

Written evidence submitted by Dr Anke Davis and Roger McKinlay at UK Research and Innovation (UKRI) (QUA0046)

Dear Dr Clark

Thank you for inviting us to give evidence on behalf of UK Research and Innovation (UKRI), as part of your Committee's inquiry into '*Commercialising Quantum Technologies*'. Following your letter of 18 April, we are happy to provide further information on six points.

[The original ambition for industrial match funding for the commercialising quantum technology challenge fund.](#)

The original target for industry match funding for the Industrial Strategy Challenge Fund (ISCF) Commercialising Quantum Technologies Challenge (Quantum Challenge) was £205 million. To date projects backed by the Quantum Challenge have raised £610 million from industry.

[The physical definition of quantum that Innovate UK used during competition funding calls.](#)

Innovate UK produced a technical scope description in 2018 at the start of the Quantum Challenge. The following definition has been used, with minor variations, in all subsequent funding calls:

Your project must exploit the capabilities of second-generation quantum technologies which are defined as those involving the generation and coherent control of quantum states, resulting in phenomena such as superposition or entanglement. We consider technologies involving single photon generation and detection to be in scope.

[The number of projects funded through the commercialising quantum technology challenge fund that were terminated early and the number of projects which failed to start.](#)

Innovate UK has funded 229 projects so far through its Quantum Challenge. Of these, two were terminated after they had received their grant offer letters and six failed to start.

[The data UKRI collects as part of its equality, diversity and inclusion \(EDI\) plan for quantum technology hubs and centres for doctoral training \(CDT\).](#)

All data provided follows the Office for National Statistics suppression and rounding methodology to protect the confidentiality of individuals. Data is as provided to the Engineering and Physical Sciences Research Council (EPSRC) either by universities after each group of students are recruited (student data), or by Hub staff members at the time of application.

We have provided CDT data up to 2021 in the Table 1 below, as the 2022 and 2023 data is not yet available.

Table 1: EDI data for EPSRC Quantum CDT students starting studies between 2019 and 2021

Characteristic	Response	Count
Gender	Female	15
	Male	30
Age Range	Under 30	45
Disability Information Grouped	Known disability	...
	No known disability	45
	Not disclosed	...
Ethnicity Binary	Ethnic minority (excluding white minority)	10
	Not Disclosed	...
	White	35

Results for groups with between one and four individuals are not shown (...). Counts of five or more are rounded to the nearest multiple of five. Counts of zero are not shown.

Recruitment for Hub staff members happens at the university local level. Reporting back on each Hub's management would include the transfer of sensitive personal information about individuals that is not permitted under data protection regulation.

Table 2 shows information for those Hub staff members named on the proposals at the start of the Hub programme running from 2019 to 2024.

Table 2: EDI data for Phase 2 Hub staff at the time of application in 2018

Characteristic	Response	Count
Gender	Female	15
	Male	132
	Unknown	...
Age Range	Under 30	...
	30-39	35
	40-49	55
	50-59	40
	60+	15
	Unknown	...
Disability Information Grouped	No known disability	145
	Not disclosed	5
	Unknown	...
Ethnicity Binary	Ethnic minority (excluding white minority)	15
	Not Disclosed	10
	Unknown	...
	White	125

Results for groups with between 1 and 4 individuals are not shown (...). Counts of 5 or more are rounded to the nearest multiple of five. Counts of 0 are not shown.

What action(s) UKRI would take, if during monitoring of equality, diversity and inclusion, a hub or CDT are not meeting its targets.

Equality, diversity and inclusion (EDI) are integral to UKRI's vision and mission. We recognise that including and valuing a broader range of people and talent will help us achieve the extraordinary potential of research and innovation.

Each EPSRC Quantum Research Hub devised an EDI plan within the first six months of their five-year programme, as stipulated through their research grant conditions. The CDTs funded in 2018 provided EDI plans at the point of application, which were subject to peer review.

Progress against the ambitions set within the Hub and CDT plans are monitored by their Advisory Boards each year. EPSRC sits on the CDT Advisory Boards and EPSRC staff attend the Hub advisory board meetings and for the closed sessions. The CDT plans are also reviewed and monitored for implementation by the Centres themselves.

If at any point it appears that EDI plans are not being deployed, EPSRC enters a discussion with the Hub or CDT. We seek to understand the barriers, then agree review dates for progress. We ultimately reserve the right to suspend a grant if there is no satisfactory action.

If research or training programmes fail to meet relevant legal obligations towards individuals, the university's complaints procedures will primarily be used to determine necessary actions.

[Information on the Science and Technology Funding Council's \(STFC\) quantum-specific apprenticeship training programme and when it is expected to launch.](#)

[The STFC apprenticeship scheme](#) has been running for over 25 years. In 2022 it was awarded gold in the 'We Invest in Apprentices' accreditation from Investors in People. This followed recognition by the Institute of Physics as the Apprentice Employer of the Year in 2020. In March 2023 over 60 apprenticeships were offered in areas including:

- mechanical
- electronic engineering
- software development
- computing
- business administration
- laboratory technician
- digital design

To develop the apprenticeship programme further, STFC is currently working within UKRI and the National Quantum Technologies Programme, as part of a broader Quantum Skills Task Force facilitated by the Department for Science, Innovation and Technology. Together they are identifying the skills needed to support the UK quantum sector and how to deliver suitable training approaches in this area.

In the financial year (FY) 2024/25, STFC aims to investigate, pilot and develop suitable approaches, ahead of delivering quantum enabled apprenticeships in FY 2025/26.

As part of the preparatory work this year, STFC plans to pilot and review Quantum-enabled components with existing STFC apprentices.

The preparatory work includes (but is not limited to):

- developing the understanding of STFC's ability to deliver Quantum-enabled apprenticeships
- engagement and research with relevant Universities and stakeholders
- engagement with relevant stakeholders via the DSIT taskforce to discuss training pathways
- piloting and reviewing existing training available in STFC
- understanding industry training already available
- utilising the exposure in STFC to embed quantum in the rotational pathways.

We hope the information above is helpful to the Committee.

Yours sincerely

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7 May 2024