

Scottish Science Centres Network (SSCN)

The SSCN consists of 4 centres distributed across Scotland: Aberdeen Science Centre (est. 1988); Dundee Science Centre (est. 2000); Glasgow Science Centre (est. 2001); Dynamic Earth in Edinburgh (est. 1999).

On an annual basis, we engage with close to 1 million people (young people, adults, families and community groups) in our centres and through community and outreach programmes that cover every local authority area in Scotland.

We engage people with contemporary science on themes including energy, digital, health, life sciences, environmental science, climate change, geology, space, engineering and innovation. We create meaningful experiences with science. Experiences that are inspiring and relevant and offer everything from the first steps on a STEM journey, to deeper lasting learning and engagement.

In response to the Call for Evidence: A Review of Coherent Provision and Sustainability in Further and Higher Education, we propose that the SSCN be viewed as **essential public engagement partners for the further and higher education sector**.

The post-pandemic environment offers a tremendous opportunity for closer partnership working and efficient use of already established interfaces to key participant groups. Our expertise in science communication can accelerate progress towards a number of shared goals including:

- Raising awareness of the importance of research and innovation in science and technology and the benefits it can bring to society;
- Identifying pathways into further and higher education for young people and supporting them on towards careers in science and technology;
- Widening access and participation in further and higher education for people from disadvantaged backgrounds, and promoting equality and inclusion.

All four centres in the network have delivered numerous successful partnerships with universities and colleges over the last few years. We present a selection of these below as evidence of the significantly greater impact that can be achieved through working together and to illustrate the way in which the SSCN can be an effective conduit to diverse audiences across Scotland:

Glasgow Science Centre: the *Curiosity Live* programme is the main platform for delivery engagement experiences that are co-created and delivered with key partners from academia and industry. Since June 2018, 6 events each year have been run, each 3-5 days long and engaging with 2000 – 3000 people from all sectors of the community. This has included input from 750 experts from about 100 different organisations. About 50% from further and higher education partners, 30% from industry partners, 14% from other charities and 6% from other sources. Subjects covered include health and wellbeing, environment and climate, energy, technology, engineering, physics, chemistry, space and art. Participating organisations include University of Glasgow, University of St Andrews, University of Strathclyde, Heriot Watt University, University of Edinburgh, Glasgow Clyde College, Glasgow School of Art, Royal College of Physicians and Surgeons of Glasgow, University of Stirling, University of Dundee, University of Hull, Imperial College London.

Other examples of successful partnerships at **Glasgow Science Centre** include the work with QuantIC, the University of Glasgow-led quantum imaging hub. The Glasgow Science Centre were named as the public engagement partner in the original application for funding. A proportion of the funding that was awarded was used to create a permanent exhibition within the Glasgow Science Centre ***Making the invisible visible*** which was launched in 2016 and explores the fundamentals of quantum physics and its applications. Since opening the exhibit has been viewed by close to 1m visitors. The exhibition has received a major upgrade this year, funded again through public engagement funds from the research consortium.

We also host permanent exhibitions showcasing research from Heriot Watt University, The University of Strathclyde and The University of Edinburgh.

Glasgow Science Centre will also be the public engagement partner for the recently announced UKRI Strength in Places Award to University of Glasgow's Precision Medicine Living Laboratory.

A new permanent exhibition ***Idea 59*** was completed this year at Glasgow Science Centre (opening delayed due to COVID-19) which was a collaboration between Scottish Funding Council, Scottish Enterprise, Zero Waste Scotland and the Scottish Innovation Centre network. The central theme of the exhibition is innovation and it is a platform to showcase the very best examples of Scottish research and innovation in areas including health care and precision medicine, digital technologies, artificial intelligence and advanced manufacturing.

Dundee Science Centre (DSC) has developed strong relationships with our surrounding Universities and College and we have been working closely to realise our latest permanent exhibition **CONNECT**, which sees the ground floor of the centre completely transformed with a strong focus on STEM. We are working collaboratively with the University of St Andrews to create a an under 7's area and develop appropriate programmes, including the Culture Lab which will host researchers and enable them to carry out both public engagement activities and child psychology and development research with our visitors.

We work closely alongside our Universities and Colleges collaborating on public engagement programmes that cross over various audiences utilising different methods of engagement from in-person to on-line, reflecting scientific research and careers in the new facilities and associated learning programmes allowing for better analysis of new methods of public engagement delivery and evaluation.

The University of Dundee has recently entered a submission for the National Co-ordinating Centre for Public Engagement (NCCPE) sharing the innovative collaborative work in public engagement and their involvement and support of Dundee Science Centre's Home Learning Programme and Science @ Home activity boxes.

DSC utilises and careers pathway model within our audience engagement strategy to ensure that at all points the Science Centre supports society and Government goals in increasing STEM engagement and knowledge. We aim to widen access for all our audience, engaging them at an early age, we help them explore and understand the world around them developing their interests, introducing researchers to inspire and guide them in future STEM careers.

Dynamic Earth works in a variety of ways with the university and college sector to showcase the relevance of research taking place in Scotland and available learning pathways. Recent collaborations have involved University of Edinburgh, University of Glasgow, Heriot Watt

University, Napier University, Queen Margaret University, Edinburgh College and the Royal Observatory of Edinburgh.

As the outreach partner on the **Horizon2020 EU funded project “ATLAS”** on deep-sea Atlantic ecosystems, we have developed an educational portfolio of resources to engage diverse participants with deep-sea science for use by a consortium of 23 European partners, mainly academic institutions. Activity has been delivered all over Europe and the model of a specialist outreach partner in a project of this type has been widely heralded as a particularly resource efficient and successful model in the formal EU review process. In Scotland, we have directly engaged over 35,000 people with this programme highlighting the work of organisations such as Scottish Association of Marine Science (SAMS), innovation in understanding the marine environment, and how science taking place in Scotland influences policy at a European level.

Another example of our effective partnerships includes hosting the **Festival of Physics** in 2018 and 2019, engaging more than 6000 people, including teachers and community organisations, with research and opportunities in physics and related disciplines by providing advice and a platform and for groups from University of Glasgow, Heriot Watt University and others.

Aberdeen Science Centre’s mission is to “inspire a lifelong interest in science by creating engaging experiences”. Our audiences include families and communities in Aberdeen City, Aberdeenshire, Moray and the Highlands and Islands. We work in partnership with our local STEM hubs, Colleges, Universities and Industry partners and we consider these partnerships vital to our ability to inspire young people and their families engage with local science career and educational pathways.

Recent activities have included career events with Skills Development Scotland, skill sharing and wellbeing-promoting activities with Highlife Highlands and STEM Fun days and Inverness Science Festival alongside the University of the Highlands and Islands, Skills Development Scotland, the Science Skills Academy and local industry. Since August 2019, we have been working in partnership to facilitate engagement with remote communities and Further Education partners in the Highlands and Islands. As such, Aberdeen Science Centre’s team focused on delivering inspirational STEM engagements in some of the most remote communities in the Highland Council Region. We proactively collaboratively with our partners to promote local career and Further Education pathways, in order to retain young people in the region. For example, we co-designed the “science of super humans” and “cutting edge science” workshops alongside academic partners that also represented the Physiological Society. We use these workshops to showcase the world class research conducted at the University of the Highlands and Islands and to attract young adults to related education pathways and careers. The pilot project as engaged with 339 participants in some of the most remote and rural communities.

As shown above, the SSCN as a whole is well positioned to play a central role in a nation-wide, post-pandemic public engagement strategy. Partnership working between the SSCN and universities and colleges could underpin efficient, accessible and equitable use of resources.

We look forward to contributing to future elements of the review and would welcome the opportunity to provide further details on the ideas and examples summarised here.

Submitted on behalf of the SSCN. 10th August 2020.

/End.