

College Innovation Network

Research project funded by a grant
from The Gatsby Charitable Foundation

Final report

October 2024

Employer Engagement
with Colleges and the
Adoption and Diffusion
of Innovation

In partnership with:

Edinburgh College

North East Scotland College

UHI Perth

West College Scotland



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Executive Summary

The College Innovation Network (CIN) was established in 2023 to support and promote the role of further education colleges in Scotland with the adoption and diffusion of innovation. As a starting point CIN decided to research the depth and nature of college engagement with small to medium sized enterprises (SMEs) focusing on how colleges could support innovation in those businesses.

The research included a range of stakeholder engagement activities and two questionnaires, which captured the perspectives of both the businesses and the colleges.

This study found that while Scottish colleges engage with employers on a range of services, innovation support is still at an early stage because capacity is limited and funding streams are only now becoming available to the college sector. Survey findings also showed that some businesses are still confused by the innovation landscape, and they need help to understand what innovation means for their business and where they can go for help.

In their responses employers described the kind of innovation projects they wanted to engage with. This shows a clear demand for the practical support and academic expertise that colleges can provide. In turn, colleges showed a willingness to work with businesses but they identified challenges to doing this, such as limited academic and administrative capacity, and funding issues.

Main findings

The recommendations from the research can be summarised as follows:

- Government and its agencies should consider what changes are needed to policy and funding to enable colleges to support businesses to innovate. Only through the development of infrastructure and relevant sustained funding mechanisms will colleges' capacity be able to align with the ambitions of SMEs in the adoption and diffusion of innovation. This will drive productivity, growth and economic development.
- Colleges need to adopt a realistic and strategic approach to the delivery of innovation activities. They can learn from their Northern Irish peers who have incrementally increased capacity and expertise by having a strategic long-term plan and collaborating with others in the innovation ecosystem¹.
- Alternative delivery models, such as employing technical experts and using short-term contracts, can have a significant impact on innovation activities. This is particularly true for colleges who do not have the same flexibilities that universities have, such as contracted time for research and the benefit of having commercialisation teams.
- A collective approach to marketing and communication would help strengthen the college presence in the Scottish innovation ecosystem and increase understanding of the range of innovation support offered by colleges.

Further detail of the CIN recommendations can be found in the [Recommendations](#) section.

¹ The innovation ecosystem is the network of individuals, enterprises and institutions and the infrastructure that supports innovation.

Introduction



The College Innovation Network (CIN) was established in August 2023 with the aid of a Gatsby Charitable Foundation grant. Its objectives were to:

- establish a CIN that included colleges representative of different geographic areas and economic regions to research:
 - current employer engagement activities taking place across the innovation network
 - current activities focused on the adoption and diffusion of innovation
 - potential innovation hub models which could be adopted by the Scottish further education sector, aligning with the Scottish Funding Council's aspiration for entrepreneurial campuses
 - the Knowledge Transfer Partnership (KTP) programme and the barriers Scottish colleges experience to participating in the programme
- carry out ongoing stakeholder engagement and dissemination activities, such as meetings, workshops, online and face-to-face engagement

To develop the CIN in line with the expectations of the funders, as project lead, Edinburgh College approached business development colleagues across the sector. North East Scotland College, UHI Perth and West College Scotland became CIN partners. They committed to fully participate in the work, which began in August 2023 and was completed in March 2024.

Development and design of questionnaires

Having agreed on research goals, CIN partners designed and distributed two different questionnaires, one for employers and the other for colleges. The employer questionnaire was framed in the following context:

Innovation is the buzz word of the moment but what does it mean for business? It can be the process of introducing new ideas, methods, products, services, or processes that result in improvements or advancements within a business. Innovation does not always have to be the blue-sky ideas – it can be about incremental changes to improve processes and productivity.

The questionnaire had 23 questions, which were clear, concise and in language used by the target audience. Closed questions and predefined responses were used to make it easy to complete, but open questions and free text boxes were included for those who wanted to give more information. The closed questions were mandatory so all participants completed all questions.

The questionnaire for Scottish colleges was framed as:

A study to understand how colleges in Scotland engage with businesses; how we can strengthen our offering and understand innovation opportunities.

The college questionnaire had 22 questions that mirrored the employer questionnaire format, including offering the opportunity for participants to give additional information. Questions focused on the level of engagement they had with SMEs and the opportunities, challenges and barriers they had experienced for developing stronger connections with industry.

Both questionnaires were hosted on Microsoft Forms. A link was emailed directly to businesses and was shared with business groups, membership organisations, on social media and the college sector's Business Development Director Network.

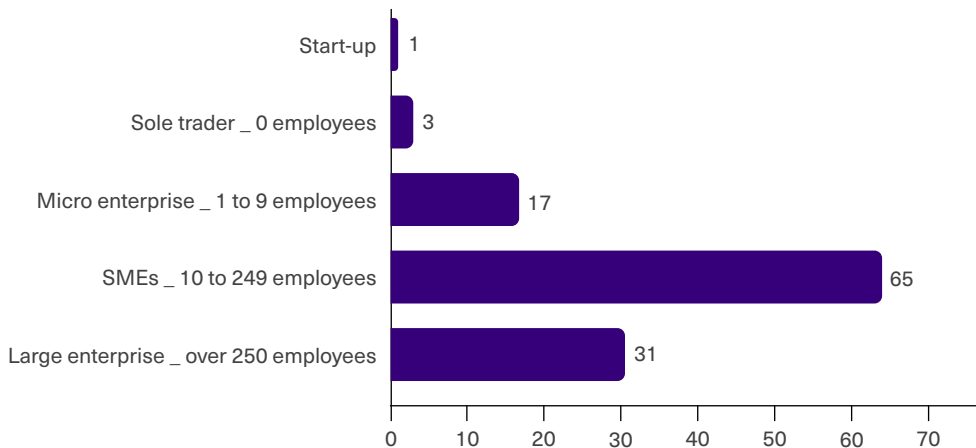
Questionnaires were tested and refined by CIN partners in collaboration with a small group of trusted stakeholders, such as the Association of Colleges, key employers and the Gatsby Foundation, in August 2023. The questionnaires were open for 14 weeks, from September to December 2023. There were positive response rates from 117 businesses with 86 of these working with a college and 14 out of 24 colleges surveyed. The charts in this report show the actual number of employers or colleges that responded to each question.

Questionnaire results and reflections

Employer survey

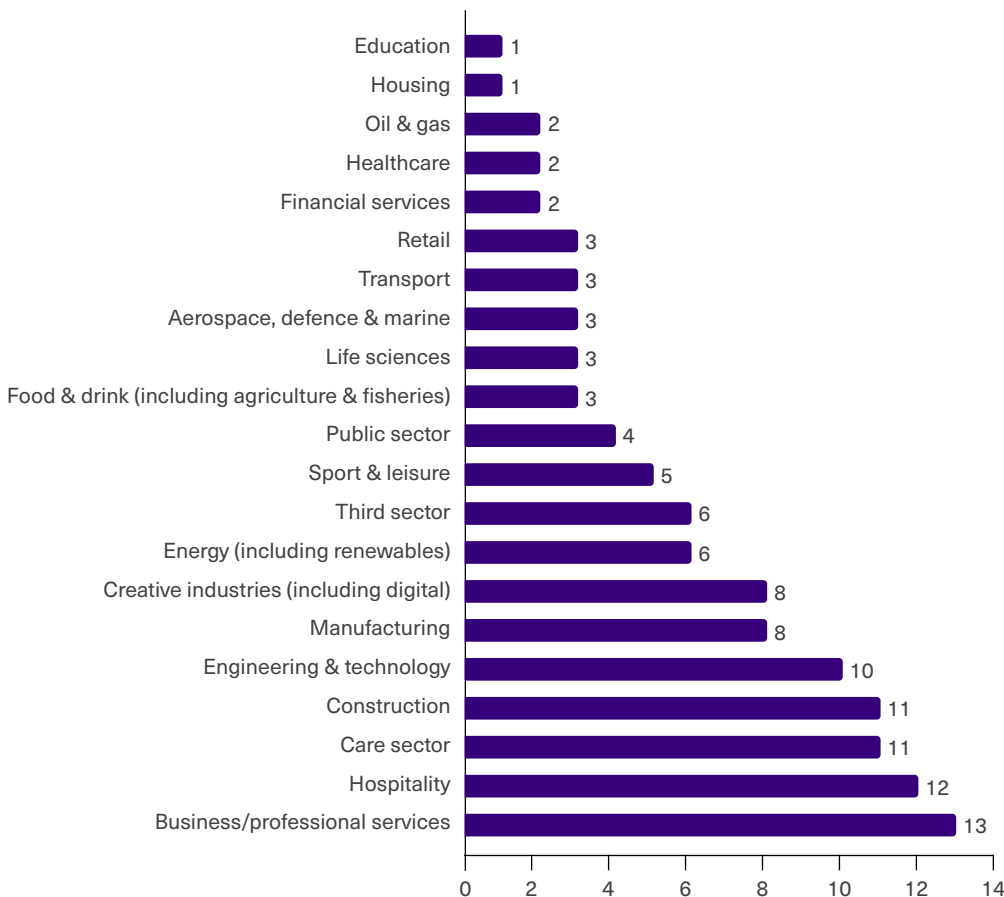
Of the 117 employers who responded, 70% (82 employers) were SMEs or micro-enterprises.

CIN questionnaire - employers



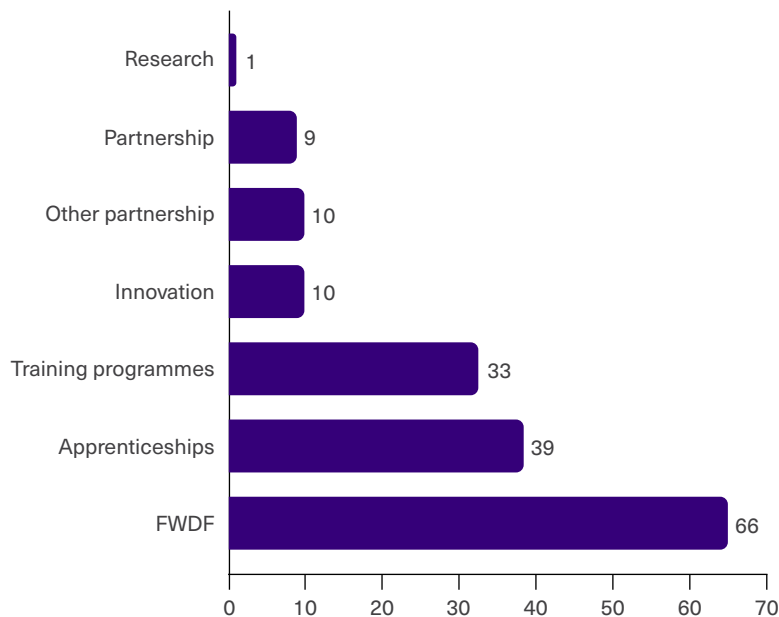
Scotland's leading industries were well represented, which shows the nature and reach of the business support provided by Scotland's colleges.

Business Sector



Employers were asked about the nature of their engagement with colleges and could select the predefined options that applied. A range of activities were highlighted, the most frequent was the provision of bespoke Flexible Workforce Development Fund (FWDF) programmes (56%), apprenticeships (33%) and staff training programmes (reskilling and upskilling) (28%). Thirty-one businesses were not actively engaged with colleges at the time of the survey.

Nature of engagement with colleges



The chart above shows that the FWDF was the way most employers engaged with colleges in late 2023. The FWDF:

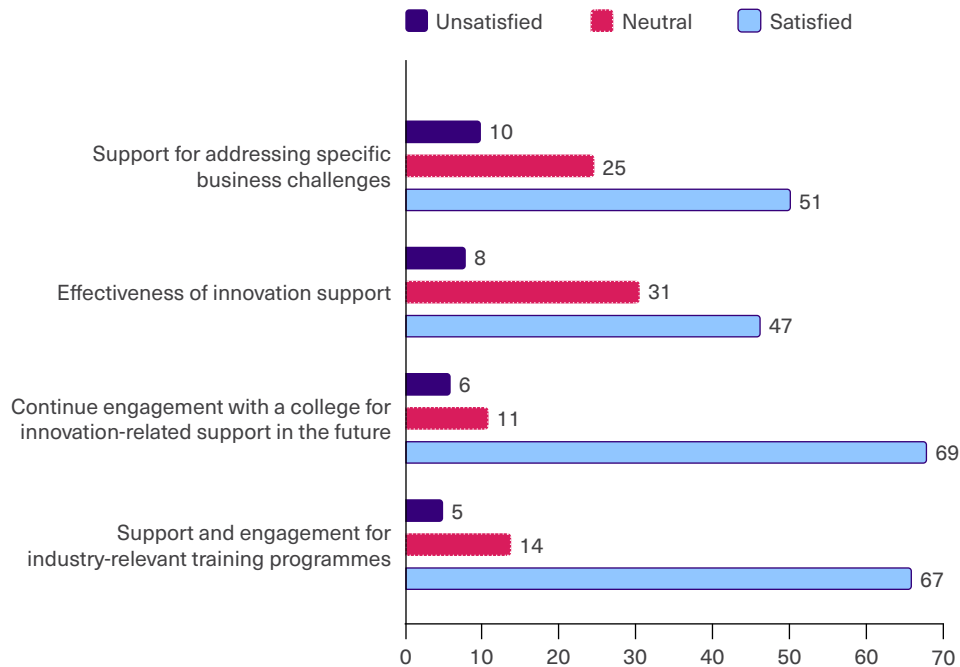
“enabled employers to address priority skills and skills gaps in their organisation by accessing funding to create training programmes that meet their needs”.

First piloted in 2016 to provide apprenticeship levy paying employers with workforce development training, the fund was expanded to enable SMEs to benefit from training. From 2022–23 levy-payers and SMEs could access funding through multiple training routes – local colleges, independent training providers and the Open University in Scotland. However, the FWDF was withdrawn as part of the Scottish budget announcement in December 2023, and the Scottish Funding Council confirmed that the programme would not be reinstated in 2024–25.

When asked about their satisfaction with their current college engagement (see chart below) the majority of the 86 employers that were working with a college, reported high levels of satisfaction with industry relevant training programmes (78%), support for

addressing specific business challenges (59%), and effective support to help their business adopt and share innovation (55%). Eighty percent said they wanted to continue working with their current college in the innovation landscape.

Level of satisfaction with college engagement



To better understand the potential scope and nature of college engagement, we asked employers what innovation project they would like to work on with a college.

Desired innovation engagement with colleges

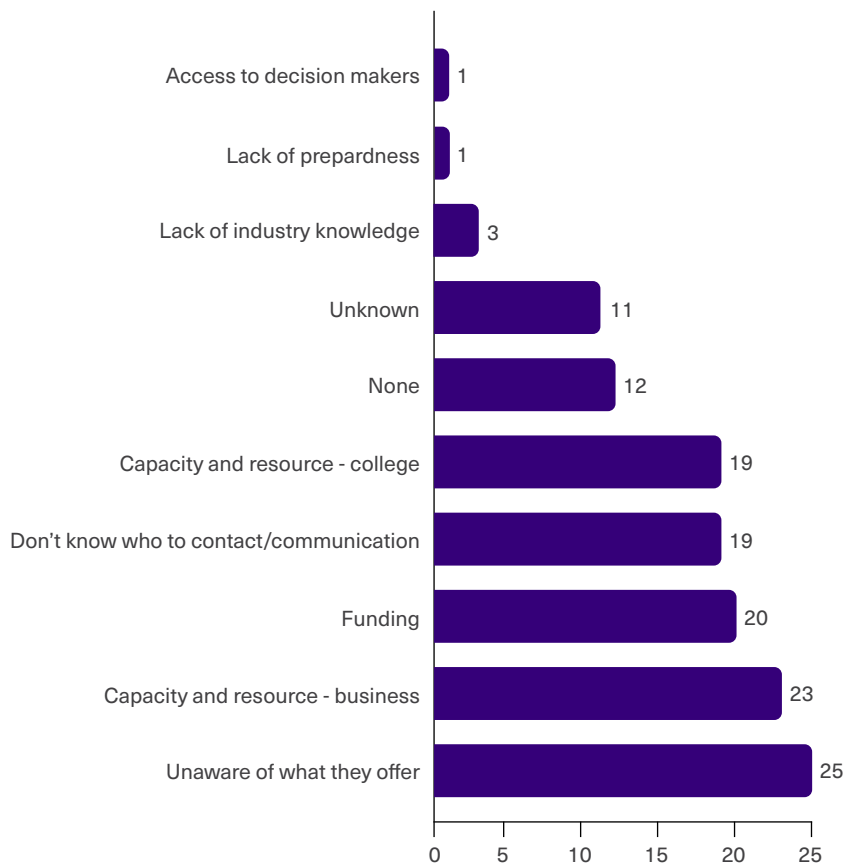


It is notable that 47% employers who responded to this question did not know what services or support were offered by colleges. Innovative training programmes and apprenticeships were requested by 22%, which suggests that the withdrawal of the FWDF has left a vacuum and that identified training needs are not being addressed. In addition, colleges should note that

employers highlighted a need to provide training on employer need and not based around the college timetable.

The response from employers about the barriers to engaging with colleges for innovation support was also striking: 31% did not know what the offer was.

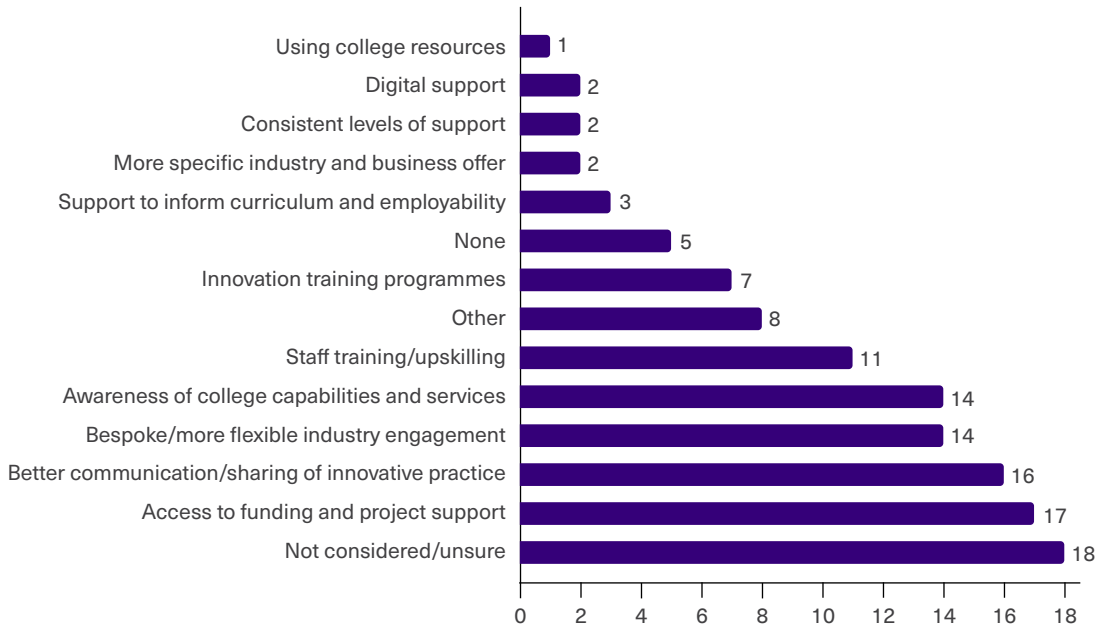
Barriers to engaging with colleges for innovation support



The questions about the barriers employers experienced (see chart above) and about what support or resources employers would like (see chart below) provided clear messages:

- employers do not know the full offer of college innovation support and have not considered how colleges could support or enhance business innovation
- employers do not know who to contact to discuss potential opportunities and are not aware of current practice
- capacity and resource are an issue for both colleges and businesses
- access to funding and project support is a barrier
- upskilling staff and innovation training are in high demand

Support required to enhance business innovation



Respondents could select multiple options. 15% percent of the 117 respondents did not know what support would enhance innovation in their business. However, the remaining respondents knew what support would help them. The most popular requests included having access to innovation funding and support with projects, the development of bespoke industry engagement mechanisms and the upskilling of staff. The responses also highlighted requests that could be quick wins for colleges: clear communication about the support and services available, a dedicated contact and a bespoke

sector-specific innovation offer. There were other potential quick wins in the responses shown as 'other' on the chart. These 'other' responses said it was an opportunity to engage with students and for potential recruitment opportunities.

The illustration below shows the barriers and challenges experienced specifically by SMEs when engaging with the innovation ecosystem, but particularly when engaging with colleges.



SMEs are clearly frustrated by not being able to get in touch with the right person to help them. Also they do not understand the type of college support that is available to them as well as access to appropriate funding or what funding is available to them. In addition to these major barriers, other issues highlighted by SME respondents include:

- the funding landscape is often not aimed at SMEs or colleges
- Fund matching required to qualify for grants, which is not viable for most SMEs
- competitions to win a grant are aimed at universities
- there is no funding progression route after the initial funding, when the viability of the concept or product has been proven
- the application processes are complicated and there is limited support

Engagement with others in the innovation ecosystem

Employers clearly articulated the challenges they faced in engaging with colleges to drive innovation, but it was also important to understand how other agencies had been successful in supporting innovation and what lessons could be learned from this. The below details the organisations that respondents engaged with to deliver innovation activities:

If colleges are to develop their role in the innovation ecosystem they must work with these organisations to better support SMEs, increase their understanding of the support already available and create opportunities for cross-referral, collaboration and partnership.

Organisation

Barclays Eagle Labs

BE-ST Construction Innovation Centre in Blantyre

Business coaching membership – low-level innovation advice

Business Gateway

CeeD

Chamber of Commerce

CodeBase

Engineering Construction Industry Training Board (ECITB)

Elite Technology

Independent consultants

Knowledge Exchange Hub

Local councils – business growth teams

National Manufacturing Institute Scotland (NMIS)

North Ayrshire Council Business Growth Team

Scottish Enterprise

Scottish Engineering

Skills Development Scotland

Scottish Sports Association – Just Go

Universities – University of Aberdeen, Abertay University, University of Edinburgh, Heriot-Watt University, Edinburgh Napier University, Robert Gordon University

In summary

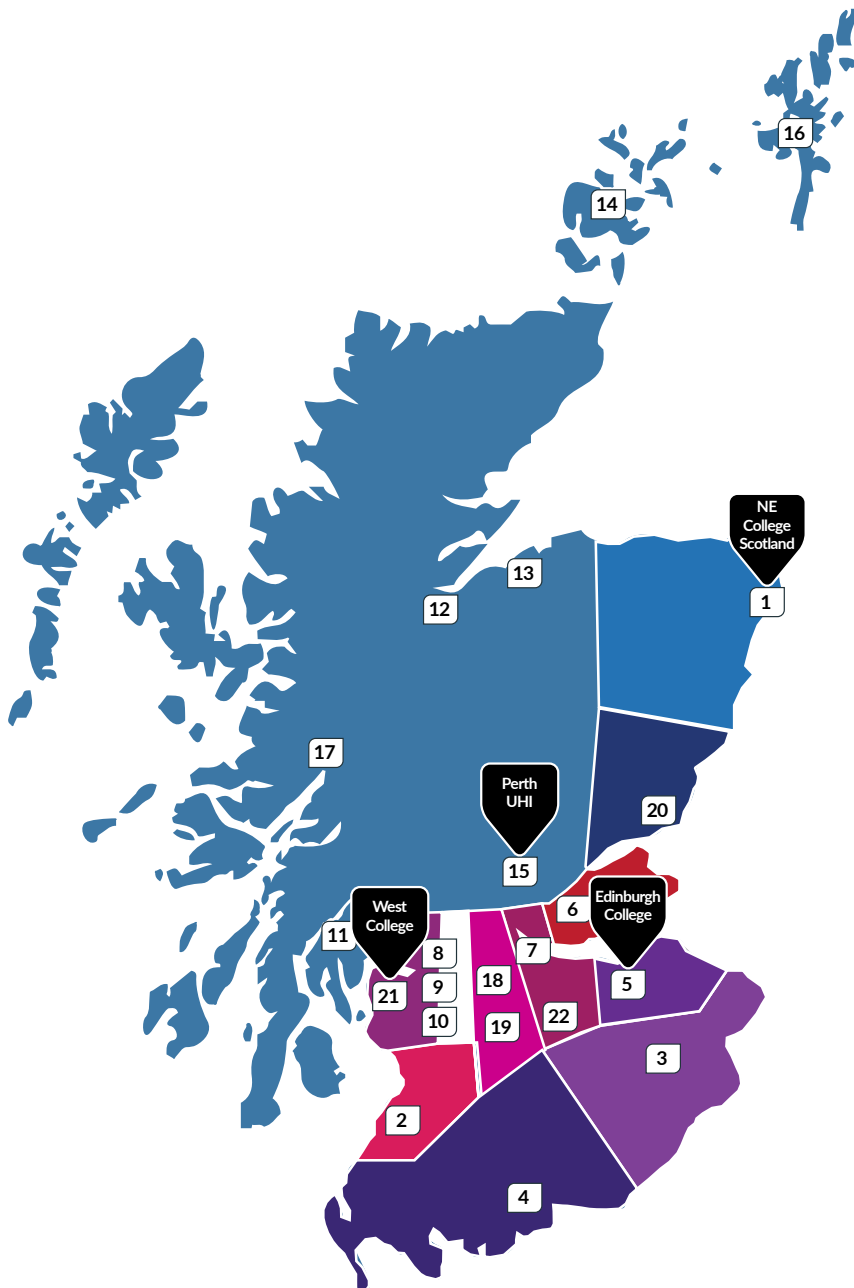
Scotland's colleges drive economic productivity. They contribute to economic growth directly, by improving the skills base available to employers, and indirectly, when those skills are used to innovate. Colleges successfully worked with employers in the delivery of the FWDF project, which had a focus on upskilling and reskilling the workforce. Those same employers want to innovate, grow and commercialise their ideas, but to do this they need to understand the wider innovation ecosystem, the services and support that are available and the role of colleges in helping them succeed. They want to know who to contact, what support they can get and what funding is available to them.

Interactions between colleges and businesses need to be more connected and colleges have to better understand the needs of businesses. This will help colleges respond to need and ensure that their training and upskilling offer remains up to date. The more that colleges partner with employers on industry-specific projects, the stronger their presence will be in the innovation landscape.

SMEs say they do not have enough employees to be able to work on innovation projects outside of their core business operations. Even those with capacity still encountered barriers, with respondents saying that the confusing landscape hindered engagement.

College partner survey

CIN partners represent four colleges from different geographic areas and economic regions, but colleagues recognised the need to understand the experience of other colleges to be able to fully gauge how the sector supports businesses to innovate and to assess how to strengthen the offering in line with the needs of employers and key industries. The geographical spread of Scottish colleges, with CIN partners highlighted, is shown below:



Region	College	
Aberdeen and Aberdeenshire	North East Scotland College	1
Ayrshire	Ayrshire College	2
Borders	Borders College	3
Dumfries and Galloway	Dumfries & Galloway College	4
Edinburgh and Lothians	Edinburgh College	5
Fife	Fife College	6
Forth Valley	Forth Valley College	7
Glasgow	City of Glasgow College	8
Glasgow	Glasgow Clyde College	9
Glasgow	Glasgow Kelvin College	10
Highlands and Islands	UHI Argyll	11
Highlands and Islands	UHI Inverness	12
Highlands and Islands	UHI Moray	13
Highlands and Islands	UHI Orkney	14
Highlands and Islands	UHI Perth	15
Highlands and Islands	UHI Shetland	16
Highlands and Islands	UHI North, West and Hebrides	17
Lanarkshire	New College Lanarkshire	18
Lanarkshire	South Lanarkshire College	19
Tayside	Dundee and Angus College	20
West	West College Scotland	21
West Lothian	West Lothian College	22

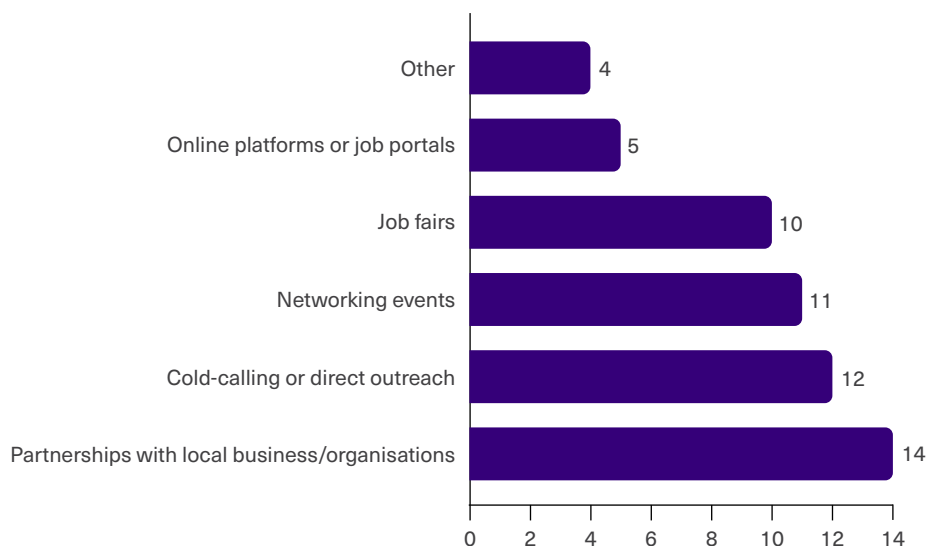
The college questionnaire was distributed through the Business Development Director Network in November 2023 and closed in January 2024. There are 24 colleges in Scotland and responses were received from 14 colleges: ten were from management staff, three were from other roles, which included business development staff, and one was from a member of support staff. All the college respondents said they worked closely with businesses, but that their ability to engage was impacted by a number of factors, such as capacity and geography.

The colleges that responded to the survey said they identify and approach employers using different methods including:

- working in direct partnership with local business/ organisations
- cold calling/direct outreach
- organising networking events
- job fairs

Many business development teams in colleges use cold calling as the main way to connect with new businesses. None of the college respondents mention a marketing campaign, direct marketing or a marketing strategy to engage with employers/businesses.

How colleges identify and approach employers for collaboration



The questionnaire asked what the main challenges were for colleges when trying to engage with employers and how those barriers were addressed. The results mirrored those of the employers' survey: capacity, funding and that the employer engagement landscape is cluttered and confusing with no clear messaging about what colleges can provide or who they should contact.

Main challenges colleges face with employer engagement



From the college perspective, capacity issues dominate. Feedback showed that while there is drive and keen interest in pursuing innovation projects, the necessary activity mostly happens outside of timetabled hours.

This is different for universities where the lecturer role is split across multiple interrelated activities, including teaching, research, administration and development. This gives them greater autonomy and the capacity to develop innovation programmes, particularly when it applies to their field of research.

By comparison, college academics are a restricted source of expertise, with no time during contracted hours to drive innovation projects. Because of this lack of capacity, innovation development activities have not been able to be a focus for colleges.

Survey results indicate that colleges adopt various strategies to overcome these barriers by:

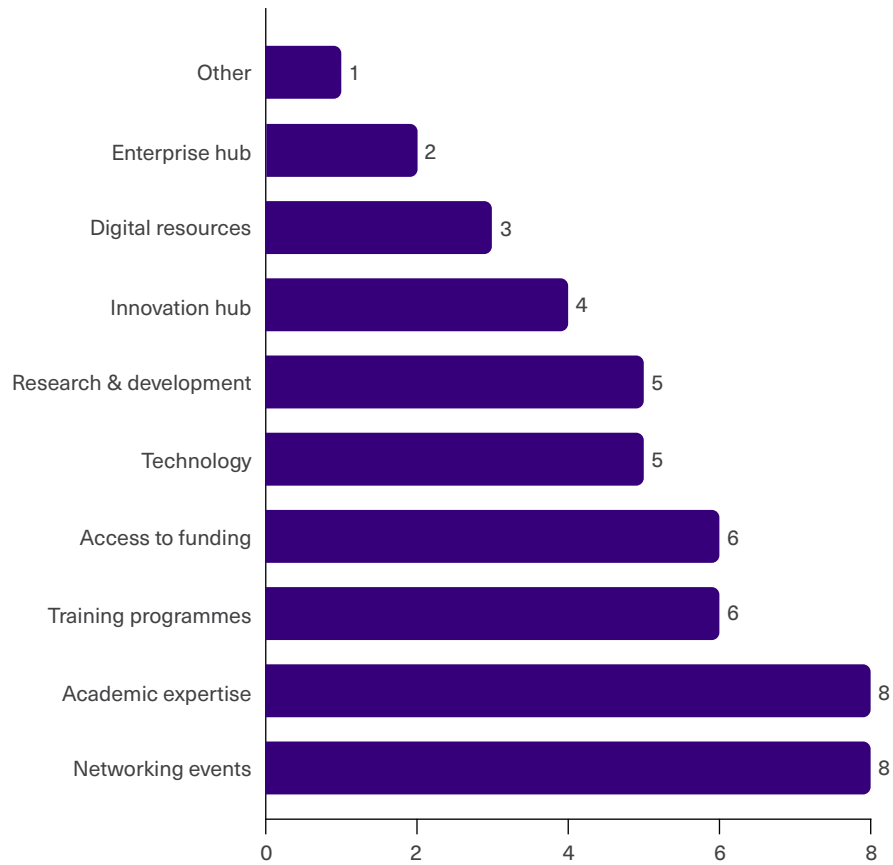
- building strong relationships with employers
- having a dedicated team driving activities
- accessing alternative funding sources to overcome capacity and financial barriers

How colleges overcome barriers



While these approaches help colleges overcome the barriers to engagement, college respondents were aware of a range of resources available for employers that could help them to adopt and diffuse innovation.

Resources for employers to help them adopt and diffuse innovation

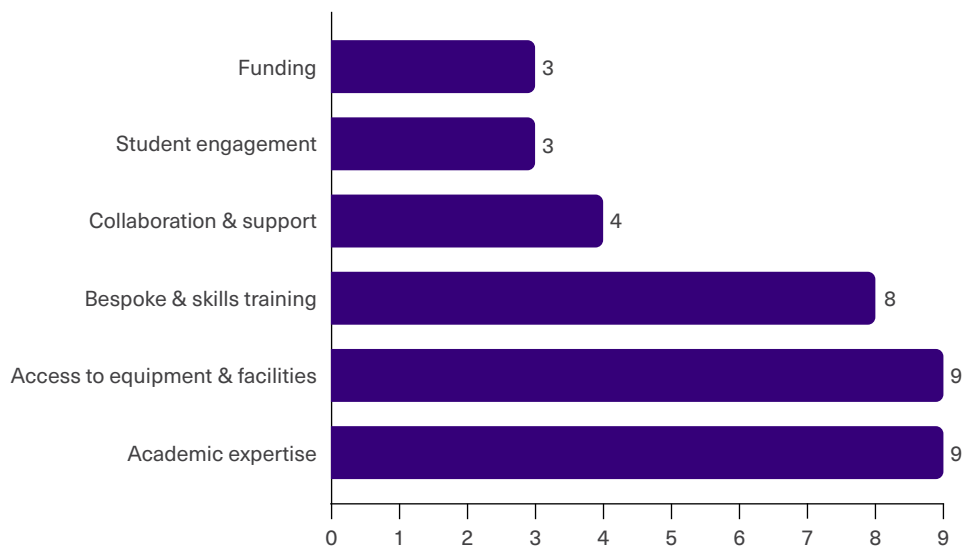


The chart above shows that colleges know about the services, support and expertise they can use to support employers with their innovation goals. But this is clearly not being communicated to employers, who state that they do not know what colleges offer or how they can engage.

The 'other' response shown in the chart was that 'the college [was] connecting on the fringes of innovation by offering training and networking events'.

In addition to understanding the resources and services available to business, the chart below shows that colleges also understand the key benefits to collaborating in this space.

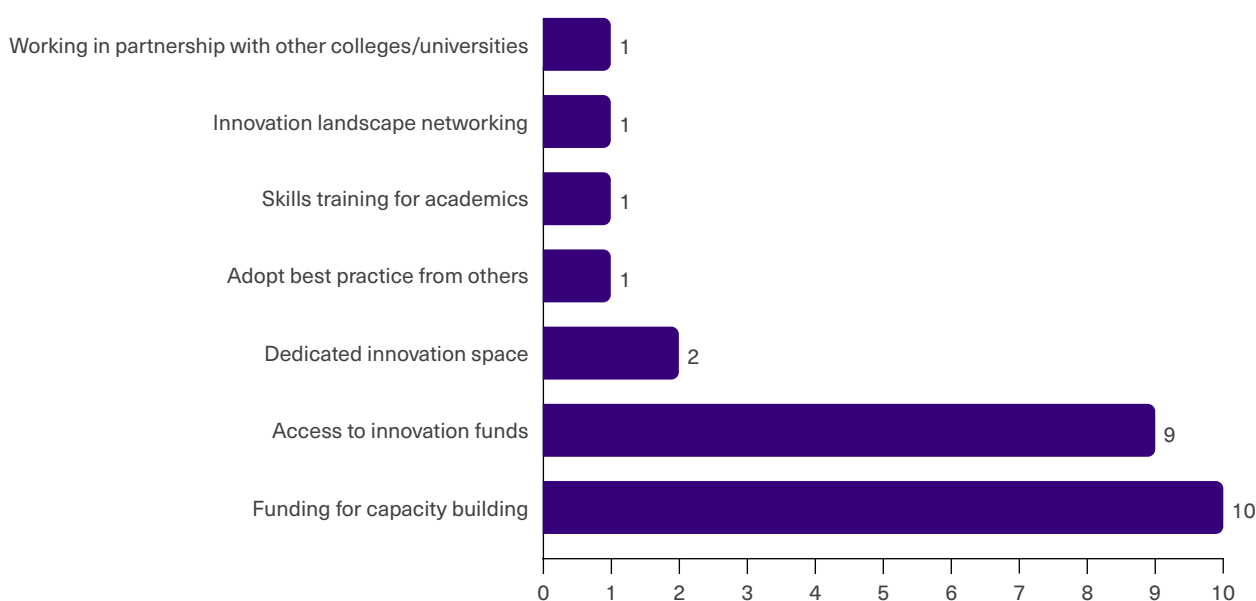
Benefits from collaborating with a college



Engaging with academic expertise and accessing state-of-the-art equipment and facilities were acknowledged by colleges as key benefits for businesses seeking to engage. Having opportunities to engage with students, developing long-term strategic collaboration and sourcing funding also featured in a range of the responses.

When asked what additional resource or support would help them engage with business, two definitive answers emerged: access to relevant funding and funding to develop capacity. Respondents emphasised that current core funding models limit the capacity of academics to work on project-based activities and do not allow the development/growth of business support teams to manage projects. Other competitive funds are difficult for SMEs and colleges to access because of the programme criteria, such as match-funding requirements and the time required by business representatives and academics.

Additional resources or support to enhance colleges' ability to engage with employers and help them adopt and diffuse innovation



In summary

While Scotland's colleges are accustomed to engaging with industry to deliver traditional upskilling and reskilling programmes, some are now beginning to view collaboration through the lens of the adoption and sharing of innovation. The nature of college engagement with employers means that where these relationships are well-established, the benefits of collaboration are understood: access to funding, academic expertise, access to college facilities and resources, student engagement, bespoke programme development and industry insight. However, the barriers to furthering engagement and developing the role of colleges and SMEs in the innovation ecosystem are also well articulated by partners and survey respondents: the majority of innovation funding and support is aimed at the higher education sector and funding that is available

to colleges and the majority of SMEs is low-level and is not compatible with securing further funding for projects. Current funding mechanisms and project-based opportunities also do nothing to help the capacity issues experienced by SMEs and colleges alike.

Simply, the ecosystem does not allow business to become more competitive or grow through engaging with college partners. At this time, it is challenging, if not impossible, to take a project from concept to finished product, process or service, despite there being a clear need for the type of practical support, resource and expertise which could be offered if conditions allowed.

Stakeholder engagement and case studies

Aligned to the objectives of the National Strategy for Economic Transformation, the National Innovation Strategy for Scotland outlines an ambition for Scotland to become one of the most innovative small nations in the world by 2033, placing innovation at the heart of our economic growth, societal prosperity and wellbeing. This makes scaling innovation, productivity and entrepreneurship key priorities for all stakeholders in the economic development landscape, not least universities and colleges. At the start of the project, CIN partners agreed that to best consider the role of colleges in a cohesive knowledge exchange and innovation system, it was important for them to understand the views of all stakeholders. To achieve this aim, in addition to the business and college surveys, various types of stakeholder engagement took place:

- regular scheduled partnership meetings, hosted on Microsoft Teams because of the wide geographic spread of partners
- a fact-finding mission to Northern Ireland took place in October 2023, to better understand the role of their colleges in the innovation landscape
- meetings with additional stakeholders and interested third parties to raise awareness of the project:
 - Innovate UK
 - Scottish Funding Council
 - Colleges Scotland
 - Association of Colleges

This work added value to the project, raising awareness of CIN objectives and contributing to the understanding of stakeholder perspectives.

Innovate UK introduced the CIN to North West Regional College (NWRC) in Northern Ireland to encourage peer learning and engagement. Representatives of all CIN colleges travelled with Gatsby Foundation colleagues to meet counterparts during a two-day visit in October 2023. The aim was to learn from the Northern Ireland model and consider how to mirror and embed good practice in the Scottish sector. CIN saw first-hand how NWRC have worked in the innovation landscape since 2015, learning about how businesses are supported on their innovation journeys. The visit also enabled partners to gain an understanding of how NWRC had established and managed their innovation hubs and how they had strategically planned the development from one hub to a network of five thematic hubs. See [Appendix 1 – Case studies](#) for the case study on NWRC.

CIN learning and actions from NWRC

- NWRC enjoys Department for the Economy funding which helps it build capacity, buy specialist equipment for the innovation hubs and facilitate what can be achieved.
- Multiple funding streams are available to Northern Irish colleges, such as Knowledge Transfer Partnerships (KTPs), which are currently not available to Scotland's colleges.
- Dedicated technical experts/consultants are used to good effect to deliver innovation projects and KTPs. They are typically hired on temporary one- or two-year contracts and then made permanent. Income targets are assigned to each role and they are responsible for securing funding.
- Dedicated business strategies identify areas of growth that are focused on innovation delivery.
- Autonomous business support centres act as arm's-length intermediaries. They are agile and can respond quickly to the needs of industry, while working in a cohesive way with curriculum colleagues.
- Scottish colleges need to adapt the language they use to communicate on a business-to-business level – not on an education level.
- Scottish colleges would benefit from dedicated marketing and communication strategies to raise awareness of the college innovation offer.
- Scottish colleges could follow the NWRC example and embed the innovation offer into all curriculum and industry networks.
- Scottish colleges could lobby regional and national government for infrastructure development, so that specialist resources or equipment needed to support industry is made available.

CIN learnings and actions from Scottish college activities within the innovation ecosystem

(See the case studies in [Appendix 1 – Case studies](#) for more details)

City of Glasgow College – Host of the Scottish branch of the Institute of Innovation and Knowledge Exchange (Scottish IKE), see [2.1 City of Glasgow College](#).

- Collaboration with professional bodies can support the development of innovation activities and unique projects.
- Establishing a dedicated team can drive unique projects that build expertise and help develop industry networks.
- Being awarded the Queen's Anniversary Prize² shows that the work colleges are doing to adopt and diffuse innovation is now being recognised, valued and it compares well to programmes delivered by universities and others at a national level.
- Specialist resources and facilities on college campuses can directly support the delivery of new unique programmes and projects.

College assets and resources could be used as more of a hook to engage industry as part of broader innovation marketing and promotion.

West College Scotland and The Bettii Pod Ltd – Direct engagement in product development, see [2.2 West College Scotland and The Bettii Pod Ltd](#).

- Colleges can support product development from the initial proof of concept through to its introduction to the marketplace, using their academic and technical expertise and campus resources to create prototypes and drive additional investment.
- College–business engagement can be mutually beneficial, with academic and technical expertise addressing partner knowledge gaps, and industry insight driving curriculum development and employer engagement mechanisms.
- Interface-funded³ activities can lead to sustainable partnerships, however after the initial introduction, Interface cannot provide support.

Edinburgh College and Anturas Consulting – Funding Roadblock, see [2.3 Edinburgh College and Anturas Consulting](#).

- The success of the Edinburgh College and Anturas partnership shows that the work of colleges to adopt and diffuse innovation is now being recognised and valued and it compares well to programmes delivered by universities and others.
- There is an appetite from partners to do more with colleges and to sustain relationships.
- Where there is no dedicated team, lack of capacity can make progress slow when there is no clear way forward for activities.
- The work of West College Scotland, Edinburgh College and the City of Glasgow College highlights a diverse college offer based on shared innovation themes.

² "The Queen's Anniversary Prizes celebrate excellence, innovation and public benefit in work carried out by colleges and universities". [The Queen's Anniversary Prizes](#) (accessed 2024)

³ "Interface administer funding from The Scottish Funding Council to seed a collaboration with Scotland's universities, colleges and research institutes". Interface (accessed 2024) [Funding](#)

Engagement with other stakeholders

Throughout the project, CIN partners engaged with a range of stakeholders to better understand their roles in the innovation ecosystem and to consider how colleges can best support them. Below is the list of stakeholders.

To find out more about the activity of each, see

[Appendix 2 – Other stakeholders in the innovation ecosystem.](#)

- Innovation centres: BE-ST, NMIS, and IBioIC
- Interface
- Skills Development Scotland
- Scottish Funding Council
- Innovate UK
- Association of Colleges

Stakeholder engagement: Summary

Engaging with the stakeholders added another dimension to the research, and the discussions informed a number of the [Recommendations](#) (outlined below).

The key themes identified were:

- The need to improve awareness of the services, support, skills and expertise the college sector has to offer the innovation ecosystem.
- The need for more capacity in colleges if they are to operate in the innovation space.
- The need to make it easier for SMEs and micro-enterprises to engage in the ecosystem, to innovate and drive productivity and growth.
- The work by colleges and SMEs in the innovation ecosystem provides real value and this has been recognised by multiple stakeholders, such as Interface and the Chambers of Commerce. These stakeholders understand how skills can unlock research, which leads to innovation and drives growth. This is particularly true for senior executive skills, such as leadership, critical thinking, conflict management, decision-making, interpersonal skills, design thinking, strategic management, adaptability, customer-focus, sales skills and self-awareness, which can be learned in contextualised industry-focused college programmes.
- Skills are key to enabling innovation and there is an interdependency between upskilling and reskilling programmes and innovation projects.

Recommendations

The work of CIN partners outlined in this report led to the development of a consistent and cohesive set of recommendations and actions. In summary, these are:

1. Awareness raising:

- Scottish colleges and/or their representatives (Colleges Scotland), should develop a marketing campaign with a unified message about the innovation support and services that colleges can provide.
- Scottish colleges should align their own marketing and communication strategies with national messaging to increase engagement with employers on innovation projects. They should learn from the Northern Irish model of having dedicated media channels and using business-to-business principles to engage with industry.
- Undertake a mapping exercise to illustrate the support offered by the entire Scottish tertiary education sector and provide examples and case studies of colleges and universities.
- Develop a cross-referral mechanism to ensure that businesses are signposted to the college or university best able to support their needs. This will help maximise available resources to support economic growth and provide a clear and easy to understand innovation pathway for employers.

2. Increased capacity for colleges and employers:

- Sector representatives, the College Development Network, should help build capacity for academic and business support staff in colleges by providing bespoke training. This would help create an innovation community that encourages peer learning and the sharing of good practice.
- Colleges and their representatives should petition the Scottish Funding Council for dedicated funding that will develop their capacity to operate in the ecosystem, mirroring the university Knowledge Exchange and Innovation Fund model.⁴
- Colleges and their representatives should lobby Scottish Government and other relevant stakeholders to recognise the skills and knowledge of college students and enable them to participate in innovation projects in the same way as university students.
- Colleges need to maximise the use of the physical resources and facilities on their campuses and make them available to partners to drive the innovation agenda. They must follow examples of good practice and establish thematic innovation hubs where appropriate.
- Policymakers, predominantly Scottish and UK government, Interface, Innovate UK and innovation centres, should consider college participation in a wider range of competitive thematic innovation programmes. Piloting activities would prove the concept and the capability of colleges.
- Scottish colleges should champion the participation of SMEs and micro-enterprises in the innovation ecosystem. This also needs to be supported by greater flexibility in funding by using examples from current college–industry projects to evidence the impact of skills-led innovation projects on the local and regional economy.

⁴ "The [Knowledge Exchange and Innovation Fund] KEIF is [the Scottish Funding Council's] SFC's primary mechanism for supporting university KE&I. It is designed to drive forward university contributions to national policy priorities and better recognise institutions' individual and collaborative strengths, incentivising universities to design and adopt innovative new approaches to KE&I". Scottish Funding Council (2024) Knowledge Exchange and Innovation Fund Strategy Guidance 2025-25 to 2029-30: [Purpose of KEIF Strategies](#)

Appendix 1 – Case studies

1. North West Regional College

Structured hubs driving engagement and economic growth.

(Source: visit to NWRC and presentation of 2022-23 development plan)

NWRC is one of six further education colleges in Northern Ireland and is “a key delivery arm of the Department for the Economy ... The [further education] FE sector in Ireland is unique in that it has a dual mandate, taking a pivotal role in generating a strong and vibrant economy through the development of professional and technical skills, increasingly at higher levels, and by helping employers to innovate”.⁵

NWRC has a business support centre (BSC) that manages the college’s engagement with industry and works alongside the college’s curriculum departments. The BSC is the first point of contact for businesses and it promotes activities on a dedicated website that has a business-to-business landing page, dedicated social media platforms, and an innovation strategy designed to fuel growth and provide direction. The BSC and a team of technical staff manage innovation projects and KTPs. (“Knowledge transfer partnerships are a collaborative partnership between business and universities, colleges, research organisations and Catapults to create positive impact and drive innovation.”⁶

In 2015, NWRC opened the first of five thematic innovation centres, each with a dedicated manager who leads on industry support. The centres act as a catalyst for the development of new products and processes. NWRC developed a formal approach to growth of innovation and skills activities, which they included in their college innovation strategy. This strategy was successfully implemented and has led to 27 staff having roles dedicated to industry engagement, innovation and skills training – this is up from the three staff who previously had dedicated roles. The associated income rose from £179k to £2.2m and a number of jobs have been created across multiple sectors. Annually the activity includes:

- supporting more than 90 businesses to adopt and diffuse innovation
- delivery of multiple Innovate UK funded KTPs
- delivery of 30+ innovation vouchers (this was 1 a year in 2015)⁷
- delivery of skills academy activities directly responsible for creating more than 450 jobs in the past five years

5 North West Regional College (2023-24) [NWRC College Development Plan 2023-24](#), Industry profile P.21

6 Innovate UK, [Knowledge Transfer Partnership guidance](#) (accessed 2024)

7 “£5K Innovation Vouchers allow businesses or potential entrepreneurs to get expertise from a public sector knowledge provider, such as a University or College (NI and ROI) for your innovation project”. Invest Northern Ireland (accessed 2024) [Innovation Vouchers](#)

There are five dedicated innovation and skills centres managed by the BSC:

- Foodovation Centre
- Product design centre
- Design Innovation for Assisted Living (DIAL) Centre
- XR Hub (Extended Reality Hub) specialising in augmented reality (AR) and virtual reality (VR)
- i4.0 Centre (Industry 4.0 Centre) specialising in automation and robotics⁸

The NWRC developed a formal approach to growth of innovation and skills activities, which they included in their college innovation strategy.

NWRC leverage funding and support businesses to apply for innovation programmes. This includes the Department for the Economy-funded Innovate Us programme, which delivers bespoke training to businesses with fewer than 50 employees that helps them to develop new products, processes and services. Also the InterTradeIreland-funded Innovation Boost programme, which is a strategic research and development programme that supports longer-term projects taking 12 to 18 months to complete.⁹

As already stated, Northern Ireland colleges are mainly funded by the Department for the Economy, and play a central role in contributing to economic development and regeneration, with colleges receiving funding to support skills and the economy. Upskilling, reskilling and innovation activities, such as those outlined, are all predominantly fully-funded. The NWRC has invested over £3.5m in capital funding support to establish their innovation centres on campus. There are further examples of this enlightened strategic focus in the central role of colleges in the Derry/Londonderry City Deal and Causeway Coast and Glens Growth Deal programmes and in local authority strategies. Colleges are the partner of choice for addressing workforce development needs, engaging with businesses and progressing inward investment opportunities¹⁰.

However, it is important to note that Northern Irish stakeholders, while proud of the success of their strategic and collaborative approach to the delivery of innovation programmes, are not motivated by financial concerns or the need to drive income. They are doing it to support business and they recognise that colleges are the most appropriate stakeholders to deliver this because of their knowledge, experience, infrastructure and skills.

8 For more information on the centres see: NWRC (accessed 2024) [NWRC Innovation and Skills](#), pp.5-9.

9 InterTradeIreland (accessed 2024) [Funding & Support](#)

10 "An inward investment involves an external or foreign entity either investing in or purchasing the goods of a local economy. It is foreign money that comes into the domestic economy". Investopedia (2021) [Inward Investment: Meaning, Overview, Disadvantages](#)

2: Scottish college activities in the innovation ecosystem

Developing engagement in a challenging landscape.

2.1 City of Glasgow College

Hosts of the Institute of Innovation and Knowledge Exchange.

The City of Glasgow College hosts the Scottish branch of the Institute of Innovation and Knowledge Exchange (Scottish IKE),¹¹ which was established in 2017 and focuses on research and development projects. The IKE is the UK's only professional body for innovators. The college has access to a suite of innovation development programmes¹² and accreditation products, which include the Investor in Innovations Standard,¹³ STEM Assured¹⁴ and the Digital Maturity Assessment.¹⁵ Under their current licensing agreement, the college leads on all IKE activity in Scotland and can use IKE branding.

As well as investing in the licence agreement, the college created an innovation team with four members, which has been a catalyst for both internal and external growth in innovation activities. The team work as ambassadors for the IKE and have improved the culture of innovation in the college and in businesses by providing resource that support innovation activities and by actively encouraging partnership-led innovation and applied research projects. Examples of projects driven by the team include:

- enhancing productivity and wellbeing with Recoil 360TM, where the college designed a prototype knee pad for floor layers with the help of an Interface innovation voucher
- the saving seafarers' lives by tackling oxygen depletion in enclosed spaces innovation project, which was awarded the Queen's Anniversary Prize in 2023

In addition, the City of Glasgow College use a range of specialist resources and facilities to engage business in innovative product and service design. They also develop and deliver partnership-led innovation and applied research projects. Their assets include:

- television, radio and photography studios
- kitchens and training restaurant
- computing, esports¹⁶ and language labs
- engineering workshops
- construction workshops
- ship simulator and engine room

2.2 West College Scotland and The Bettii Pod Ltd

Direct engagement in product development.

The following case study is taken from Interface (accessed 2024) [Case Study: The Bettii Pod Ltd](#)

Interface introduced The Bettii Pod Ltd and their designers, Fearsome Ltd, to West College Scotland. Innovation voucher funding was used and "the world's first menstrual cup washer and sanitiser for away-from-home environments" was developed. The collaboration involved extensive research, design, review of key and potentially limiting regulations, and the development of a lab-based prototype.

The partnership brought together the technical expertise of the college with The Bettii Pod's product development team, to develop a commercially viable product. The support provided by the academic team filled gaps in the development team's electrical and plumbing expertise. The collaboration ensured the product was in line with industry standards and efficient installation requirements.

11 City of Glasgow College (accessed 2024) [Scottish Institute of Innovation and Knowledge Exchange](#)

12 IKE (accessed 2024) [Courses](#)

13 IKE (accessed 2024) [Investors in Innovations Standard](#)

14 City of Glasgow College (accessed 2024) [STEM Assured](#)

15 IKE (accessed 2024) [Digital Maturity Assessment](#)

16 The Oxford Dictionary defines 'esport' as "a multiplayer video game played competitively for spectators, typically by professional gamers".

The technical academic staff's support was invaluable, providing crucial insights into the entire design process, from the conceptual stage, through to compliance and manufacturing. Their expertise was particularly beneficial in assessing how changes to the design could improve sustainability. The focus was on ensuring the product was resistant to the intrusion of dust or liquids, its ability to withstand mechanical impact, and on its compliance with the Water Regulations Approval Scheme.

This unique contribution filled a critical gap in Bettii Pod's capabilities, ensuring that the product design would meet the necessary standards and considerations for long-term success. The academic team's input was instrumental in addressing challenges that could not be sourced elsewhere or managed internally, highlighting the pivotal role they played in the development of the project.

The lab prototype was developed after overcoming operational and installation barriers, which gave the company the assurance they needed about the commercial applicability of their innovation.

The collaboration between The Bettii Pod Ltd and West College Scotland represents a groundbreaking effort to revolutionize menstrual care, promote sustainability, and address societal period, reusables and health challenges. By combining industry expertise with academic insights, the partnership has created a pioneering product with significant potential for societal and environmental impact. Ongoing collaboration will ensure a successful development and integration of the product into the market, emphasizing a commitment to innovation, standards compliance, and mutual success.

The Bettii Pod Ltd and West College Scotland continue to work together to develop and introduce the product to the marketplace and are currently seeking further funding.

2.3 Edinburgh College and Anturas Consulting

Funding roadblock.

The following case study is taken from the Rail Forum (08 April 2024) [Trailblazing Railway Safety Collaboration Takes Centre Stage](#)

Edinburgh College and Anturas, an Edinburgh based SME, won a prestigious award in March 2024 for a project that used the Interface standard innovation voucher scheme, but which has sadly experienced a funding roadblock. Demonstrating “the power of the triple helix – the college sector, industry and government combining – as they collected the Innovation in Business Award at the annual Edinburgh Chamber of Commerce Business Awards”. The collaborative work by the college computing and technology department and Anturas colleagues developed “a tool to address the time-consuming current processes associated with railway safety verification, and ensure full compliance with the Railways and Other Guided System (ROGS) Regulations 2006”.

“Anturas is a leader in delivering safety verification schemes, with experience of major projects including Edinburgh Trams and the ongoing Glasgow subway modernisation”. The aim of the project was “to develop a user-friendly, web-based application that streamlines the safety verification process and ensures ROGS regulation compliance”. The first phase of development was “focused on enhancing the application’s front-end, optimising user experience and implementing robust data security measures”.

To complete the project, college lecturers worked more than their contracted hours to finish the project, because it became a passion project for them to solve the business need by developing a digital tool. The partners also want to collaborate on the next phase of activity, which is developing the back-end of the digital tool, however funding is a barrier because there are no direct routes or funding streams easily accessible to either partner. Even though Edinburgh College has a good relationship with Interface it can only access the standard innovation voucher. This is because the follow-up student placement voucher is only open to universities, despite there being degree-level students in the college sector and the college staff having the experience, knowledge and skills to develop these types of projects.

Other mechanisms, such as Accelerated Knowledge Transfer¹⁷ funding and KTPs may seem open to applications for colleges, but they were designed for universities. This has created barriers to inclusion that many colleges and businesses find insurmountable, such as the provision of high levels of match-funding, membership fees to become a knowledge base centre and fees to access the support of the KTP centres.

Anturas and Edinburgh College continue to collaborate and are now seeking support for activities from outside the innovation ecosystem and are engaging with philanthropic funders to progress the project.

¹⁷ Innovate UK (accessed 2024) [Accelerated Knowledge Transfer](#)

Appendix 2 – Other stakeholders in the innovation ecosystem

To provide a picture of the current landscape and other funding routes, the stakeholders CIN partners engaged with throughout this project are included here.

- Innovation centres: CIN partners engaged with BE-ST, NMIS and IBioIC to understand their remit in college engagement and opportunities to collaborate as part of the triple helix, which is education, industry and government. Each innovation centre adopts a tailored approach to industry engagement, that includes funding opportunities, upskilling programmes and membership support activities, so colleges across the country have numerous opportunities to meaningfully engage with employers.
- Interface: Funded by the Scottish Funding Council, Interface advocates for the college sector. Interface had regular discussions with CIN partners about innovation projects, primarily funded through their standard innovation voucher. The voucher scheme encourages new collaborations between SMEs, sole traders, social enterprises and third sector organisations based in Scotland with academia. There are two types of voucher, one is the product/process/service innovation voucher which supports the development of a new product, process or service. The other is the workplace innovation voucher, which helps the business develop their workforce either through introducing innovative processes, practices or business expertise.
 - Edinburgh College with Anturas, and West College with The Bettii Pod Ltd used the standard innovation voucher for their innovation projects.
 - The student placement innovation voucher is the follow-on funding mechanism but it is only open to higher education institutions and their graduates. Even though colleges have degree courses they cannot access this funding. To qualify, you must have used the standard innovation voucher and this scheme builds on the relationship already formed during the first project, working with the same academic team.
 - A maximum of £7,500 grant can be awarded to the academic institution for both vouchers and the employers have to match this.
 - The advanced innovation voucher is dependent on a funding pot being available so it is not always open. With up to £20,000 available this scheme requires a considerable amount of fund matching on a sliding scale, which can make it difficult for SMEs to take their projects forward.
- Skills Development Scotland: CIN partners engaged with Skills Development Scotland and are building connections with their Skills for Growth service. This skills diagnostic service supports employers in identifying priority areas for focus to help grow their business, with signposting for support with upskilling and reskilling, succession planning and funding.
- Scottish Funding Council: Partners met with the Scottish Funding Council to discuss CIN activities and raise awareness of current levels of innovation-driven engagement between industry and colleges. Scottish Funding Council colleagues were interested in this report, specifically the employer survey results and it is hoped that these can help inform future policy development.

- Innovate UK: CIN partners and Innovate UK discussed opportunities for Scottish colleges and they are interested in our findings from this project. The second Accelerated Knowledge Transfer pilot took place in December 2023 and projects are running in 2024, the list of successful applicants has not yet been published. Edinburgh College were unsuccessful in their application because there was not enough funding, but they scored within the funding threshold. Innovate UK have only ever received a few bids from the college sector and they are piloting the Further Education Innovation Fund to see if it will give colleges the support they need to work in this landscape. The fund will help build capacity and set up innovation hubs. The Further Education Innovation Fund (FEIF) pilot was only open

to those invited by Innovate UK. There are six colleges in the Glasgow and central area of Scotland that are taking part in this pilot, working collaboratively for the first time with an equal share of the grant each. Their project is called College Local Innovation Centres and CIN partners will support and collaborate where possible.

- Association of Colleges: This English based stakeholder supports English colleges on the start of their innovation journey. CIN and the Association of Colleges have discussed the challenges and barriers that Scottish colleges face when trying to break through and progress in the innovation ecosystem. The Association of Colleges are also interested in the findings of this report.

Appendix 3 – Scotland’s National Innovation Strategy

Scotland’s national innovation strategy.

Taken from Scottish Government (2023) *National innovation strategy 2023 to 2033*

Available at <https://www.gov.scot/publications/scotlands-national-innovation-strategy/documents/>

[Accessed 1 October 2024]

