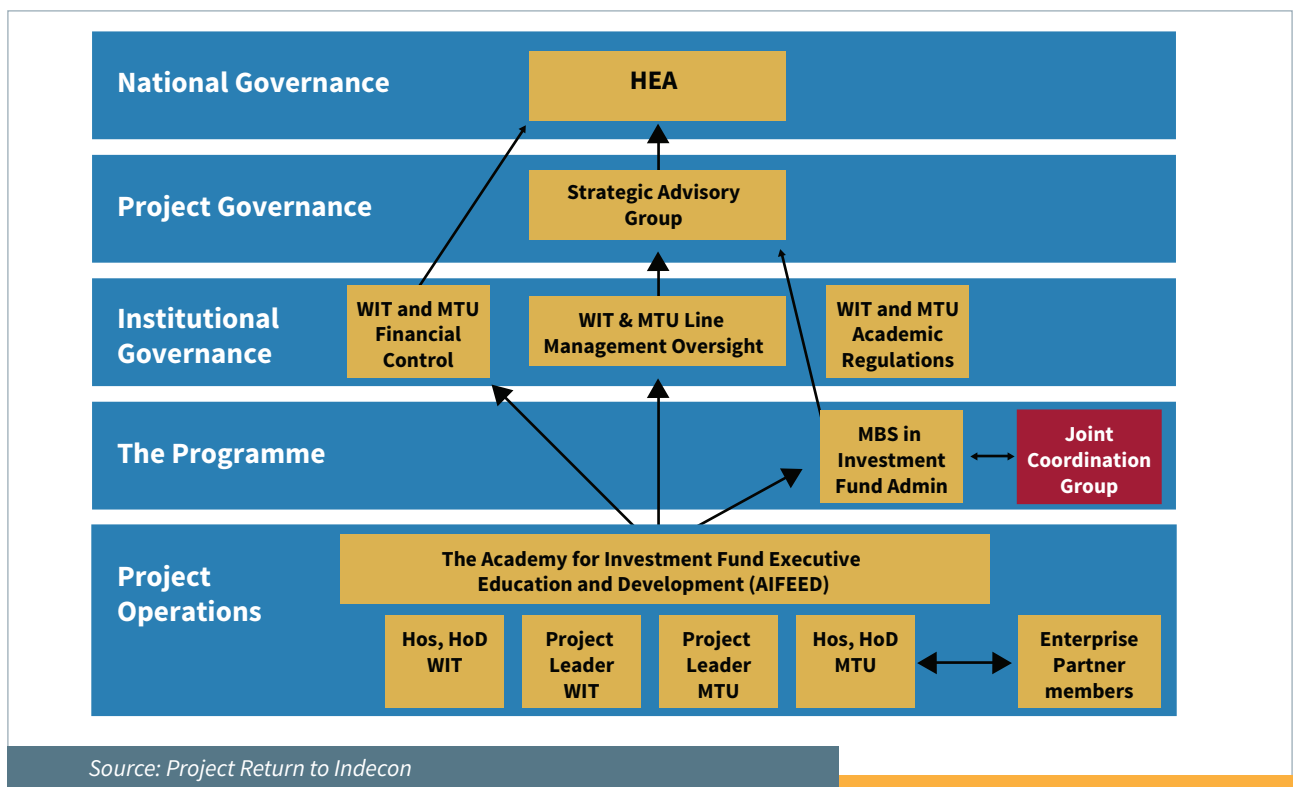
In terms of the alignment of the project, the Funds Academy supports the following government policies:

- > Ireland for Finance (DoF 2019)
- > HEA National Access Plan 2022-2028

Management

The original governance structure as established by the programme is shown in the figure below, led by a Strategic Advisory Group. The governance processes has since evolved, as the Joint Coordination Group has not been necessary. The purpose of this mechanism was to ensure that consistency was maintained between the programmes in both institutions and that any issues could be easily resolved. In practice, the project leads are in daily communication and the module facilitators have also worked well with one another. Any issues are resolved without the need to activate a formal mechanism. There are also formal academic processes including periodic programme boards to ensure that any issues can be addressed.

Table 6.2: Governance Structure – The Funds Academy





A conference (It's FUNDamental 2023) was hosted in Hotel Minella, Clonmel, this May to bring together over 60 industry representatives and both MTU and SETU Masters of Investment Fund Administration cohorts. Senior speakers from industry highlighted key topics such as ESG, digitisation and outsourcing in the funds sector.

Source: Funds Academy project submission

Conclusion

Indecon's conclusion is that the Funds Academy project has successfully been established, governance and project management structures created, and that overall delivery is on target. HCI funding provided has already allowed both universities to allocate resources and develop expertise in a specialised area.

6.21 | UL@Work

Introduction

UL@Work offers a range of online programmes co-designed with industry to enable upskilling and reskilling for professional development. The aim of the programme is to provide a toolkit of learning to apply within the workplace. These courses are developed to be flexible, part-time and online to suit working professionals. This suite of programmes aims to support economic progress in the context of a greater proliferation of digital technologies, and to encourage professional growth.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > UL@Work has launched the Masters in Professional Practice that allows learners to design their own interdisciplinary Masters by combining stackable postgraduate diplomas in over 30 fields.
- > UL@Work implemented a new virtual learning environment, Brightspace, at UL.
- > Modules are used as exemplars of online/blended pedagogy for the rest of the university.
- > Development of advanced digital skills of people in the labour force, with focus on SMEs.
- > Examples of successful proposals include REBOOT SKILLS under the Digital Europe Programme (DIGITAL), supporting the development of advanced digital skills of people in the labour force, with a focus on SMEs, both for managers and employees.
- > Professors of Practice ensure that industry co-design and delivery becomes embedded in university policy.

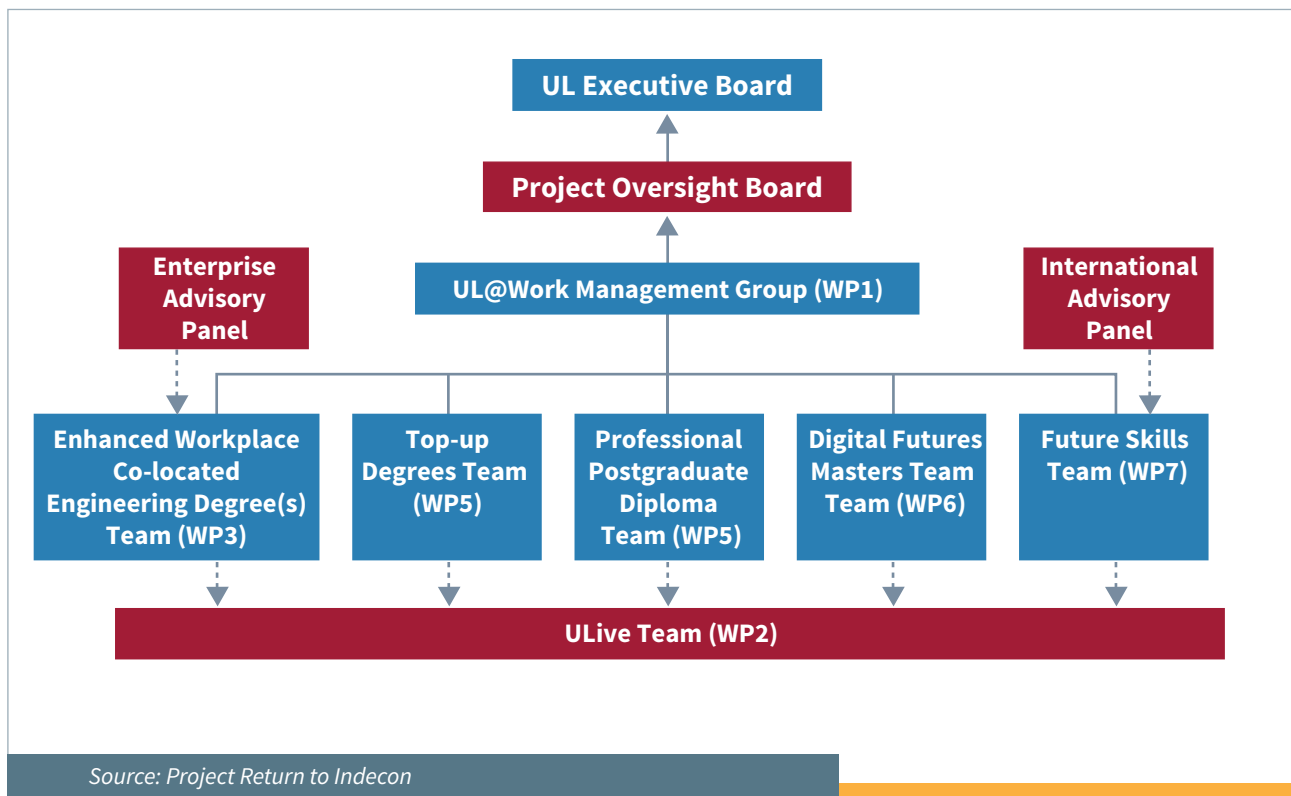
In terms of the alignment of the project, UL@Work supports the following government policies:

- > Digital Europe education calls
- > Ireland's National Skills Strategy 2025
- > Future Jobs Ireland 2019
- > Projections for Demand 2018-2040
- > Technology Skills 2022
- > Ireland's ICT Skills Action Plan
- > EU Digital Skills Charter 2020-2027

Management

The UL@Work governance structure is depicted in the figure below, though it should be noted that the project team is currently completing an internal midterm review after consultation with enterprise, academic colleagues, and UL Leadership and will be revising this structure. Some of the reasons identified for change: (1) Increase engagement of Course Directors Enterprise Advisory Panels; (2) Enhance the critical engagement from Enterprise Advisory Panels in order to acquire feedback that is implementable in programme design; (3) Delayed interaction with International Advisory Panel due to COVID-19; and (4) Realignment of Work Packages.

Figure 6.6: Views of Enterprise partners who have Engaged with UL@Work



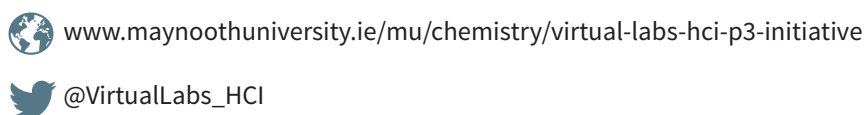


((L-R) Professor Martin Hayes, Professor of Digital Technologies and Academic Lead, UL@Work Project, and Professor Ian Solomonides, Victoria University, Melbourne, at the UL@Work Human Capital Initiative 'Transforming Higher Education' conference in University of Limerick City Center Campus.

Source: UL@Work project submission'

Conclusion

Indecon's conclusion is that the UL@Work project has successfully been established, governance and project management structures created, and that overall delivery is on target, with adjustments to timelines. HCI funding provided has already facilitated new programmes in subjects such as Climate Change and Sustainability, Strategic Leadership, and Law and Technology. New micro-credentials are embedded in the programmes and can also be taken separately.



6.22 | Virtual Labs

Introduction

Virtual Labs is a consortium of five higher education institutions: Maynooth University (MU), Technological University of the Shannon: Midlands Midwest (TUS), Dundalk Institute of Technology (DkIT), University College Cork (UCC), and Dublin City University (DCU) on the use of virtual laboratories as a teaching tool for the chemical sciences. This ambitious venture, with enterprise partners and education technology providers has the aim to impact 4,500-5,000 students across the five partner higher education institutes over its lifetime. The project entails a new curriculum aimed at providing learners with enhanced technical and work readiness skills of relevance to the modern chemical sciences sector.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > Virtual Laboratory Resources are used to enhance and improve the work readiness of graduates and the teaching and learning of practical science across five HEI partner institutions with content co-created by staff, students, and enterprise partners.
- > The project is developing, at UCC, a dedicated Science Studio which will provide a state-of-the-art facility to record practical elements of experiments, which can be used across the higher education system.
- > LearnSci Simulation software has been licenced as an Institutional site licence at MU, and TUS. BeyondLabz licences have been purchased at UCC. Labster licences have been purchased at MU, DkIT, TUS and UCC.
- > Bespoke software development requires external expertise, and a software development service was procured by DCU from PNX Labs to meet requirements for the development of immersive content for technical training on analytical instrumentation. Graphpad/Prism software has also been purchased to support the data analysis associated with the project. To date, 12 Oculus Quest VR Headsets have been purchased for the project with the aim to avail of bespoke content and commercially available software applications relevant to the teaching of chemistry/biosciences.

In terms of the alignment of the project, Virtual Labs supports the following government policies:

- > Virtual Labs supports the National Strategy for Education to 2030
- > Skillnet Ireland 2021-2025 Statement of Strategy, “Transforming Business through Talent”
- > National Recovery and Resilience Plan
- > UN Sustainable Development Goals

Management

A Team Charter was agreed by the Steering Committee on the project outlining its Mission and Objectives, Composition and Roles, and Ways of Working. A formal inter-institutional collaboration agreement was entered by senior management in 2021. It sets out an agreement on the gathering, storage, and sharing of data and resources associated with the project. There is a dedicated Teams Repository for the project. Each partner HEI takes a lead on running one of the five work packages associated with the project. Partners have agreed protocols for creating the HCI programme and financial reports. The finance office at Maynooth University supports the project in the financial management and reporting, and a risk management structure is in place.

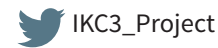
Conclusion

Indecon's conclusion is that the Virtual Labs project has successfully been established, governance and project management structures created, and that overall delivery is on target. HCI funding provided has enabled significant collaboration between the five participating HEIs based on sharing resources and best practice in teaching and learning.



Virtual Labs enhances engagement and student success in the learning of practical techniques and the understanding of key concepts in the bio/chemical sciences through a blended approach complementing a real laboratory, face-to-face, experience with a virtual laboratory experience.

Source: Virtual Labs project submission



6.23 | IKC3 – Ireland’s Knowledge Centre for Carbon, Climate, and Community Action

Introduction

Ireland’s Knowledge Centre for Carbon, Climate, and Community Action (IKC3) project is building a national platform for the development of knowledge and skills to support the transition to a decarbonised economy, sustainable. The consortium, led by Munster Technological University in collaboration with Trinity College Dublin and University College Dublin, involves a national and EU network of partners, including the European Institute of Innovation and Technology Climate-KIC, Sustainable Innovations Spain, European HEIs, companies, enterprise clusters, local government, civic and social innovators. The project aims to take an innovative approach to education, integrating state of the art pedagogies and learning pathways. Approaches include stackable micro-courses, summer schools, dual and collaborative learning via deep learning demonstrations, micro-credentials and digitisation.

Innovation & Alignment

There are a number of examples of innovation which have been supported by the project.

- > The Multi-University Pathway approach to curated learning selecting modules from across universities is a new way of accessing and delivering content, providing learners with autonomy to design their learning, and stack their credentials.
- > The Turas Summer School is upskilling students in systems thinking, innovation, and entrepreneurship.
- > The Deep Learning Demos are delivering significant agility in the speed in which advancements in knowledge can reach students, industry, and the region via the focus on a regional challenge and the provision of learning packages which will support and enable the innovation process.

In terms of the alignment of the project, IKC3 supports the following government policies:

- > National and EU-wide climate and sustainability policy
- > Ireland’s Climate Action Plan 2023

Management

The project governance structure consists of an Executive Committee and a Steering Committee. The team in each academic organisation reports to the project leads in that location. As detailed in the Consortium Agreement, the IKC3 project is managed by the core project team, including key project personnel from MTU, TCD, and UCD. Individual Work Package groups from across the partner organisations meet regularly to progress project tasks, usually structured as working groups involving key team members per task, e.g., Skills Assessment, Turas Summer School, Module Development, Community Engagement, and Communication and Outreach. The Executive Committee's role is to support key decision making on budgets, project design modifications and project operations. The Steering Committee is comprised of external experts from the extended project network.

Conclusion

Indecon's conclusion is that the IKC3 project has successfully been established, governance and project management structures created, and that overall delivery is on target after minor delays. The project is in its early stages.





6.24 | Recognition of Prior/Lifelong Learning (RPL)

Introduction

By recognising the often invisible skills, knowledge and expertise that a person has gained in the workplace and life, RPL can help to meet existing and emerging skills needs at a faster pace by avoiding the duplication of learning. The RPL project is a collaboration between the Technological Universities, the previously established Universities and the Institutes of Technology. It aims (i) to strengthen and streamline RPL policy, practice and procedures across the sector, (ii) to enhance the capacity of staff to provide RPL and (iii) to work with enterprise to explore opportunities to harness RPL for the upskilling/reskilling of workers. The vision of the project is that RPL will be an integral part of the higher education system, widely understood, and utilised as a pathway for learners to gain entry, advanced entry, credit and exemptions.

Innovation & Alignment

There are a number of examples of innovation which have been supported by this national project.

- > A HEI partner is engaging with enterprise partners to launch the Sustainable Farming Academy. Many farmers are unaware of the rich environmental knowledge they already possess. Here RPL will be used to identify these learnings, accredit them, and then enhance and build upon them to optimise sustainable farming practices.
- > An additional HEI partner is developing organisational learning by harnessing Microsoft 365 functionalities to develop dedicated RPL resources for staff in their HEI.
- > One partner is developing an online platform allowing RPL coordinators to work virtually with potential RPL applicants from initial query through to portfolio (evidence of learning) creation.
- > All 14 partners now have dedicated webpages providing information on RPL opportunities, which links to the new 'national' website for RPL - www.priorlearning.ie
- > Innovations are identifiable in one HEI through a series of approaches including mapping of industry competencies to higher education programmes and pathways including how best to meet the needs of sectors such as engineering, health, and leisure/hospitality.
- > One HEI partner is developing training for docents in the museum sector, while also engaging with dance practitioners and dance-based civil-society organisations to create educational and training opportunities in choreography, using RPL to recognise and build on expertise.

In terms of the alignment of the national project, RPL supports the following government policies and priorities:

- > Ireland's National Skills Strategy 2025
- > Future Jobs Ireland 2019

- > National Access Plan 2022 - 2028
- > Programme for Government “Our Shared Future” (2020)
- > HEA Policy Platform: Progressing A Unified Tertiary System for Learning, Skills and Knowledge (2022)
- > Implementation of the European Council 2012 Recommendation on the Validation of Non-Formal and Informal Learning
- > Europe 2020 Strategy and Education and Training

Management

The project’s governance and management structures are designed to support formal and informal engagement and collaboration between the partner institutions and the PMO. Several examples of groups include the ‘Project Network’, who come together monthly to share learning; the ‘TESTER’ subgroup who led the development of a ‘Technical Definition’ of RPL to guide institutional data collection and finally the RPL for Enterprise pop-up group who designed the RPL for Enterprise ‘Think In’ Forum for enterprise partners, higher education leaders and practitioners, and policymakers.

Figure 6.7: Recognition of Prior/Lifelong Learning - Project Governance and Management Structures



Conclusion

Indecon's conclusion is that the RPL project has successfully been established, governance and project management structures created, and that overall delivery is on target. Through the implementation of agreed governance and management structures coupled with resources for dedicated staffing (0.5FTE) in each HEI and at a sectoral level (PMO), the project has provided a structure to support sectoral collaboration regarding RPL. In so doing, the project has helped address a range of strategies and policies, in skills, higher



Roundtable discussion at the RPL for Enterprise Think In Event

Source: RPL project submission

OVERALL CONCLUSION

Indecon's overall conclusion to this interim evaluation of the HCI Pillar 3 projects is as follows:

Overall, the programme is exceeding its targets. It has exceeded targets on the creation of new courses (1,000), the delivery of additional student places (over 4,000) and the number of learners impacted (over 23,000).

All 24 Projects have been successfully initiated and are largely on target, with some adjustments made to timeline for a number of projects.

Governance structures have been established at project level, while the HEA has instituted a strong level of monitoring of progress against pre-agreed targets.

External collaboration with external enterprise partners is a key element for many projects, with strongly positive responses reported by industry. Internal collaboration within the HCI Pillar 3 programme between projects is also evident.

There are numerous examples of innovation in the projects, including in terms of new technologies (both hardware and software); learning methods; and curriculum design.

