



Science and Technology Committee

Rt Hon Kwasi Kwarteng MP
**Secretary of State for Business, Energy and
Industrial Strategy (by e-mail)**

26 April 2022

Dear Kwasi,

I'm writing to you following the Committee's February [visit to and oral evidence session in](#) Glasgow, as part of its inquiries into the [role of technology, research and innovation in the covid-19 recovery](#) and the [UK space strategy and UK satellite infrastructure](#).

During the morning, we visited AAC Clyde and Spire Global in relation to our work on space and satellites. This provided an opportunity to see first-hand the benefits of clusters and similar organisations being located near to each other. In the afternoon, over lunch we met with students at the University of Strathclyde to hear about their experiences of studying STEM subjects. In our oral evidence session, we heard from academics in Scotland about space and satellites and focussed on the strengths of the Scottish space sector and the challenges it faces. As part of our covid recovery inquiry, we also took evidence from funders, academics and businesses about innovation in Scotland and how science and technology can contribute to the country's economic recovery from covid-19 as well as the support needed to aid R&I investment and realise its benefits.

This letter summarises some themes that arose during the visit and evidence session in relation to covid recovery. We are currently drafting our Report with conclusions and recommendations on space and satellites—our intention is to publish that Report later this year.

Clusters and collaboration

In Glasgow, we saw first-hand the benefits of the close proximity of a number of space businesses and universities interested in space. In our evidence session, the benefits of local collaboration and clusters more generally were highlighted by a number of witnesses. For example, Karen Watt, Chief Executive of the Scottish Funding Council, spoke of the benefits of innovation centres:

They are trying to make that connection between academia, business and the sparks around productivity or pushing into innovations and encouraging businesses, where they can match-fund, to have that element of the innovation centre reaching into their businesses but getting the businesses to come further into that investment space.

Simon Andrews, Executive Director, Fraunhofer UK, similarly spoke about the success of clusters and how pulling different components and organisations together was "much greater than the sum of the parts":

What we see in cluster activity is that active clusters thrive and grow, and it is more than just a couple of companies being similar. [...]

There is no magic in the air; it is about that critical mass and it is about that cluster, and the confidence of having the key people there and also having investment there.

Dr Lynne O'Hare, Chief Commercial Officer, National Manufacturing Institute Scotland (NMIS), said that she would "definitely welcome anything in the R&D spend that fostered collaborative solutions to shared challenges". While all witnesses we heard from shared this sentiment about the benefits of collaboration, Dr Stuart Hannah, Founder, MicroPlate Dx, importantly pointed out the need to learn lessons:

There are a lot of lessons that can be learned from the way some of these clusters have worked before—looking at that in terms of how we continue some of that momentum and what has been done previously in promoting some of the collaborations between academia and industry and keeping some of that going.

However, we heard informally that while funding for clusters was welcome there was a significant risk if funding was withdrawn as it could mean the joint working could not be continued and the benefits of the investment lost.

Clusters have the potential to play a role in bringing together different parts of the research and innovation ecosystem and to help with the translation of ideas from research to commercialisation. This latter stage has been an area where we have previously raised concerns, for example, following [our visit to Manchester](#). We welcome the Government's proposed use of clusters in various policy areas, including proposals in the [R&D roadmap](#). It will, however, be important that the Government learns lessons from what works well and what works less well in relation to clusters and ensures best practice is openly and regularly shared between the different clusters, as well as between different Government departments. Further, the Government will need to ensure that it plans for how the benefits of clusters will be maintained should funding be reduced or withdrawn from the cluster.

De-risking investment

We also heard that the Government and wider public investment had an important role to play in helping businesses to innovate. Dr O'Hare explained, for example:

In supporting innovation and commercialisation research, it is critical that Government support is available. It is recognised that to bring new products and services to market, individual businesses must take risk. That is understood but where the level of risk is too great for an individual business to bear, it is important that Government support is there to help drive the innovation forward.

She provided the following example of how the National Manufacturing Institute Scotland (NMIS), a joint skills academy and centre for manufacturing excellence which is publicly funded, helped businesses and innovators:

Our capability and expertise in the management of residual stresses in NMIS is recognised as leading the way for the UK in a global market. Residual stresses are the leftover effects of materials being heated, cooled, shaped, twisted and turned as they are processed and they can, if unmanaged, cause parts to distort in unhelpful ways, or even to fail in service. Our equipment and expertise has been accessed by many companies, whether they are manufacturing aircraft landing gear, gas turbine power systems or marine propulsion units or working in the oil and gas sector. Without Government support for our research and capability in that area, none of those individual businesses could have brought to their products or services the benefits of that technology, which would not then have been realised in the UK.

Dr Hannah spoke about the need to be able to demonstrate to private investors that a spin-out had been de-risked so that it could attract further investment for the next stage of the innovation process:

... there is a little bit of a gap at the stage that we are at, where we have spun out, we have those proof of concept, those early pots of money into the business, and largely that has been

public funding through places like Scottish Enterprise. It is taking it to that next stage where you are wanting to show that you have been able to essentially de-risk the technology to a degree where it is attractive to private investors to come in.

Public investment has a crucial role to play in supporting and de-risking innovation and importantly commercialisation of research. It will be important for the Government's increased investment in R&D to have some focus on supporting such endeavour.

Local role models

In our [panel of oral evidence on space](#) in Glasgow, Committee member Carol Monaghan MP recalled an exchange we had had on our visit that morning on local role models:

Carol Monaghan: We were out visiting space sector companies this morning and one of the representatives from the sector said to us, "The Scottish Space School [at the University of Strathclyde] is a great opportunity but it often looks at NASA and astronauts and all of that. Why are they not looking at somebody like me who grew up in Glasgow, went to a local comprehensive school and studied at Strathclyde uni? Why are they not using me as a role model?"

We also heard from Dr Gillian Lang, Deputy Director of Science, Glasgow Science Centre, about the work that Centre was doing to engage with local communities and to get them interested in science. Dr Lang saw the role of the Glasgow Science Centre as providing "a conduit between science, technology, innovation and the public, which should be recognised as an important part of the education ecosystem". She went on to cite evidence from a UCL academic on removing barriers to accessing science and the wider benefits that that could bring to local communities:

Emily Dawson at UCL has talked about the lack of opportunity to access science, and learning about science, critiquing science and otherwise enjoying science, can be seen in the form of marginalisation. The science centres are very much looking towards increasing that science capital. If you look to your local science centres, you will see opportunities where they are trying to do that. I believe Glasgow Science Centre may be a bit ahead of the game in terms of developing a real, strong process of that longer-term engagement.

Karen Watt noted that covid had had some unplanned opportunities of highlighting the work of universities and research to the public and showing the role that it plays in local communities:

The other thing for me is that some institutions became much more visible in their communities. We had footfall, not in the way you might have wanted but we had universities and college campuses opening up for vaccines and other things. People who might not ordinarily have gone into these kinds of places were engaging with them in a different way; they were seen in a different, civic space and I think that is very important.

Science, research and innovation play important roles in our everyday lives and that has been particularly apparent during the course of the pandemic. The Government and local organisations, universities and research institutions should capitalise on this focus on science and identify local individuals who have made a contribution to science, research and innovation. These people, and the organisations they are part of, should act as local role models to encourage communities to engage in science and research, and to inspire children to study STEM subjects.

We would be grateful for your reflections on the points raised and an indication of any action the Government will take by Wednesday 18 May 2022.

As is usual with the Committee's correspondence, I will place this letter and your response in the public domain.

With best wishes,

A handwritten signature in black ink that reads "Greg Clark". The signature is written in a cursive style with a large, sweeping initial "G".

Rt Hon Greg Clark MP
Chair