

# University cooperation and collaboration in innovation strategy: Lessons from small nations


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## Innovation Strategies for Wales

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**CYMDEITHAS DDYSGEDIG CYMRU**  
**THE LEARNED SOCIETY OF WALES**



The Learned Society of Wales is currently convening a programme of activities to help inform and improve innovation policies and practices in Wales.

This is a timely programme given the publication of the BEIS [Innovation Strategy for the UK](#), the [Advanced Research and Invention Agency Bill](#), and the increasing importance of a place-based agenda. The [HM Treasury's Comprehensive Spending Review 2021](#) makes a strong commitment to increasing R&D funding to £20 billion by 2024-25, a 35% increase on current funding levels.

The forthcoming UK Government White Paper on Levelling Up will also outline a plan to ensure that an increased proportion of government spending on R&D over the next three years is invested outside the Greater South East of the UK. If achieved, this will see several billions of additional funding outside the golden triangle and go a long way to addressing the previously identified deficit, as noted in Thomas Forth and Richard A.L. Jones's [The Missing 4 Billion: Making R&D work for the whole UK](#) report for Nesta, 2020. The [Nurse Review of the research, development and innovation organisational landscape](#) will also likely prompt further shifts in BEIS policy.

At the same time, the Welsh Government is reviewing its innovation policies and is currently developing a new integrated cross-governmental strategy for innovation. The [Tertiary Education and Research Bill \(Wales\)](#) is progressing through the Senedd, proposing reforms to the regulation and funding of post-16 education and research under a new Commission for Tertiary Education and Research (C-TER), which would supersede the Higher Education Funding Council for Wales (HEFCW).

Wales is also adapting to a funding landscape without European Structural Funds, which had been significant in developing Wales's research and innovation capacity and collaborative potential. The new Wales Innovation Network (WIN) will work to leverage the diversity of Welsh institutions through collaborative activity.

**In December 2021, the Society hosted the second in a series of closed roundtable discussions which considered university cooperation and collaboration in innovation strategy in Northern Ireland, Scotland and the Basque Country.**

**All roundtable sessions are conducted under Chatham House rules, and this is the anonymised and unattributed report of key points from the second event**

## University cooperation and collaboration in innovation strategy: Lessons from small nations

The second roundtable in our series hosted speakers from Northern Ireland, Scotland and the Basque Country who reflected on university collaboration, universities' roles in driving/promoting/delivering innovation in their respective nations, and other key features of their innovation ecosystems.

Our objective in hosting the roundtable was primarily to hear how things are done elsewhere with a view to informing reflections on how activities and structures are organized in Wales. This is not with the intention of identifying 'best practices' to be copied, but rather to draw some inspiration from others and consider whether there were ideas that might be appropriately adapted and applied as Wales develops its own approach.

### Specifics of context matter in R&I approach

Although there were many similarities between specific aspects of collaboration and coordination in innovation strategy, the overall approach to innovation differs in each nation.

In Northern Ireland, where there are two research-intensive universities that are heavily involved in R&I, there has been an increasing emphasis put on specialisation in key strength areas (personalised medicine, creative industries, and advanced manufacturing as priority areas). It would appear that a more coordinated approach has been developed, in part in response to perceived opportunities for funding, that has seen universities become more proactive.

In Scotland, which hosts a significantly larger number of research-intensive universities, there has been major effort over almost two decades put into developing formal networks to promote collaboration within HE ([Research Pooling](#)) and across sectors, such as the recently created [Research Innovation Scotland \(RIS\)](#), which

coordinates and connects the activities between universities whilst linking them with industry and government. One potential lesson for Wales from the Scottish example of RIS is to consider the importance of having in place mechanisms that make accessing the Welsh R&I ecosystem straightforward.

In the Basque Country, the innovation ecosystem has been a focus for long-term regional strategy since the 1980s, with business clusters and technology centres in particular playing key roles. The Basque system has been developed in quite a holistic and specific manner to meet the particular objectives and requirements of the nation. This has included the development of new national institutions to deliver the research and innovation agenda, such as a Business Development Agency. The Agency is under ownership of Basque Government, and its main objectives are to support and boost Basque companies through broad range of funds and services, as well attract and facilitate the foreign investment into the Basque Country.

### Key similarities in R&I ecosystem

Notwithstanding the importance of the context in informing the approach in each of the three nations, certain similarities in regard to the nature of the R&I ecosystem could be drawn across all examples. One such aspect was the emphasis on well-coordinated networks, rather than a single overarching body/institution overseeing the development and delivery of R&I nationally.

Scotland in particular exemplified the dense grid of interconnected networks that linked universities, industry and government. One of the key strengths of the Scottish R&I network system appears to be the way in which individual networks can clearly explain their remit, which in turn sends a positive message of openness and readiness for

collaboration to potential stakeholders. In the Basque Country, where the R&I institutional framework has developed over four decades, the approach was said to be characterised by more distributed leadership at the top and three interconnected layers with institutions that oversaw specific activities (e.g., facilitating cooperation, delivering policy).

Another key striking similarity between all three R&I ecosystems, was an almost exclusive emphasis on Science and Technology disciplines as a major driver of innovation from within university sector (e.g., there is a research pool for Gaelic language and culture, but there is no research pool for social sciences). It remains to be seen whether the emphasis on STEM will change as arguments for a more holistic approach, for example in tackling the climate emergency, become more prominent. Certainly, this more inclusive approach raises questions about the relative prioritising of S&T and the future role for humanities, arts and social sciences in a new innovation strategy for Wales.

### **Collaboration between universities**

Given the differences not least in the number of universities in each nation, there were distinctive differences in the approach to collaboration between universities in each country.

In Northern Ireland, with the particularly heavy R&I involvement of two universities, the collaboration was said to occur mostly at the university level, either within Northern Ireland, between Northern Ireland and the rest of the UK and between Northern Ireland and overseas. These collaborations were driven mostly by individuals with common subject interest and specialisation keen to exchange skills, knowledge, and capabilities. It is notable that Northern Ireland collaboration had been weak, which was reflected in poor quality applications for competitive funding, but the opportunity to revisit and further develop an initial application acted as catalyst for Northern Irish universities to increase their collaborative efforts, including reaching out to each other as well as industry, in seeking to be better placed in the future.

In Scotland the collaboration between universities is facilitated by highly developed specialised vertical and horizontal networks such as discipline-specific [Research pooling](#) and RIS created in 2004 and 2020 respectively. Research pooling was born as an attempt by the Scottish Funding Council to encourage and support a collective approach to research in critical R&I areas for Scotland, such as Life Sciences. It comprises ten different research pools that vary in number of individual university members. Although all the pools were said to develop collaborative links with industry and government, certain networks had particularly strong links with either industry, NHS or government. The pools appeared also to be particularly valuable for external partners who could access the Scotland-wide discipline research through one platform. The second cross-university collaborative network which bridges all the research pools – RIS, intends to foster the cross-disciplinary collaboration between research pools and link them more closely with industry through specific network such as Interface.

Unlike in Northern Ireland and Scotland where the key incentive for universities' collaboration stems from the UK emphasis on research and science excellence (e.g., REF), the Basque Country was an example of how universities can fit in the larger national picture of promoting and delivering innovation strategy. In the triple-layer R&I policy design, the upper representatives of the universities sit at the top of the pyramid through an advisory body called Basque Council for Science, Technology and Innovation, while the individual researchers were said to collaborate through steering groups that develop the priority areas for R&I that are situated at the grassroot layer.

### **Role of universities in national innovation strategy**

As for the role that universities play in national innovation strategy, there were similarities observed between all three nations, mainly in the aspect of the delivery through provision of skills. For example, Northern Ireland is emerging as a leader in delivery of specific UK wide innovation programme [ICURE](#), which supports ECRs to

determine whether there is a market for products/services that utilise their research. In Scotland, [SULSA research pool](#) was selected as one of three UK centres for advanced therapists. In the Basque Country, universities are encouraged to align their teaching and research with the needs of the industry.

Although the R&I delivery seems to be the area in which universities are increasingly involved, the Scottish and Basque cases exemplified other R&I areas in which universities can play a major role. In Scotland, the inter-disciplinary research collaboration through research pooling which led to development of infrastructure and equipment, was said to facilitate the creation of R&I critical mass in areas that were important for Scotland.

The Basque Country exemplifies how universities can be actively involved in research on national R&I strategy. The Basque Institute of Competitiveness, Orkestra, is a specific initiative of the University of Deusto to create knowledge about the competitiveness of the Basque Country, as well as indicate the areas for improvements.

### **Role of industry and coordination with universities and government**

As for the role of the industry in R&I, it appears that it is the corporate sector that is increasingly becoming a major driver. In Northern Ireland, industry was reported to fund R&I skills development within universities (e.g. Randox-Ulster-University [Industrial PhD Academy](#)).

Similarly in the Basque Country, the corporate sector seems to play a major role in driving national R&I. The national clusters are business rather than research led, and they tend to involve technology centres, which fill the gap between industry and university. They are bridges between business needs and support dialogue with university, government, because they bring actors together on a regular basis.

In Scotland, where the landscape of networks between universities, industry and government is denser with a strong emphasis on collaboration

between all three domains. Industry appears to be more of a partner than primarily a driver in R&I.

As a part of its increasing role as a major R&I driver, it was noticeable that industry is becoming increasingly involved in the coordination of R&I activities between universities and government. For example, in Northern Ireland, where the cooperation between universities was said to occur in a less formalised way, the key organisations that are responsible for collaboration between universities and government are [MATRIX](#) – an industry-led panel that advises government and informs academia and industry on the commercial exploitation of R&I, and within life and health science research, [Hirani](#). Given its remit, MATRIX was said to be the platform to go to in exploring the R&I ecosystem in Northern Ireland.

In Scotland the example of [Interface](#) appears to be particularly relevant for Wales, not least because Wales is often said to lack strong academic-industry connectivity, but also because this proactive organisation not only matches the needs of business with the right academic expertise across Scotland, but also acts as a gateway to business information support for enterprises, including managing impact of Brexit.

The key lesson related to R&I coordination between industry, university and government for Wales is not only that the proactive and networked approach appears to work well in these small nations, but also that the nations report that it is essential to have an organisation in place that can not only bridge university, industry and government, but also act as a place to start for anyone who wishes to access the R&I ecosystem.

### **Effective communication and narrative**

The discussion also reflected on the importance of effective communication of R&I opportunities to both internal and external audiences, as well as opportunities associated with smaller nation identity.

In regard to communicating R&I activities and opportunities, the Scottish example in particular suggested that clear, concise and positive language

explaining the purpose of the particular R&I network or organisation, as well as indicating linkages and allowing for easy connection, presents Scotland as a nation that is open and prepared for collaboration.

The speaker from the Basque Country emphasised that the identity of a smaller nation could act as particular strength to push forward the innovation agenda because of the opportunity to harness the desire to demonstrate that the country has a big role to play despite its small size.

Here again there are insights that may be useful for innovation strategy in Wales and the potential importance of narrative in advancing innovation in Wales has been noted in a number of recent reports, including the [\*Wales 4.0 Delivering Economic Transformation for a Better Future of Work\*](#) report (2019) and an IACW report [\*Scoping Innovation Policy in Wales\*](#) (2021).