



1. What good practice materials exist in the area of university research commercialization?

The general consensus is that there are good courses and resources available via organizations such as Praxis Unico and ARMA. Given the costs involved (including travel) greater regional provision could ensure more members of staff are able to access such training opportunities.

Many institutions provide in-house training with partners including patent agents and solicitors. These courses are often open to both knowledge transfer (KE) staff, students and academics and are often provided at school, college or institute level. This provision is important to help inspire staff and students to engage with research commercialization.

It has been noted that many of the courses are useful in upskilling staff but it is challenging to ensure uptake in the wider academic staff body (which we return to in question 2).

2. What are the most important topics to be addressed in the area of university research commercialisation - taking account, for example, of those listed in Annex B of the request for evidence document?

As stated in the request for evidence research commercialization can include a variety of partners and objectives, including economic impact. It is important not to lose sight of the value of undertaking research, or using research, for wider purposes and therefore any outcomes of this work should reflect the full breadth of objectives of research commercialization.

Topics that have been highlighted as useful to be addressed include:

Supporting academics to engage with research commercialization

There are a number of drivers in the higher education system and it can be challenging to create the time for academics to engage research commercialization – we would support the creation of a new UK-wide scheme to provide funding to allow academics to establish relationships and deliver significant industrial engagements (including working away from the ‘home’ institution).

Members have noted potential benefit in supporting academics to develop the communication and sales skills to really help drive commercialization of their research. Sharing, or development of, best practice in this area would be of value.

We also can see value in supporting secondment opportunities into and from KE offices to funders, government, businesses and enterprise agencies to improve understanding of working in different environments. This may help to tackle some of the issues raised in annex B around understanding and communicating how different organizations need to work achieve their missions.

Supporting HEIs to de-risk technologies

As highlighted in HEFCE's research it can be very challenging to develop technologies to a stage that industry is able to engage with. The Brunel estimate of £1 million investment per project and 7 years gives an idea of the scale of the challenge facing HEIs. In addition, we know that research with industry does not cover the full cost of that research¹. We therefore see the need for sufficient scale of grant to universities to de-risk technologies to the point where industry is able to engage. Such a programme would also require early customer/market engagement to validate market opportunities (as scope and scale varies by sector) and understand to 'readiness' criteria. It would also necessitate engagement of people with the technical and management skills to design and drive such a programme.

Supporting companies to engage with research

There are a number of well-recognised difficulties and challenges across Scotland including a low spend on R&D and low absorptive capacity for research within businesses². Providing more support for companies undertaking early stage research and development, including 100% research grants (accepting this requires navigation of State Aid), would increase the ability of companies, particularly SMEs, to undertake research.

A minor change that could be made to the current support system would be to pay grants quarterly in advance rather than pay and reclaim which may cause cash flow problems for companies.

Supporting innovation in the public sector

As HEFCE's research also notes public sector innovation is important (particularly to different regions around the UK) to stimulate wider innovation. HEIs can be important partners. We see scope for looking to international comparators³ to learn from good practice and bring such opportunities to the UK.

Public sector support for innovation

Scotland performs well in FDI, partly due to our high quality research base. However, members have highlighted effective international practice to learn

¹ Scottish Funding Council TRAC data 2013-14

² <http://www.ncub.co.uk/reports/growing-value-scotland-final-report.html>

³ <https://www.oecd.org/governance/observatory-public-sector-innovation/blog/page/howdopublicsectororganisationsinnovate.htm>

from in how the public sector can support innovation exploitation (e.g. Belgium, USA and Israel) that can be additional and enhance performance.

3. Would a deep dive investigation in the area of university research commercialisation produce useful results to inform university good practice and policy?

This area has been heavily reviewed and we would be concerned that a further review may not produce new insights and/or generalizable outputs. As described under question 2 there are specific areas that could be improved. This input is based on both practitioner experience and outcomes of previous reviews.

4. How could a deep dive in the area of university research commercialisation be conducted (for example, what participants or evidence sources should be involved)?

Sharing of good practice is valued by the sector. Case studies of the actual journey for research commercialisation has been identified as potentially valuable to support learning, particularly when such case studies cover the full story including timescales and challenges.

5. Please use this space to upload any useful and relevant documents, reports or information on this topic (where you have permission to share them with us).

N/A

6. Please use the box below to provide any other comments relating to this discussion on an investigation into good practice in university research commercialisation.

The recent Science and Technology Committee inquiry⁴ (March 2017) on managing intellectual property and technology transfer highlighted the considerable focus on the 'supply' side of commercialisation rather than the demand side. A key goal of the Industrial Strategy (across all pillars) should be boosting demand for innovation and growth amongst businesses and therefore demand for working with HEIs on research commercialisation. This should be viewed in the broadest terms to include a range of interventions including CPD and consultancy (which is already a significant component of Scottish HEIs >18000 formal interactions with Scottish businesses every year).

We have found consistency across the outcomes of the Innovation Scotland Forum, CAN DO Innovation Forum and National Centre for Universities and Business (NCUB) Growing Value Scotland taskforce and we are not persuaded further general reviews would add to this. The NCUB report stated that, if

⁴ <https://publications.parliament.uk/pa/cm201617/cmselect/cmsctech/755/755.pdf>

university KE offices were to change to focus more on economic development this would *require additional funding from the Scottish Government and should not come at the expense of research funding*, and that a *top down approach is not appropriate* to incentivising universities to work with businesses.

Through engagement with businesses (particularly in developing the Innovation Scotland Forum action plan) we have worked to understand the challenges in collaboration and have delivered a number of actions to improve the university-business interface. These actions range from creating a Specialist Facilities platform, producing common contracts, sharing practice on how HEIs incentivise academics to undertake KE, working with Scottish public sector on scale up training for businesses, and reviewing how enterprise and entrepreneurship is embedded in the undergraduate curriculum. The main concern amongst businesses regardless of sector was access to talented individuals educated to graduate, or higher, level which underscores the importance of placement schemes and HEI and industry collaborations in curriculum development. However, most relevant to this work is the contracts. These contracts represent the starting point for HEIs in engaging with Scottish businesses in the most frequent types of interactions. We will be working to implement these across the sector but would emphasize these contracts are intended to simplify engagement rather than be prescriptive. A one size fits all approach to commercialisation is inappropriate and there must be flexibility in approach to meet the needs of diverse sectors, businesses and places.

We would also note question 9 around specifying detail of research contracting – we consider flexibility to be important to help HEIs develop partnerships. Greater specificity from funders could be challenging to manage in terms of tracking which research related to specific funders (or KE project), matching the contractual arrangements to the purpose of the collaboration (including social or cultural impact) and across reserved and devolved policies. This would likely make the landscape more complex for businesses and other partners (irrespective of where they are headquartered).

There are wider interventions to support the environment for research commercialization. For example, a recurrent finding of reviews into commercialisation is the importance of people, networks and relationships. Ensuring HEIs have the capacity to provide space and support to bring together academics and businesses, particularly recent graduates (who are associated with higher total entrepreneurial activity) could be an important method of enabling sharing of knowledge and perspectives. An appropriate funding landscape is needed to create the right spaces for innovation, including both grant funding and a review of the VAT rules on academic buildings.