

## Research and innovation in Scotland

The UK government has committed to increase public R&D investment from £14.8 billion in 2021/22 to £20 billion per year by 2024/25. It has also outlined its plans to 'level up' the UK, including a focus on infrastructure, innovation and energy security, supporting in the delivery of net zero by 2050.<sup>1</sup>

What does this ambition to increase investment in UK research and innovation mean for Scotland?

This document provides an insight into the current research and innovation landscape in Scotland to inform discussions over how people across the nation can contribute to and share the benefits of R&D investment in the UK.

### How much is spent on R&D activity in Scotland?

FIGURE 1

R&D spend in Scotland.<sup>2</sup>

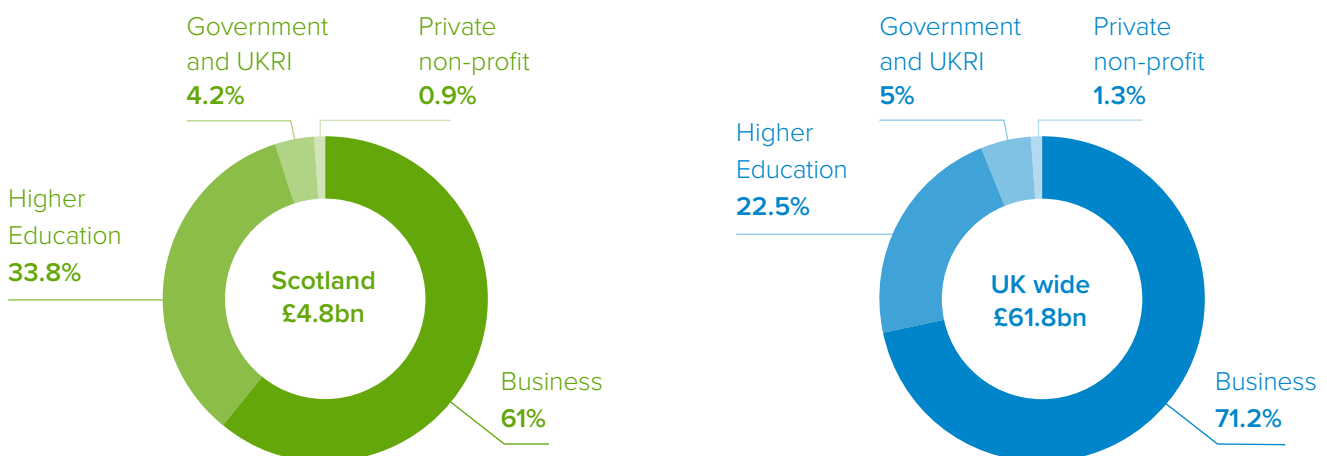
8.1% of the UK's population is based in Scotland.<sup>3</sup>



### Who performs R&D in Scotland?

FIGURE 2

Distribution of R&D spend in Scotland and UK wide, 2020.<sup>4</sup>



Note: The 2020 Gross Domestic Expenditure on R&D data should be treated as estimates. The ONS have outlined these are the current best estimates, but they are improving their methodology, including making improvements to the measurement of business and higher education sectors.

# Where does R&D take place in Scotland?

FIGURE 3

Map of R&D activity in Scotland.

**KEY**

- Universities
- Science parks
- Business incubators and accelerators
- Innovation centres

**26,210** professional, scientific, and technical workplaces\*<sup>5</sup>

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**19** universities<sup>6</sup>

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**27** colleges<sup>7</sup>

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**11** science parks<sup>8</sup>

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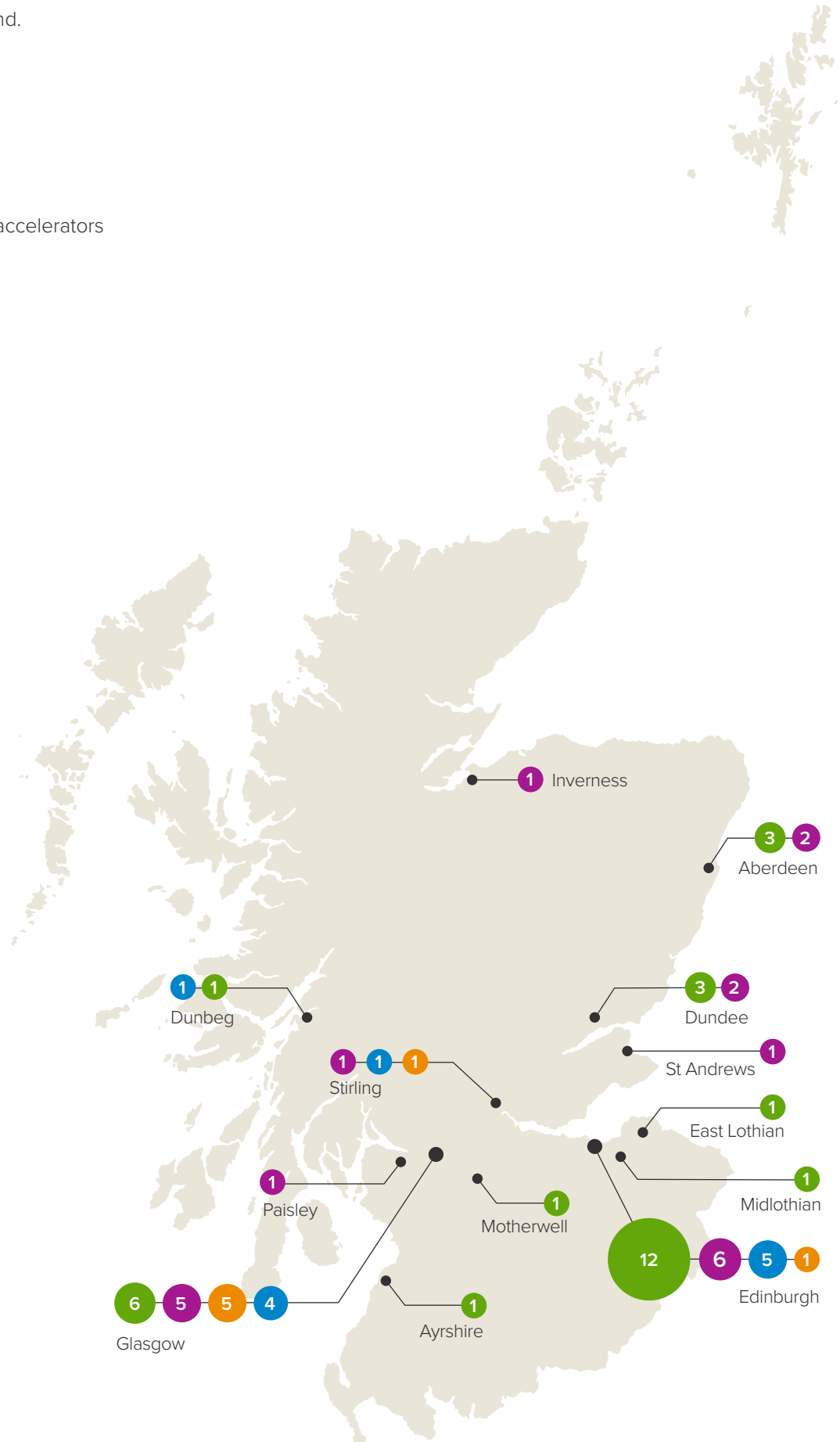
**29** business incubators and accelerators<sup>9</sup>

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**10** research pools<sup>10</sup>

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**7** innovation centres<sup>11</sup>



\*Includes professional, scientific and technical workplaces as defined by ONS coding (69-75).

Note: The R&D sites listed may not be exhaustive.

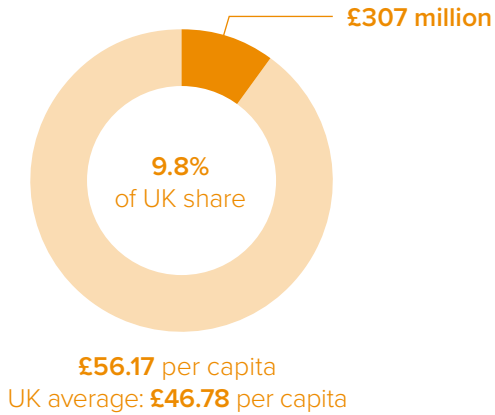
## How is R&D in Scotland funded and supported?

R&D is funded and supported in many different ways. This includes direct investment from public, private, charitable and overseas sources, as well as indirect measures that encourage further private investment such as R&D tax credits.

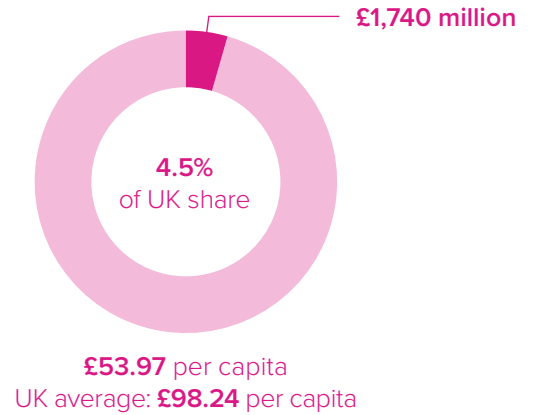
FIGURE 4

Examples of R&D funders in Scotland.

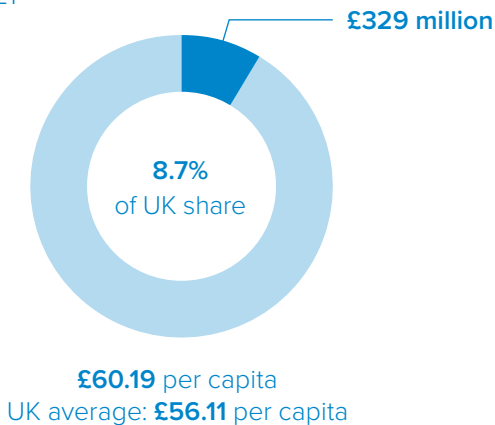
### Higher Education Funding (Scottish Funding Council)\*<sup>12</sup> 2021 – 2022



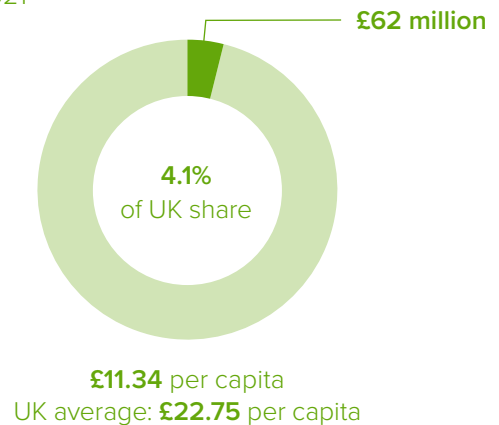
### R&D tax credits<sup>13</sup> 2020 – 2021



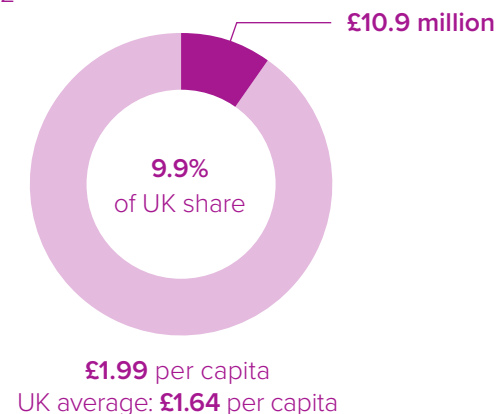
### Research councils<sup>14</sup> 2020 – 2021



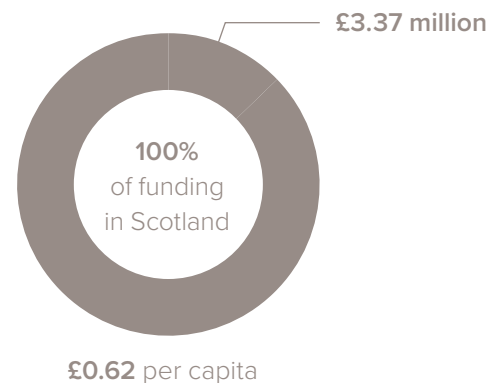
### Innovate UK<sup>15</sup> 2020 – 2021



### The Royal Society\*\*<sup>16</sup> 2021 – 2022



### The Royal Society of Edinburgh<sup>17</sup> 2022



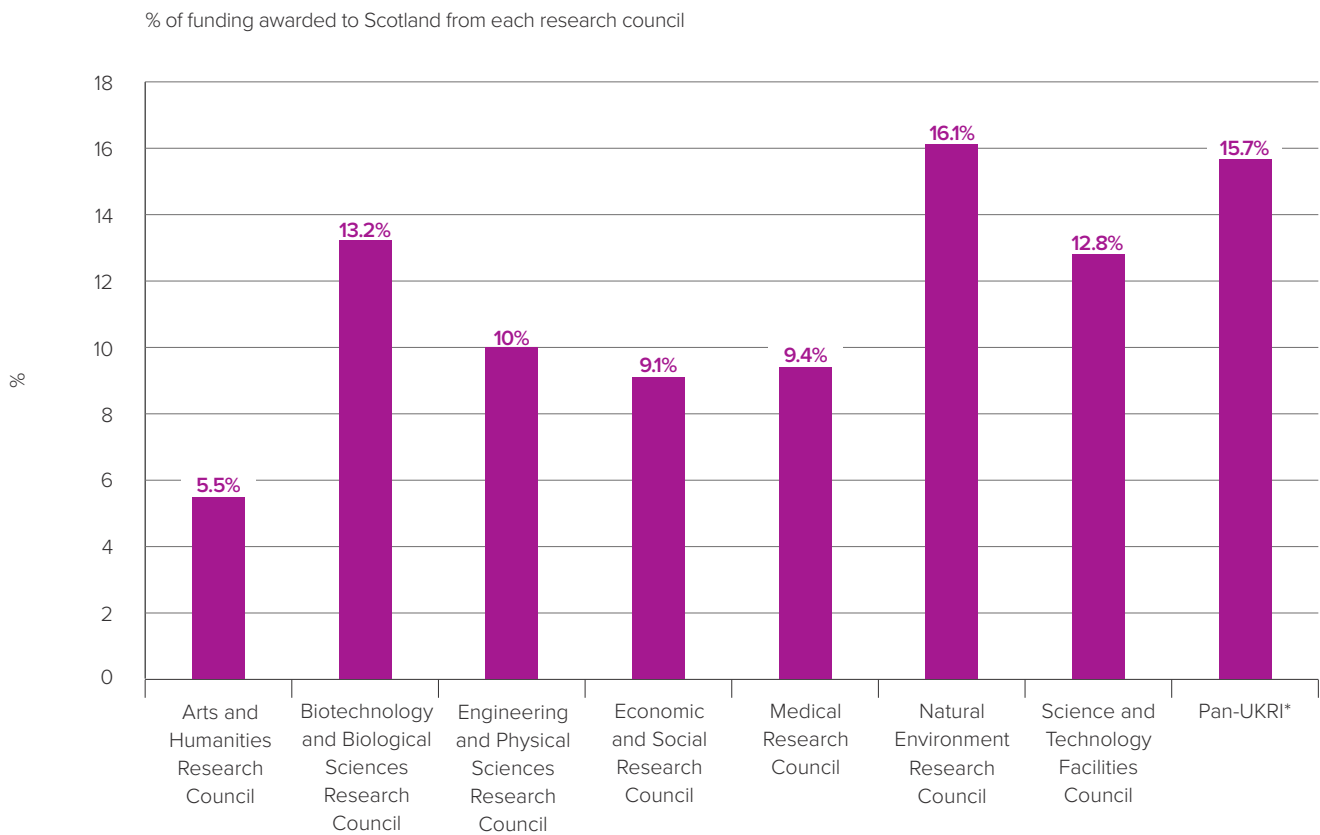
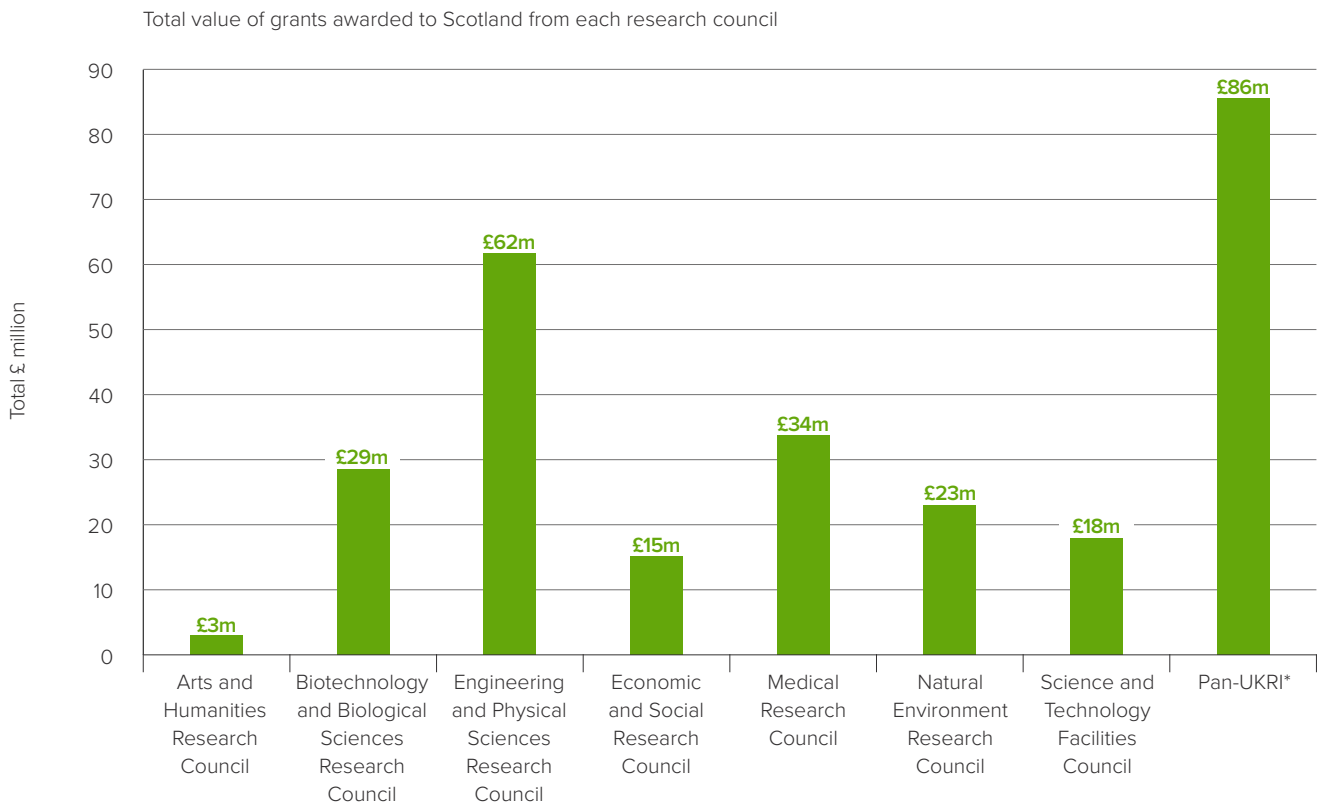
\* This includes the funding of research pools and innovation centres (page 2).

\*\* Grants are mostly made to higher education institutions but may also include some payments made to individuals and companies. The figure is by location of the lead organisation, however some schemes may collaborate with institutions outside of the UK.

Note: Per capita figures calculated using ONS mid-2020 populations.

**FIGURE 5**

How much did each of the research councils invest in Scotland in 2021 – 2022?<sup>19</sup>



\*Pan-UKRI includes COVID, Fund for International Collaboration (FIC), Future Leaders Fellowships (FLF), Global Challenges Research Fund (GCRF), Industrial Strategy Challenge Fund (ISCF), Newton Fund, Strategic Priorities Fund (SPF) and Strength in Places Fund (SIPF).

Note: This excludes non-competitive grants, such as funding for UKRI institutes.

## There is no R&D without people

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.

FIGURE 6

A snapshot of Highers being taken in Scotland, 2022.<sup>20</sup>

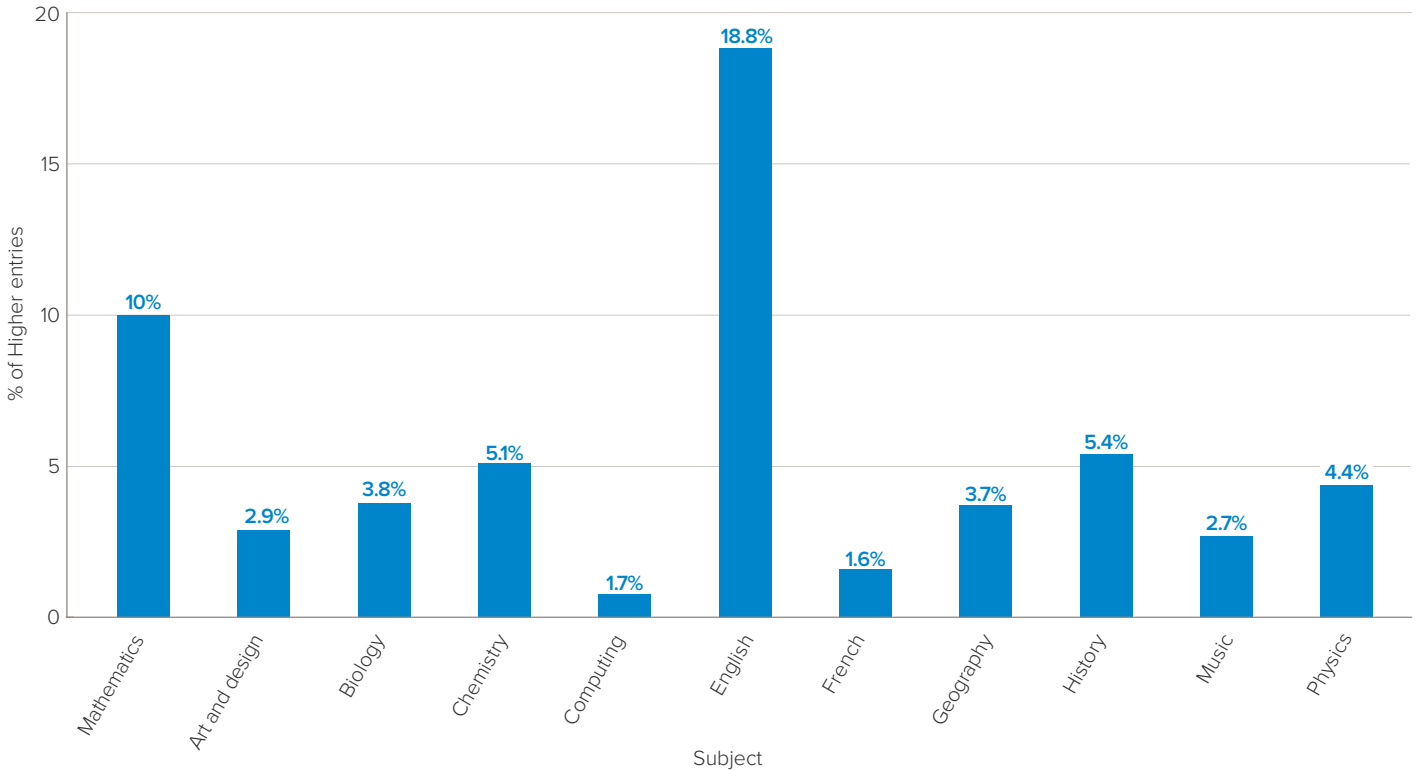
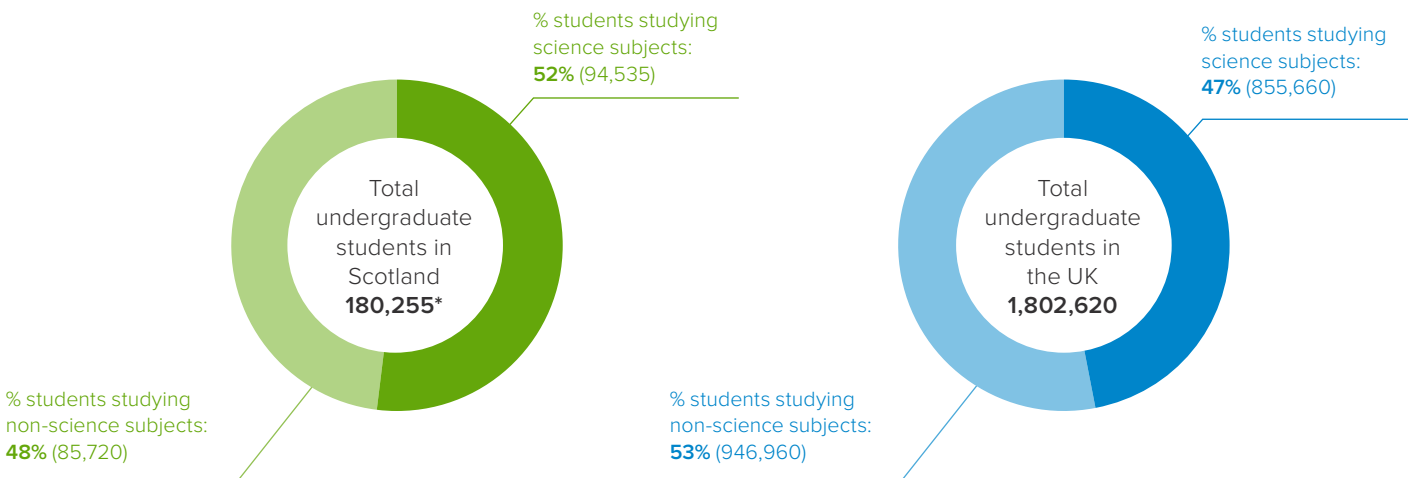


FIGURE 7

What are undergraduates studying at Scottish universities?<sup>21</sup>

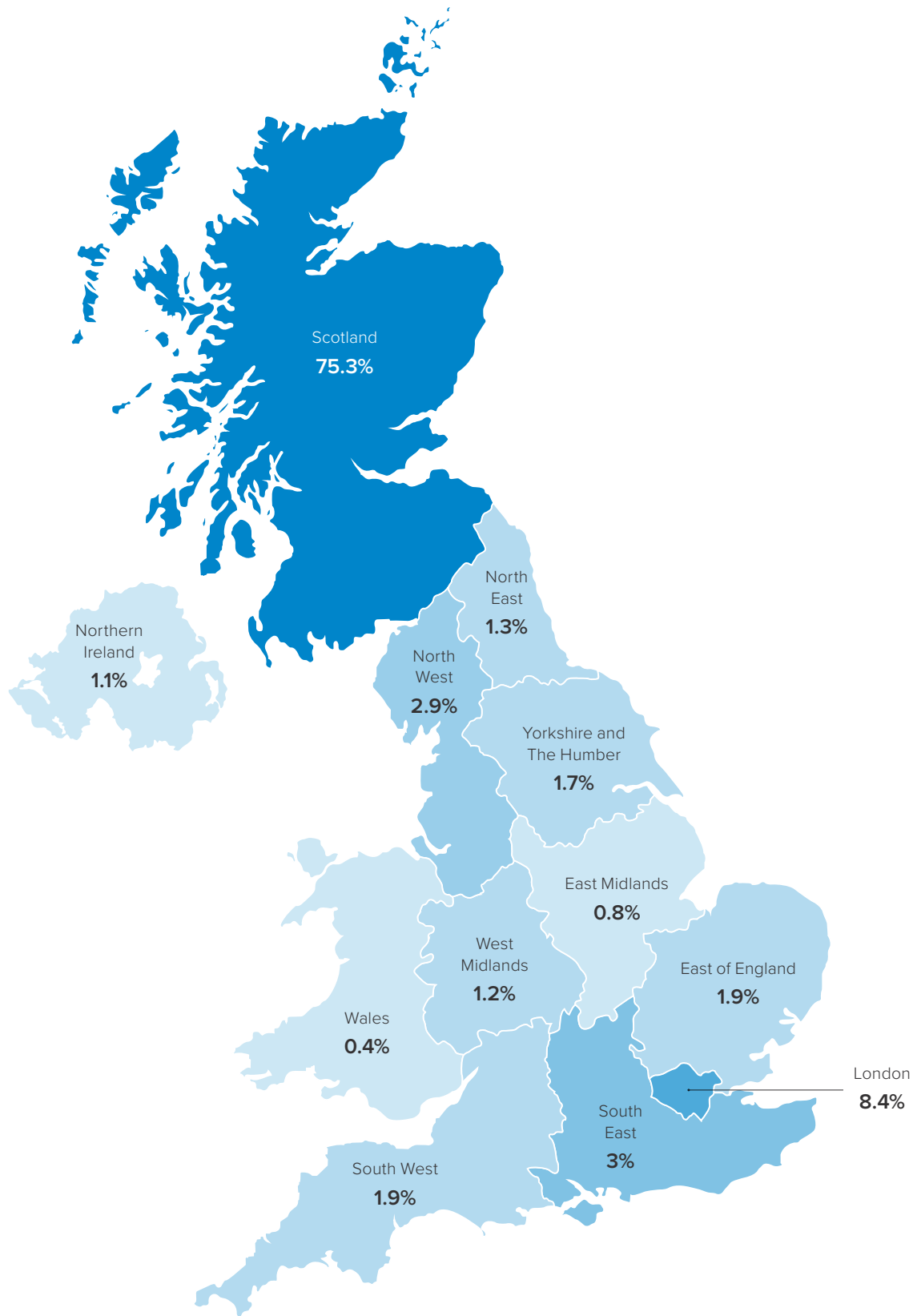


\* Total undergraduates in Scotland does not include students studying at the Open University who are based in Scotland.

Note: The HESA science grouping includes subjects like medicine, nursing, and agriculture which may not be included in other definitions of STEM (science, technology, engineering, and maths). Includes CAH Level 1 01-11, 13 and 26 (geography - natural sciences).

FIGURE 8

Proportion of Scottish graduates working in the different regions and nations of the UK.<sup>22</sup>



Note: sample only includes surveyed graduates who remained in the UK for work after graduation. Proportion may not add up to 100% due to rounding.

How many people are employed in R&D in Scotland?

**16,000**

staff employed in R&D at  
Scottish companies in 2020.

**5.7%** of the UK total.<sup>23</sup>

**16,500**

research staff employed at  
Scottish universities in 2021/22.

**10.9%** of the UK total.<sup>24</sup>

Note: University research staff refers to academic staff with roles in both teaching and research or in research only. Both full-time and part-time research staff are included in the figure.

## Find out more

### Promoting research excellence

The Royal Society of Edinburgh's Research Awards Programme, running twice a year, supports excellent research in all academic disciplines. While sponsoring Scottish research and innovation is key, the awards also aim to nurture promising talent and to promote international collaboration. Find out more on [rse.org.uk/about-our-funding-programmes](https://rse.org.uk/about-our-funding-programmes)

### Investing in UK R&D

Explore research and innovation in other areas of the UK and read the Royal Society's briefings on R&D investment in the UK produced together with the other UK National Academies. Find out more on [royalsociety.org/uk-research-and-innovation](https://royalsociety.org/uk-research-and-innovation)

### Contributing to Scottish and UK R&D Policy

Drawing on the expertise of its diverse fellowship, the Royal Society of Edinburgh provides independent and authoritative evidence on different topics of relevance, including on research and development policy. Find out more on [rse.org.uk/expert-advice](https://rse.org.uk/expert-advice)

### Industry programme

The Royal Society's Science and Industry programme connects industry with the Society and promotes the value of science to the economy by bringing together industry, academia, and government. Find out more on [royalsociety.org/industry](https://royalsociety.org/industry)

### Supporting education for R&D

The Tertiary Education Futures project brings together education providers, industry and other stakeholders to facilitate cross-disciplinary dialogue to inform public policy on the future of tertiary education in Scotland. Find out more on [rse.org.uk/tertiary-education-futures-project](https://rse.org.uk/tertiary-education-futures-project)

### Promoting excellence in science

The Royal Society promotes excellence in science and supports international collaborations by funding research in the life and physical sciences, including engineering, in the UK and internationally. Find out more about the Royal Society's grants programmes on [royalsociety.org/grants](https://royalsociety.org/grants)

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