

Independent Review of SFC's Research Pooling Initiative: Joint response from the Pools

Introduction

Research Pooling has proven to be an effective way of stimulating successful collaborations with strategic vision, shared facilities and resources, responding to current trends in research funding and allowing Scotland as a small, ambitious and well-connected country to match the best in the world in research and innovation. Established in 2004, Research Pooling created a series of cognate strategic alliances designed to make Scotland globally competitive and world-leading in research, innovation and training. Pooling provided resources to attract scientists of international standing to Scotland and supported an innovative infrastructure to enhance cooperation, communication and impact. Whilst each Pooling organization varies in its specific objectives and strengths, Pooling has nurtured an unrivalled ethos of research excellence and cooperation with increasing sophistication and effect over the last 15 years. We predict an important strategic future for Scottish Pools in a period of increasing political and financial uncertainty against a backdrop of emerging environmental and commercial pressures. This review is timely in that beyond the RAE/REF processes there has been no comprehensive and strategic review of research priorities across Scotland since 2003/4, other than by the pools themselves. The Pools have developed significantly over this period to include interdisciplinary initiatives and knowledge, industry and policy engagement which allow coordinated multi-institutional responses to today's global challenges. Re-assessment of their value and future potential in a changing research environment is welcomed.

The impact of Scottish research Pooling

Scotland is a small nation and requires effective collaboration between institutions to achieve the critical mass necessary to compete at the top table of international research and tackle the complex multidisciplinary challenges and opportunities of the 21st century. Pooling has made a tremendous contribution to this goal and the foresight of the SFC in creating the Pools should be recognised. World-leading academics were attracted to Scotland and were underwritten by participating institutes. The Pooling structure quickly created a new ethos of cooperation across institutes. The capabilities of both large and small research teams have been magnified by the Pooling effect. The direct benefits were evidenced by REF performance, enhanced by strong impact, improved research quality, and staffing. As the Pools developed, significant new grant income, often across collaborative projects, was obtained and new alliances sought for and gained significant infrastructural improvements including advanced equipment, new facilities and buildings. Each Pool will provide evidence in support of their impact but the recent "Metrics-Based Assessment of Scotland's Science Landscape 2007-2016"¹ demonstrates overall increasing international collaboration and improvement in field-weighted citations for Scotland, as compared with EU and non-EU comparator countries. As noted "Scotland publishes more papers per researcher than the other UK nations and all other countries in the report". This increase in performance over the reporting period cannot be entirely attributed to the development of Pools but, given the timing, is likely to be more than coincidental.

A further message that emerged from the evolving Pools was a need for improved advanced training, particularly at early career and doctoral stages. The Pools' Graduate Schools quickly emerged as "jewels in the crown" and have led to a step-change in Scottish training, a critical contribution given the reduced, and often geographically distant, support from the former RCUK. In addition, Pools have continued to evolve as new challenges arise, using innovative approaches to promote their work including modern communications systems, academic exchanges, bespoke educational programmes, summer schools, major knowledge exchange events, internships and other academic and social tools. The Pools are dynamic and effective and have delivered significant added value while expanding in

¹ <https://www.gov.scot/news/leading-the-way-in-science>

size and scope to serve the needs of their communities. They have also developed a representative role, contributing to governmental committees and providing evidence and advice on policy and legislation, and often acting at an international level to promote Scottish research capability and expertise abroad, contributing toward the agenda of enhanced internationalisation of Scottish capability. Successful Innovation Centres, including The Data Lab, CENSIS, the Digital Health & Care Institute, and the Oil & Gas Innovation Centre have emerged from the pooling example of successful partnership in Scotland, and have extended Research Pool knowledge exchange activities into challenge-led, interdisciplinary areas, connecting Pool members with industry, the public sector and the third sector. This cooperative landscape supports a new framework for Scottish research excellence and impact, linking with activities such as the “Cities Deals” and “Strength in Places” funding that can intrinsically exploit Pool expertise to create major impact and economic growth across Scotland.

Ambitions for the future

There is no doubt this review is taking place at a critical time for the Scottish research base. The political situation is highly uncertain, and research is becoming ever more competitive in terms of funding, results, publications and achieving long-term impact. Maintaining world standing requires coherent action and appropriate funding. Certainly, the global challenges are clear, including demographic pressures, food and energy security, advanced healthcare, increasingly smart digital automation, increasing pressure to ensure cyber-security and cyber-resilience and climate change impacts. The Pools can contribute on a global stage to address the UN Sustainable Development Goals² and can access the latest initiatives in global challenge funding. The Pools recognise potential for further improvement and can become even more effective with a number of strategic goals:

- Enhance the innovative Scottish national framework of scientific communication and excellence in support of societal need.
- Move to the next level of inter-organisational cooperation to further address interdisciplinary and translational challenges.
- Support Innovation Centres working with the private sector in providing an increasingly effective bridge between academia and industry.
- Contribute on an international stage recognizing the UN Sustainable Development Goals² and the latest initiatives in global challenge funding to address global problems.
- Enhance our world-leading early career and doctoral training programmes.
- Develop trust and capacity to support policy and legislation, seeking greater understanding from the academic sector of the societal value of this work.
- Work with “City Deals” and “Strength in Places” funding to deliver major economic growth and impact across Scotland.

Conclusion

Pooling represented a step-change in Scottish research capacity. Under the second phase of SFC support and supported by partner universities, the Pools have promoted the work of their constituents and maintained the collective graduate training of PhD students. Pools continue to represent success stories that are exemplars of research organisation worldwide. Stability and resource is central to the realisation of their ambitions. Adequate long-term funding that supports the ability to plan ahead, based on a firm commitment and increased resource, would deliver greater returns and allow the Pools to address the ambitions set forward in their strategic plans. Support and improved coordination of the organisational infrastructure (ICs and Pools) that has been created by the SFC can set Scotland apart as an exemplar of national research cooperation and impact.

² <https://sustainabledevelopment.un.org/?menu=1300>