



UK Research
and Innovation

Investment and Outputs Data 2023-24

Transforming tomorrow together



HC XXXX

Research and Innovation awards, Fellowships and Studentships

The dataset comprises UKRI competitive funding data for activity from 1 April 2023 to 31 March 2024. The data are collected from: Joint electronic Submission system (Je-S); Innovation Funding Service (IFS); Research England's application process; The Funding Service (TFS); and additional funding decisions captured outside core funding systems.

Data from Research England and applications captured outside core funding systems were not available at the point this analysis was compiled. An updated time series will be published in Autumn 2024 including this data. This also does not include applications for non-competitively awarded funding, such as applications for block funding for open access costs and award extensions.

The data are presented below in a series of tables showing: the demand from the sector with the number of applications received in a year; the number of competitively awarded applications and the lifetime value of that commitment; the contribution made by project partners; who our funding actively supported over the year with the number of awards, people (including studentships), organisations, and types of organisations.

For more details on the methodology see [A guide to UKRI Research and Innovation Investments and Output data](#).

Key findings

Below are the key findings from the 2023-24 UKRI investments:

- There were 29,160 applications submitted (0.6% increase from 2022-23) (Table 1)
- The applied value for applications was £16,930m (16% increase from 2022-23) (Table 1)
- 6,145 awards funded (0.5% increase from 2022-23) with a value of £2,996m (3% decrease from 2022-23) (Table 2)
- 5,032 organisations supported (37% increase from 2022-23. This increase is mostly driven by Innovate UK funding more organisations in 2023-24) (Table 5)
- 56,099 people supported (3% decrease from 2022-23) (Table 5)

Table 1. The number of applications^{1,2} submitted in 2023-24

Category	Applications	Lead organisations ³	Applied value ⁴ (£m)
Research and Innovation awards	21,193	11,881	£10,032
Fellowships	1,214	188	£778
Unknown ⁵	6,753	249	£6,121
Total⁶	29,160	12,014	£16,930

¹ The number of applications and organisations are unique instances.

² Horizon Europe Guarantee applications not included.

³ There is no common organisation identifier across Je-S, IFS and TFS, it has not been possible to rule out double counting of organisations.

⁴ The applied value is the life-time costs requested in the application.

⁵ The Funding Service (TFS) are not yet capturing application category for all applications.

⁶ Total count of organisations is lower than the sum of organisations applying for Research and Innovation or Fellowships as some organisations will be counted under both categories.

Table 2: The number of funding decisions made¹ in 2023-24

Category		Applications assessed	Applications awarded	Award rate ² (%)
Fellowship	number	1,746	403	23
	value (£m)	1,293	273	21
Research and Innovation Award	number	27,515	5,742	21
	value (£m)	13,451	2,724	20
Total	By number	29,261	6,145	21
	By value (£m)	14,744	2,997	20

¹ The number and value of applications received is not directly comparable to awards made in 2023-24. The decisions on applications received in 2023-24 may not be made in the same financial year.

² There are 550 applications award that do not have a reference number and therefore they are not part of the award rate calculation and award rate presented here are an under estimation.

The Horizon Europe Guarantee has awarded all eligible applications i.e., an award rate of 100%. This is expected as the Horizon Europe Guarantee scheme provides funding to researchers and innovators who were unable to receive their Horizon Europe funding while the UK was in the process of associating. The UK agreed a deal to associate to Horizon Europe on 7 September 2023.

Table 2a: The number of Horizon Europe Guarantee applications¹ submitted and verified in 2023-34

Horizon Europe Guarantee	Applications submitted ²	Awards offered
By number	1,316	1,246
By value (£m)	763	646

¹ The award and application count and values are different because not all applications submitted received an award in the financial years. Also, some awards have been offered for applications from the previous financial year.

² Submitted applications are verified to ensure they are eligible for funding.

Table 3: Regional¹ breakdown of funding decisions made by number and value in 2023-24

International Territorial Level 1 ^{2,3}	Applications assessed	Applications awarded	Value applied (£m)	Value awarded ⁴ (£m)	Award rate number (%)	Award rate value (%)	Horizon Europe Guarantee number awarded	Horizon Europe Guarantee value awarded (£m)
England	24,777	5,036	12,561	2566	20	20	1,008	532
East Midlands	1419	284	737	126	20	17	38	17
East of England	2,334	540	1,336	285	23	21	137	73
London	8,452	1,433	4,147	694	17	17	274	130
North East	1,079	248	514	151	23	29	44	23
North West	2,164	480	1,028	233	22	23	87	50
South East	3,714	803	1,980	452	22	23	198	116
South West	2,165	524	1,016	265	24	26	73	47
West Midlands	1,714	363	928	171	21	18	92	48
Yorkshire and The Humber	1,736	361	877	189	21	22	65	28
Northern Ireland	567	139	242	41	25	17	24	8
Scotland	2,085	535	1,128	267	26	24	124	64

International Territorial Level 1 ^{2,3}	Applications assessed	Applications awarded	Value applied (£m)	Value awarded ⁴ (£m)	Award rate number (%)	Award rate value (%)	Horizon Europe Guarantee number awarded	Horizon Europe Guarantee value awarded (£m)
Wales	850	185	406	80	22	20	34	16
Not known	982	250	406	43	25	11	56	26
Total	29,261	6,145	14,744	2,997	21	20	1,246	646

¹ We also publish annual reports that cover more of UKRI's funding and are based on the spend in the relevant financial year: <https://www.ukri.org/what-we-offer/what-we-have-funded/regional-distribution-of-funding>.

² This is presented according to the Office for National Statistics' geocode standard of International Territorial Levels <https://www.ons.gov.uk/methodology/geography/ukgeographies/eurostat>.

³ The allocation of an award to an ITL is based on the postcode of the lead organisations. This may not be where the research takes place.

⁴ This table includes funding awarded in a single year but spent over several years.

A project partner provides specific contributions (either direct or indirect) to the research project that the award funds. Project partners are reported at the point of application with the applicants' estimate of the financial value of their contribution to the research. Connecting different communities and sectors is key to maximising the outputs of research and innovation. The table below indicates the breadth of co-investments our awards leverage.

Table 4: The number and value of project partner contributions on awards¹ in 2023-24, by sector

Project partner sector	Number of awards	Total partnerships	Project partner organisations ^{2,3}	Total contribution (£m)
Academic/University/Learned Society	2,003	3,126	1,052	137
Charity/Non-profit	304	408	343	7
Private	4,427	7,213	5,508	1,046
Public (Including NHS trusts)	418	725	505	28
Other (including unknown)	419	956	857	84
Total	5,876	12,427	8,258	1,301

¹ Awards included have at least one project partner; an award can involve many project partners from the same or different sectors.

² Project partner organisations is the count of unique organisations involved in partnerships; organisations may be involved in more than one partnership.

³ There is no common organisation identifier across Je-S, IFS and TFS, it has not been possible to rule out double counting of organisations.

Table 5: Who our funding supported¹ in 2023-24, by category

Category	Number of awards	People (Individuals) ²	Organisations ³
Research and Innovation	18,840	27,088	4,558
Fellowship ⁴	2,068	2,102	157
COVID	27	202	19
Horizon Europe Guarantee	3,102	1,292	771
Studentship ⁵	27,531	27,257	118
Of which Studentships starting 2023-24	5,201	5,164	77
Total⁶	51,655	56,099	5,032

- 1 The figures are distinct instances of award references, people, and organisations under all categories.
- 2 The count of people supported does not include Innovate UK who track the organisations they fund, not the people involved, so are unable to count the individuals involved.
- 3 There is no common organisation identifier across Je-S, IFS and TFS, it has not been possible to rule out double counting of organisations.
- 4 There are Fellowships with a Co-Investigator on the award.
- 5 Students can be registered to more than one Studentship award.
- 6 The total number of people and organisations may be less than the sum of the counts by award categories, this is because the same person or organisation can be involved in more than one award category.

Table 6: The number of organisations supported in 2023-24, by sector

Sector	Number of organisations ^{1,2}
Academic/University/Learned Society	346
of which are UK HEP ³	138
Charity/Non-Profit	17
Private	4,423
of which are SME	3,192
Public (including NHS Trusts)	258
Other (including unknown)	13
Total	5,032

- 1 Number of organisations is the count of lead organisations as reported at the application stage of the award.
- 2 There is no common organisation identifier across Je-S, IFS and TFS, it has not been possible to rule out double counting of organisations.
- 3 HEP, Higher Education Provider as defined by HESA (Higher Education Statistics Agency) see: <https://www.hesa.ac.uk/support/providers>.

Table 7: The number of Research Council funded PhDs submitted by calendar year¹, 2019-23

Year submitted	Number of PhDs reported 2023 survey
2019	4,970
2020	3,656
2021	5,011
2022	4,988
2023	1,516

- 1 There is a time lag between a student submitting their PhD and the student submission survey being completed.

Table 8. The number and value of applications received from 2020-21 to 2023-24 (excluding COVID-19 applications)

	2020-21	2021-22	2022-23 ¹	2023-24
Total applications received ² (number)	25,640	22,998	28,985	29,159
Applied for value ³ (£m)	14,198	11,103	14,617	16,928

- 1 Research and Innovation applications have been deemed ineligible and excluded from the dataset if the application value exceeded the competition criteria.
- 2 Horizon Europe Guarantee not included.
- 3 The applied value is the life-time costs requested in the application.

Table 8a: The number and value of applications received from 2020-21 to 2023-24 (including COVID-19 applications)

	2020-21	2021-22	2022-23 ¹	2023-24
Total applications received ² (number)	46,462	24,421	28,985	29,160
Applied for value ³ (£m)	17,544	11,178	14,617	16,930

¹ Research and Innovation applications have been deemed ineligible and excluded from the dataset if the application value exceeded the competition criteria.

² Horizon Europe Guarantee not included.

³ The applied value is the life-time costs requested in the application.

Table 9: The number of funding decisions¹ from 2020-21 to 2023-24, by category

Category	2021-22			2022-23			2023-24		
	Assessed Applications	Awarded Applications	Award Rate (%)	Assessed Applications	Awarded Applications	Award Rate (%)	Assessed Applications	Awarded Applications	Award Rate (%)
Fellowships									
By Number	2,517	501	20	1,467	454	31	1,746	404	23
By Value (£m)	1,825	309	17	955	266	28	1,293	273	21
Research and Innovation									
By Number	19,872	4,676	24	20,845	5,664	27	27,515	5,742	21
By Value (£m)	10,052	2,603	26	9,316	2,833	30	13,451	2,723	20
Covid 19 Rapid Response & UKRI response to COVID									
By Number	1,202	320	27	This is no longer applicable					
By Value (£m)	74	35	47						
Total By Number	23,591	5,497	23	22,312	6,118	27	29,261	6,145	21
Total By Value (£m)	11,952	2,947	25	10,270	3,099	30	14,744	2,996	20

¹ Horizon Europe Guarantee not included.

Output data for Research and Innovation awards and Fellowships

The outputs data consists of outputs collected from awards required to provided outcomes between the 1 April 2023 and 31 March 2024. The data are collected using Researchfish and routine surveys.

The Researchfish system requires recipients of funding to report emerging outputs, outcomes, and impacts for the duration of their award and for at least 5 years beyond. Once a year there is a formal submission period when researchers are required to confirm that their information is accurate and up to date. The data in this report are taken from the submission period that closed March 2023.

Innovate UK uses a Project Completion Form to collect outputs, outcomes, and impacts from all project participants when the project nears completion. Each participant is routed through the survey depending on their organisation type, role in the project, and responses to questions. The survey is completed once for each project.

Data from the two collections has been combined and is presented below in a series of tables showing numbers of outputs by year of award starting. The data are self-reported and not meant to be exhaustive of all outputs realised. Data is reported over time and older awards have had more time to generate outputs, thus recent awards are still accruing outputs.

Awards starting in more recent years are expected to continue to produce outputs for several years and increases across reporting years are due to cumulative outputs reported over time.

For more details on the methodology see [A guide to UKRI Research and Innovation Investments and Output data](#).

Key Findings

Below are the key findings from the 2023-24 UKRI outputs reported:

- 3,295 awards reported an output (25% increase from 2022-23) (Table 10)
- 901 awards (19% increase on last year) reported 5,726 instances of publications (64 % increase from 2022-23) (Table 14)
- 409 awards (25% increase on last year) reported 988 other knowledge outputs (19% increase from 2022-23) (Table 15)
- 1,677 spinouts reported and verified (44% increase from 2022-23. This increase is mostly driven by new legacy spinouts arising from EPSRC funded research) (Table 18)

Table 10: Number of awards reporting outputs, awards started 2019 to 2023

	Year award started				
	2019	2020	2021	2022	2023
Number of awards	5,889	8,853	6,514	8,686	9,114
Number in Researchfish	3,448	3,608	3,620	3,910	2,554
Innovate UK – Number of awards with a Project Completion Form	1,071	1,803	1,177	1,236	741
Number of participants completing a Project Completion Form	2,198	3,070	2,019	1,503	940
Total of awards reporting an output	4,519	5,411	4,797	5,146	3,295

Research collaborations might take the form of joint funding, exchanging expertise, access to wide ranging facilities and equipment, accessing datasets, working across different sectors, and bringing together inter-disciplinary teams required to tackle complex problems. This indicator highlights new collaborations as reported after the award has started. It relates to the maturity of the multi-year award, with the increase due to cumulative collaborations monitored over time. Researchers may also report collaborations that were in place at the point of application. Collaborations are only included in the indicator for the year the award started but the collaboration may continue for several years after this date.

Table 11: Collaborations and type of collaborators, awards¹ started 2019 to 2023

		Year award started				
		2019	2020	2021	2022	2023
Instances of collaborations ^{2,3}		8,598	6,862	5,292	3,927	1,529
number reported in 2022-23		7,147	5,547	3,759	1,653	-
(% increase since 2022-23)		20	24	41	138	-
Instances of collaborators ⁴		12,386	9,384	7,111	5,139	2,044
Sector of collaborators	Academic/university/learned society	6,609	4,341	3,264	2,451	1,045
	Charity/non-profit	1,382	1,093	585	420	153
	Other (including unknown)	1,648	1,746	1,539	1,145	419
	Private	1,236	850	757	467	177
	Public (including NHS Trusts)	1,511	1,354	966	656	250
Number of awards reporting at least one collaboration		1,859	1,852	1,687	1,442	757
Percentage of Total awards reporting at least one collaboration		54	51	47	37	30
Total number of awards		3,448	3,608	3,620	3,910	2,554

¹ The dataset comprises awards in Researchfish only.

² Definition of Collaboration, an interaction or set of interactions focused on a distinct project.

³ Total count of collaborations will be lower than the count of collaborators, as one collaboration can involve many collaborators

⁴ Definition of Collaborator, all the participating institutions involved in collaborations.

International collaboration shows that researchers are collaborating and exchanging expertise around the world and gaining access to international facilities and infrastructure. This indicator highlights new collaborations as reported after the award has started. It relates to the multi-year award, with the increase due to cumulative collaborations monitored over time. Collaborations are only included in the year the award started but the collaboration may continue for several years after this date.

Table 12: UK and international collaborators, awards^{1,2} started 2019 to 2023

	Year award started				
	2019	2020	2021	2022	2023
Number of awards with only UK collaborators ³	549	642	610	543	277
Number of UK collaborators involved	1,346	1,624	1,438	1,141	529
Number of awards with only international collaborators	539	484	437	419	239
Number of international collaborators involved	1,093	972	728	670	359
Number of awards with both UK and international collaborators	706	616	471	339	150
Number of UK collaborators involved (on awards with both UK and international collaborators)	4,409	2,692	1,893	1,275	390
Number of international collaborators involved (on awards with both UK and International collaborators)	3,883	2,363	1,496	885	384
The total number of awards with collaborators	1,794	1,742	1,518	1,301	666
number reported in 2022-23	1,688	1,538	1,218	593	-
(%) increase since 2022-23	6	13	25	119	-
The total number of UK collaborators involved	5,741	4,298	3,320	2,413	887
number reported in 2022-23	4,867	3,630	2,397	976	-

	Year award started				
	2019	2020	2021	2022	2023
(%) increase since 2022-23	18	18	39	147	-
The total number of international collaborators involved	4,963	3,329	2,223	1,549	733
number reported in 2022-23	4,150	2,684	1,506	607	-
(%) increase since 2022-23	20	24	48	155	-

- ¹ The dataset comprises awards in Researchfish only.
- ² Data only includes collaborators where the location of the collaborator is known.
- ³ Definition of collaborator, all the participating institutions involved in collaborations.

Researchers engage with a wide variety of audiences and stakeholders to communicate research outcomes, disseminate knowledge, stimulate public awareness, and encourage public engagement and dialogue. The engagement activities indicator helps demonstrate the extent to which researchers are engaging with others including audiences outside academia. Activities are only reported in the year the award started, though many will have been delivered after that year.

Table 13: Engagement activities, awards¹ started 2019 to 2023

	Year award started				
	2019	2020	2021	2022	2023
Instances of engagement activities	45,695	34,431	24,169	17,481	5,536
number reported in 2022-23	38,179	24,598	14,941	5,702	-
(%) increase since 2022-23	20	40	62	207	-
Number of awards reporting at least one engagement activity	2,299	2,349	2,248	2,106	1,061
Percentage of Total awards reporting at least one engagement activity	67	65	62	54	42
Total awards	3,448	3,608	3,620	3,910	2,554

- ¹ The dataset comprises awards in Researchfish only.

To support our understanding of the impact of our research, we measure how and when our researchers publish. This supports the dissemination of research finding to a wider audience and increases the visibility of research.

Table 14: Knowledge output, awards¹ started 2019 to 2023

	Year award started				
	2019	2020	2021	2022	2023
Books	624	416	225	112	27
Book chapters	1,650	1,228	677	357	57
Journal articles	49,517	32,755	20,642	12,445	4,443
Other publications ²	14,272	11,933	7,272	4,098	1,235
Total instances of publications ³	66,062	46,332	28,815	17,012	5,762
number reported in 2022-23	47,301	27,617	12,710	3,519	-
(%) increase since 2022-23	40	68	127	384	-
Number of Total awards reporting at least one publication	2,988	3,019	2,816	2,165	901
Percentage of Total awards reporting at least one publication	66	56	59	42	27
Total awards	4,519	5,411	4,797	5,146	3,295

- ¹ The dataset comprises awards in Researchfish and for which the Project Completion Form has been completed.
- ² Other publications include for example, edited book, conference paper, policy briefing.
- ³ Instances of publications are not a count of unique publications. Duplicate publications may occur where different researchers have entered similar information independently of one another. Publications may also occur from more than one award. Efforts have been made to remove some duplications using Digital Object Identifier (DOI), but not all publications have a DOI.

In addition to publications, we measure the diverse ways in which our research translates into types of knowledge outputs across the research and innovation sector.

Table 15: Other types of knowledge output, awards¹ started 2019 to 2023

	Year award started				
	2019	2020	2021	2022	2023
Artistic and creative	2,167	4,420	1,538	784	167
Medical products, interventions and clinical trials	105	108	108	37	17
Research models and databases	2,923	2,350	1,754	731	310
Research tools and methods	1,102	1,127	808	748	277
Software and technical products	877	794	748	358	227
Total instances of other knowledge output	7,174	8,799	4,956	2,658	998
number reported in 2022-23	5,187	6,896	2,872	831	-
(%) increase since 2022-23	38	28	73	220	-
Number of awards reporting at least one instance of these knowledge outputs	1,598	1,629	1,399	936	409
Percentage of Total awards reporting at least one instance of these knowledge outputs	46	45	39	24	16
Total awards	3,448	3,608	3,620	3,910	2,554

¹ The dataset comprises awards in Researchfish only.

Table 16: Awards that have obtained further funding, awards¹ started 2019 to 2023

	Year award started				
	2019	2020	2021	2022	2023
Instances of further funding	6,593	5,823	4,074	2,627	980
number reported in 2022-23	5,217	4,263	2,428	780	-
(%) increase since 2022-23	26	37	68	237	-
Number of awards with at least one instance of further funding	2,034	2,208	1,750	1,402	609
Percentage of Total awards with at least one instance of further funding	45	41	36	27	18
Total awards	4,519	5,411	4,797	5,146	3,295

¹ The dataset comprises awards in Researchfish only.

Table 17: Awards that have resulted in instances of intellectual property (IP)^{1,2}, awards started 2019 to 2023

	Year award started				
	2019	2020	2021	2022	2023
Instances of IP	177	142	117	53	14
number reported in 2022-23	135	84	66	12	-
(%) increase since 2022-23	31	69	77	342	-
Number of awards reporting at least one instance of IP	117	93	84	51	11
Percentage of Total awards with at least one instance of IP	3	3	2	1	0
Total awards	3,448	3,608	3,620	3,910	2,554

¹ Intellectual property includes the generation of patents, copyrights and trademarks as an output of the research.

² The dataset comprises awards in Researchfish only.

Table 18: Awards reporting a spinout^{1,2} incorporated since 2004

Spinout status	Number of spinouts	Number of awards attributed to the spinouts
Total spinouts	1,669	2,740
Of which were active in April 2024	1,146	2,091
Spinouts reported in 2022-23	1,167	1,681

¹ The dataset comprises awards in Researchfish, for which the Project Completion Form has been completed and reported via other legacy routes. The legacy route relates to companies (mostly from EPSRC funded research) with incorporation dates which pre-date the use of Researchfish.

² All spinouts provided have been verified using supplementary information to identify duplicate spin-out companies where applicable e.g., Companies House IDs for UK companies.

Table 19: The number FTE (Full Time Equivalent) jobs created due to project funding¹, awards started 2019 to 2023

Year award started	Number of awards	FTE jobs created ^{2,3}
2019	1,071	2,536
2020	1,803	3,674
2021	1,177	2,253
2022	1,236	1,548
2023	741	594

¹ The dataset comprises only awards for which the Project Completion Form has been completed.

² Participants provide an estimate of the numbers of jobs created/retained during the project.

³ The number of jobs has been capped to 10 FTE per participant on a project.

Table 20: The number of new products, services, and processes¹, awards started 2019 to 2023

Year award started	Planned production within a year
2019	529
2020	855
2021	560
2022	510
2023	333

¹ The dataset comprises only awards for which the Project Completion Form has been completed.



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HC XXXX

