

Research and innovation in Wales

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 2050.¹

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

This document provides an insight into the current research and innovation landscape in Wales to inform discussions around 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 Wales?

FIGURE 1

R&D spend in Wales, 2020.²

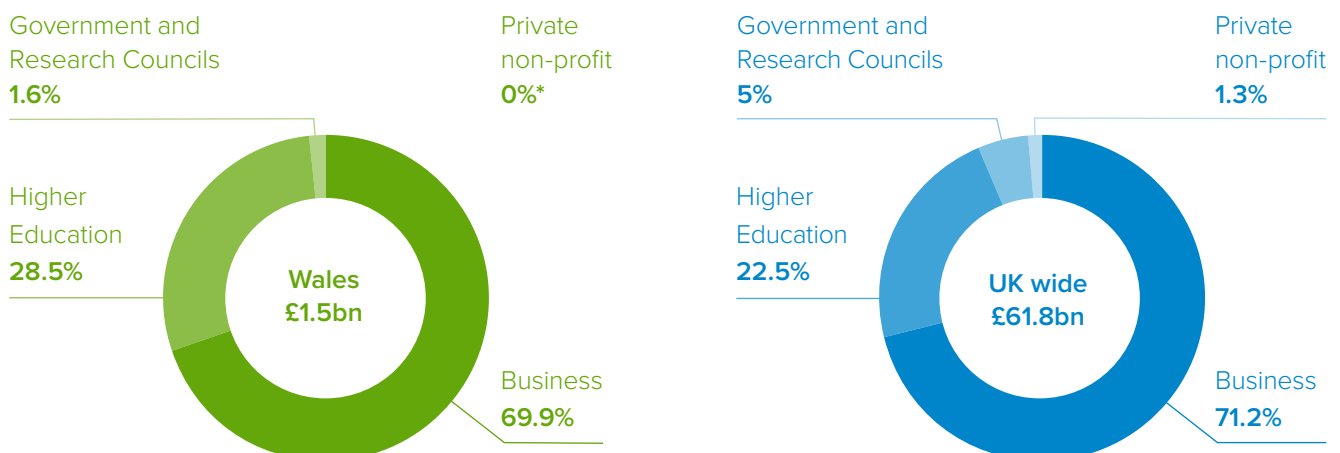
4.7% of the UK’s population is based in Wales.³



Who performs R&D in Wales?

FIGURE 2

Percentage distribution of R&D spend in Wales and UK wide, 2020.⁴



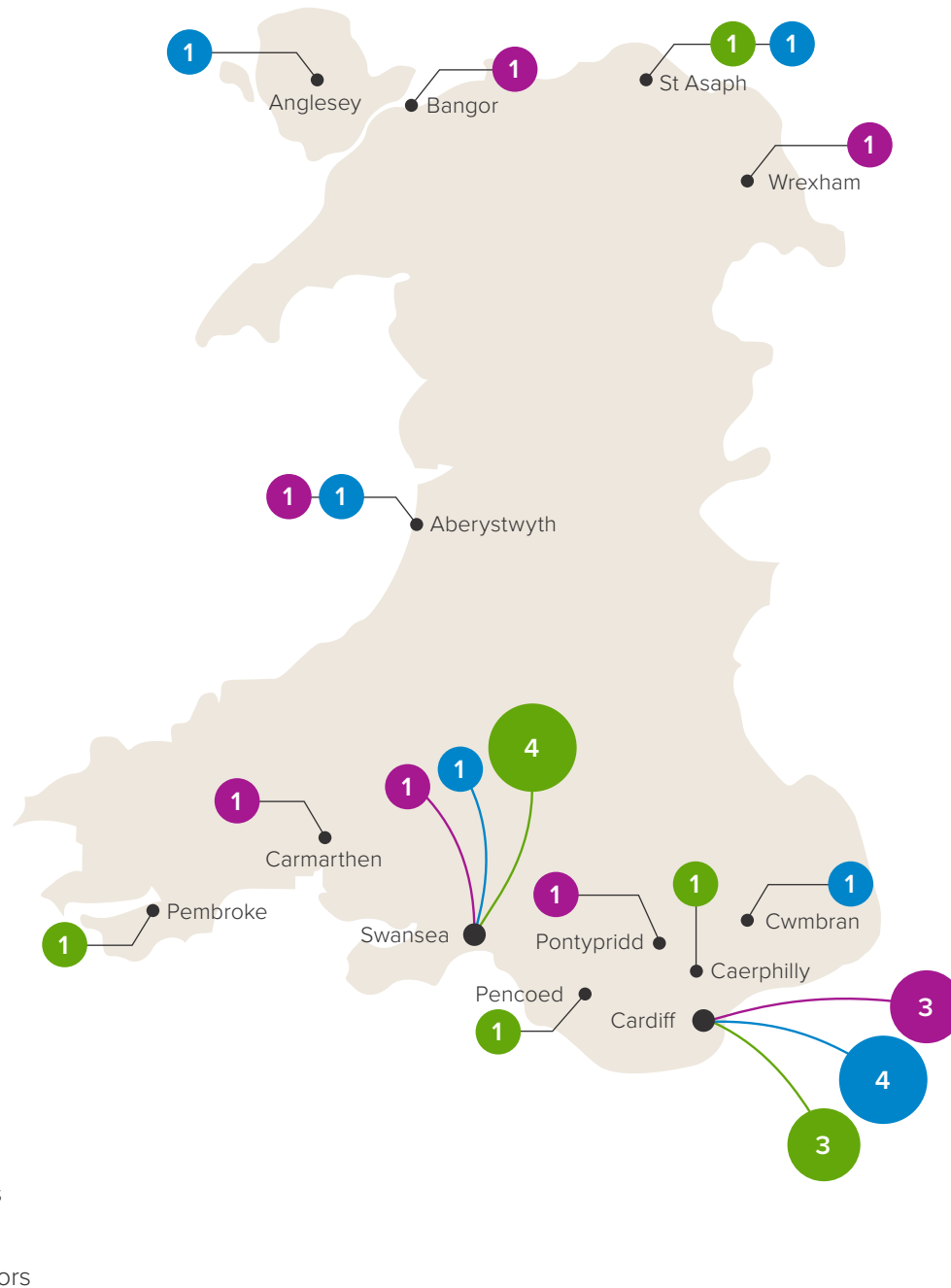
*ONS data for the private non-profit sector spend in Wales is unavailable or too small to present.

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 Wales?

FIGURE 3

Map of R&D activity in Wales.



11,300 professional, scientific, and technical workplaces*⁵

9 universities⁶

9 science parks⁷

11 business incubators and accelerators⁸

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

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

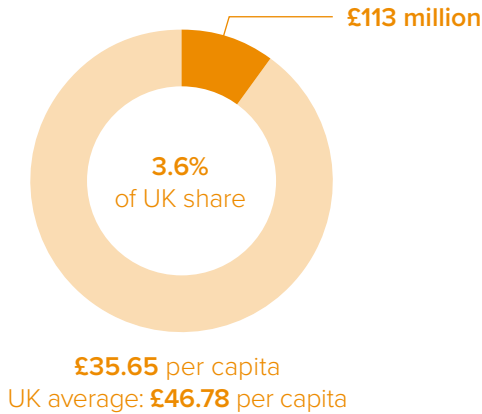
How is R&D in Wales funded and supported?

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.

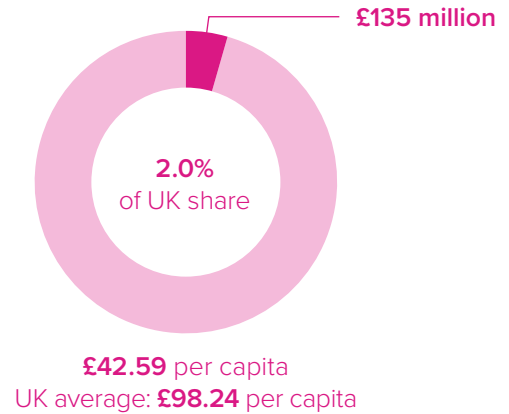
FIGURE 4

Examples of R&D funders in Wales.

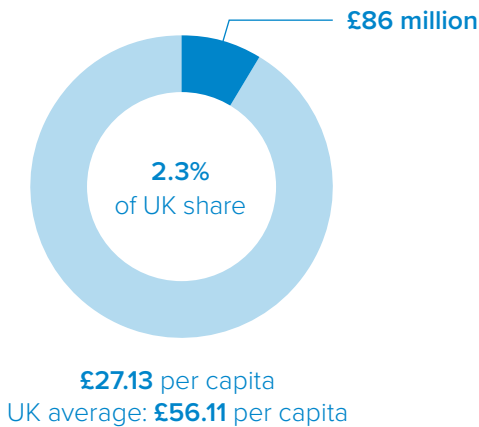
Higher Education Funding⁹ (Higher Education Funding Council for Wales) 2021 – 2022



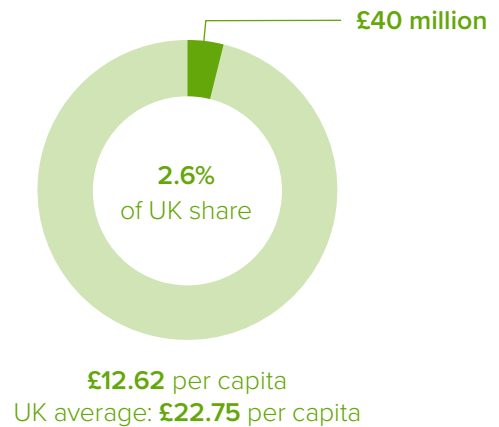
R&D tax credits¹⁰ 2020 – 2021



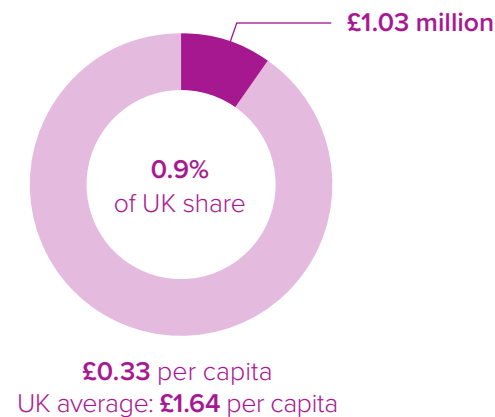
Research councils¹¹ 2020 – 2021



Innovate UK¹² 2020 – 2021



The Royal Society^{*13} 2021 – 2022

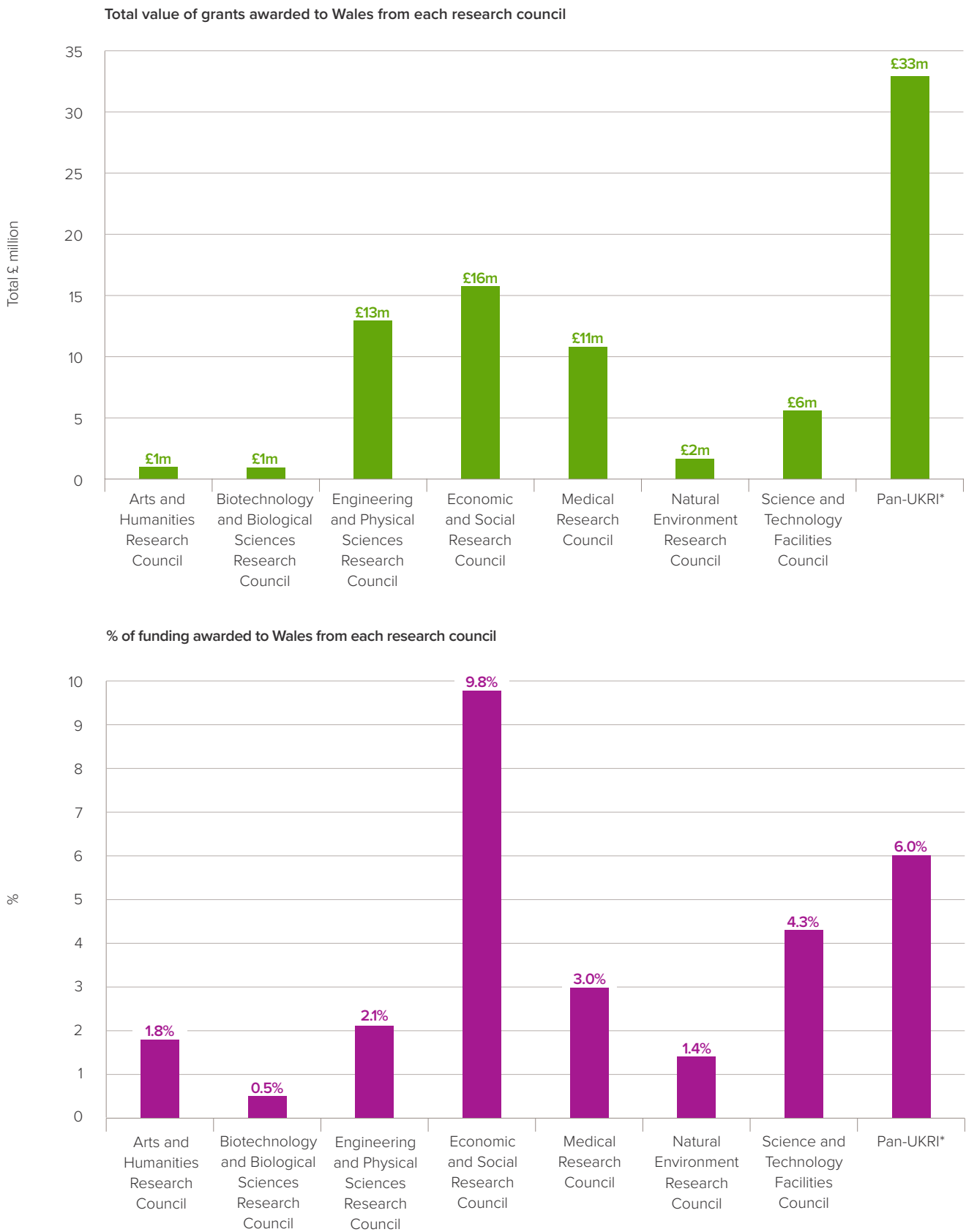


* Grants are mostly made to higher education institutions but may also include some payments made to individuals and companies. The figure is by location of the lead organisation, however some schemes may collaborate with institutions outside of the UK.

Note: Per capita figures calculated using ONS mid-2020 populations.¹⁴

FIGURE 5

How much did each of the research councils invest in Wales in 2021 – 2022? ¹⁵



*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).

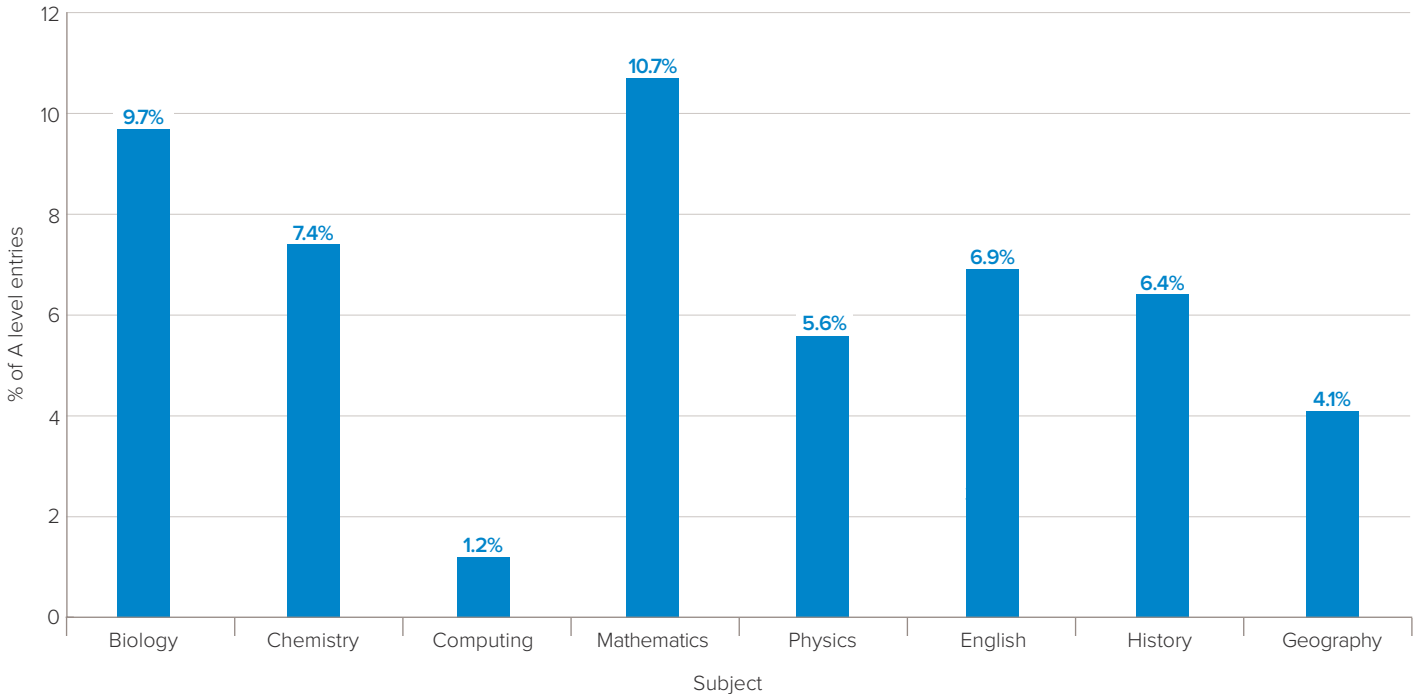
Note: This excludes non-competitive grants, such as funding for UKRI institutes.

There is no R&D without people

A thriving R&D environment in Wales requires a talented workforce to perform research and young people in the pipeline who are equipped with the skills needed in the future economy.

FIGURE 6

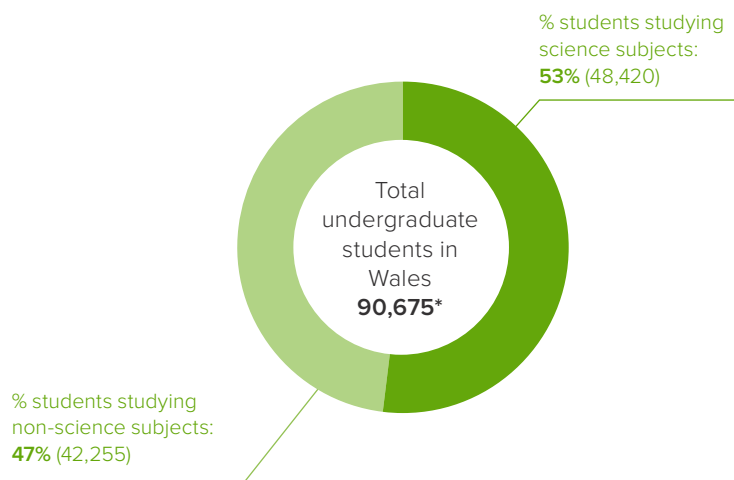
Proportion of A level in Wales in science subjects, 2022.¹⁶



Selected non-science subjects are shown as an example of uptake in other disciplines. English includes entries for English Language, English Literature and English Language and Literature. Includes students of all ages who have undertaken A Levels at all examination centres (including further education institutions and independent schools).

FIGURE 7

Undergraduate science students in Wales, 2020 – 2021.¹⁷

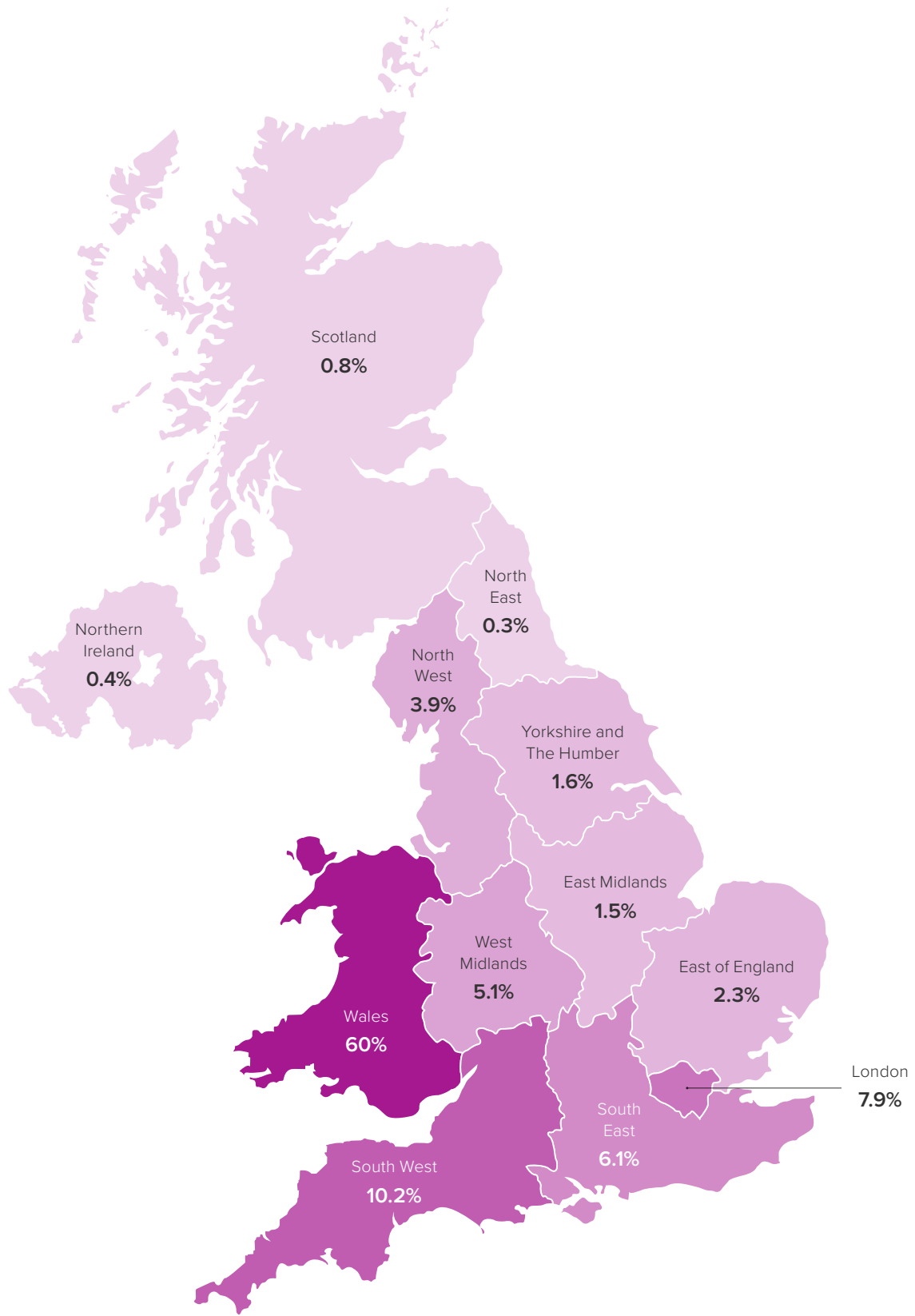


* Total undergraduates in Wales does not include students studying at the Open University who are based in Wales.

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 Welsh graduates working in the each of the regions and nations across the UK? ¹⁸



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 Wales?

7,000
staff employed in R&D at
Welsh companies in 2020.
2.5% of the UK total.¹⁹

6,300
research staff employed at
Welsh universities in 2021/22.
4.2% of the UK total.²⁰

Find out more

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

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

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

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