EVENT SUMMARY

SKILLS FOR A MORE INNOVATIVE SCOTLAND

A ROUNDTABLE CO-HOSTED BY THE GLASGLOW SCIENCE CENTRE AND THE CAMPAIGN FOR SCIENCE AND ENGINEERING NOVEMBER 2022

This roundtable was convened to discuss the skills challenges facing Scotland, their potential impact on the availability of skilled R&D talent, and how the UK and Scottish Governments could seek to support this.

The roundtable was attended by a variety of stakeholders from across universities, industry, and UK-wide learned societies. This unattributed summary does not represent policy positions of either the Glasgow Science Centre or CaSE but will form part of CaSE's ongoing programme of work on education and skills, ultimately enhancing the environment for science and engineering in the UK.

Foreword from the Campaign for Science and Engineering

CaSE opened the session by welcoming attendees and talking about CaSE's work to support the growth in STEM skills across the UK.

It is essential to consider skills in light of the UK Government's ambition to make the UK economy more research intensive. Not only is significant growth required to feed the pipeline of talent of an expanding R&D sector, but wider skills provision is needed to ensure that everyone can participate in and benefit from a more innovative UK.

Ensuring that the UK has the skills base to meet the requirements of a more research-intensive economy is an ongoing priority for CaSE. This will be especially important considering the UK Government's ambitions to make the UK more research intensive. A thriving R&D environment in Scotland requires a talented workforce to perform research and young people in the pipeline who are equipped with the skills they will need in the future economy. Scotland faces skills challenges, some of which are unique to its context.

Foreword from the Glasgow Science Centre

The role of the Glasgow Science Centre has changed over the last 10 years to support skills and is closely aligned with key sectors that have significant growth potential for Scotland. It now works in collaboration with industry to raise awareness among young people of the opportunities that are being created. Exhibitions and programming reflect innovations across the science and engineering sector and highlight different roles and the skills that underpin them. An early example was Powering the Future, which has a focus on the energy sector and the innovations required to create a more sustainable energy future, more recently, Idea 59, which focuses on the innovation that is being driven by Scotland's network of Innovation Centres.

The conversation has moved over the last decade from maintaining skills supply to counteract natural attrition of an ageing workforce, to growing the skills and talent pipeline to support growth. For Scotland, this includes key industry sectors such as photonics, space, maritime, advanced manufacturing, precision medicine and digital.

Glasgow Science Centre is working with a range of organisations from across these sectors to build the talent pipeline.

ROUNDTABLE SUMMARY

What works well for skills in Scotland

It was highlighted that Scotland had created well distributed science centres across the country, which enable high quality access for children to engage with inspirational science.

The lack of uptake in STEM learning is well understood in Scotland due to research being undertaken in this area. This gives a strong starting point to better tackle the challenge.

Scottish universities were highlighted as a very strong asset, punching well above their weight for the size of the country. It was felt this meant they delivered a high number of graduates each year with a range of skills.

While having a strong university sector, it was strongly felt that Scotland challenged the perception that innovation requires a particular education, such as a degree or PhD, with alternative pathways growing in prevalence. It was highlighted that the framework for work-based learning works well and is well supported by industry. While content could be changed, the discussion made clear that the structure itself is good.

The needs of industry were discussed and it was highlighted that apprenticeships, and in particular graduate apprenticeships, are well liked to deliver and transition people into the working environment with the desired skills.

Current challenges and possible solutions in the Scottish education and skills system

The discussion started by highlighting challenges in how the performance of schools is measured. The current approach can create various issues that mean children are sometimes encouraged to take subjects they performed well in or were perceived as easier. It was felt that this meant from an early-stage in the education system STEM courses were at a disadvantage and meant they were more likely to be dropped from learning.

Whilst there have been several Government strategies and STEM initiatives in the past for schools, it was felt that it was hard for them to build momentum. The work required to create a consistent vision and engage with Head Teachers as people leading the direction of schools, meant they failed to deliver as hoped.

It was also mentioned that the complexity of the STEM organisational landscape creates challenges for teachers to look for external support. With over 350+ STEM related organisations, the ability to find people to deliver and engage with children on careers advice in different areas was difficult. It was felt there was a need to streamline and simplify this for teachers. It was felt that sufficient careers advice is missing through all parts of education, from secondary to university.

For universities, while there are levers for the Scottish Government to help direct and feedback industry skills needs through caps on course intake numbers, last minute changes in these have made it feel harder to deliver long term plans and strategy.

There was agreement that there are challenges once students graduate, it was thought that students who had not done a year out in industry sometimes lacked confidence when looking to take up a role in that area. It was also agreed that there are challenges around keeping graduates in Scotland once they have finished their degrees, with graduates often leaving the country to take up their first job. Areas outside of skills, such as infrastructure, quality of life and the affordability of housing are crucial in making Scotland an attractive place to stay and build a career. It was proposed that either a campaign to highlight the range of options for people to take up roles or schemes to encourage work experience in Scotland as people move through degrees, would deliver a lot of benefit in retention of Scottish graduates.

SMEs are growing in Scotland, particularly in the space and photonics industries. To enable that growth, they are looking for skilled people. Some of the challenges that face SMEs were highlighted such as the lack of funding to put people through courses, and they have limited time to recruit and train new staff.

Immigration has also been highlighted as a challenge for SMEs and industry more widely. The level of red tape and bureaucracy was highlighted as a key challenge to bringing people into the country, particularly for those SMEs that had previously relied on employing European Citizens and had no previous experience of dealing with visas or sponsorship.

It was felt that lifelong learning and re-skilling was an important part of the skills question in Scotland. It was felt that getting the funding right is important to enable people to feel they can continuously build skills. It was felt that industry do not enable employees the time to engage in long training courses. It was mentioned that industry could however make better usage of bite-size learning

Closing remarks and reflection

Whilst there are some challenges in the Scottish system that need to be addressed, there is a lot of great opportunity. Scotland is a small country and so can more easily bring together the critical mass of people needed to deliver strong and meaningful change and this should be exploited. Bringing together examples of how the system can really excel and highlighting solutions can have a big impact.