Prof. Thomas Stace,
School of Mathematics and Physics,
The University of Queensland,
St Lucia, QLD 4072

t: (07) 3365 1868
e: stace@physics.uq.edu.au

16 October 2021

I am writing in response to the Department of Education, Skills and Employment (DESE) consultation on a Higher Education Research Commercialisation (HERC) IP Framework.

I commend DESE for working towards a smoother pathway for research commercialisation in the university sector.

My submission addresses discussion questions 10 (sector specific commercialisation pathways) and 7 (additional processes) of the consultation document.

HERC Consultation Question 10 — I encourage DESE to recognise:

1. The need for "researcher-led" startups[1]. These are preferred in some sectors, but fall outside the target audiences listed in section 1.3 of the consultation document. I recommend that the HERC IP Framework explicitly address this commercialisation pathway.

HERC Consultation Question 7 — I encourage DESE to address two additional processes that are required to facilitate research commercialisation:

2. Effective management of conflicts of interest (COI) in researcher-led startups. I recommend that the HERC IP Framework include processes and agreements to streamline COI management.
3. Setting expectations of timeframes for timely negotiations around researcher-led startups. I recommend that the HERC IP Framework set expectations on reasonable timeframes for institutional decision making.

I address each of these points below.

Background, I am a researcher in quantum science and technology, and have until recently been the Deputy Director of the ARC Centre of Excellence for Engineered Quantum Systems (EQUS), which is led out of my own institution, the University of Queensland. My commentary here is based on my observations of colleagues' efforts to commercialise their publicly funded research outputs, as well as my own experience over the past 4 years attempting to do the same.

In brief, commercialisation practices in some institutions are opaque and obstructive, and there is a wide range of institutional attitudes and practices, often conflicting, across the sector. These ultimately hinder the commercialisation of research.

This points to an urgent need for improvement and coordination of commercialisation practices across the sector. This is particularly important in the context of nationally funded Centres of Excellence, such as my own ARC Centre for Engineered Quantum Systems (EQUS), which works across 5 different universities.

---

[1] *Researcher-led startup*: a company where the original intellectual property originates with the researcher / academic, where the researcher is a founder and has a significant equity position in the company, and often has an influential role in determining the direction of the company. Adapted from Stanford University Office of Technology Licensing (OTL).

1. Researcher Led Startups

In my field of quantum science, there are a number of high profile startup companies in Australia. In all cases that I know of, these were founded and led by university researchers, with early stage support from their institutions. The formation of researcher-led companies in quantum science (and other fields) is driven by both technical and commercial needs:

- Companies with significant ongoing research and development require close engagement of the originating researchers themselves to deliver the commercial outcome.
- Potential investors in such companies require the technology originators to be active participants in the success of the firm, recognised through substantial commercial control and equity.

These are two areas that I have experienced personally, that should be addressed in the HERC IP Framework to spur the creation of new "research-led" startup companies. The HERC IP Framework consultation document was almost silent on this important commercialisation pathway, but it is critical to facilitate the formation of such companies.

2. Conflicts of Interest

Researcher-led startups require effective management of conflicts of interest (COI). The details of COI management plans will differ across research disciplines. However, there is very little guidance either within institutions or externally on transparent and effective COI management.

COI management is an issue that will arise across many fields of research (including those listed in Table 2 of the HERC consultation document), where researchers have an ongoing interest in commercial outcomes of their research. As a result, guidance for COI management should be included as one of the necessary agreements listed in Table 3 under "spin out or startup".

I strongly recommend that the HERC IP Framework set expectations around effective COI management. This should be included in both "Processes" and "Agreements and Contracts" that are developed in the IP Framework.

Under "Processes", there should be example COI management plans that would be representative of different fields of research. This will ensure that institutions and researchers can act with confidence that future outcomes will be acceptable to research funding bodies and to the wider community.

Actual COI management plans must ultimately be reflected in an agreement between the researcher's and the institution, and the nature of such an agreement could be included in the "Agreements and Contracts" developed in the IP Framework.

3. Timeliness

Researcher-led startups take significant effort on the part of the researchers themselves, as well as the institutions in which they work. In my experience, much of this effort was expended in the mismatch of the speed of institutional decision making compared to timeframes set by commercial opportunities, investor decision making, and the rhythm and rising cost profile of patent filings and maintenance. Institutional decision making that takes substantially longer than these other timeframes means that market opportunities are lost, investors lose interest, and IP protection becomes prohibitively expensive to maintain.

I encourage DESE to include indicative timelines for institutional processes to assess proposals for researcher-led startups. For example, what timeframe is acceptable for technology transfer offices to decide whether to support researcher-led proposals, versus assessing other commercialisation pathways? Setting sector wide expectations for what is acceptable will assist all parties to work to beneficial goals in good time.