



# Science Foundation Ireland Research Outputs 2023

April 2024

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## Executive Summary<sup>1</sup>

- **633** of 637 award holders who held active awards in 2023 completed the SFI Survey of Research Outputs (a response rate of 99.4%). This compares with 536 in 2022 (with the same response rate). The active award holders along with inactive award holders comprise a total of **1112** researchers who completed the survey, representing **2,623** awards. This compares with 979 award holders representing 2,416 awards in 2022.
- There was a total of **9,249** people working on teams of SFI award holders during 2023 compared with 8,766 in 2022. This includes **637** active award holders. The team member details in this document focus on the **6,556** team members attributed to Active SFI Awards.
- The number of PhD Students working on active SFI awards rose 7% from 2227 to **2385**.
- The ratio of award holders who are women to those that are men has risen from 32.5 : 67.5 in 2022 to **34.4 : 65.6** in 2023. The ratio for other Team Members is up from 41:59 to **42:58**.
- **1111** individuals directly supported by SFI departed their position in 2023 compared with 1,003 in 2022. **72%** (795) of these remained in Ireland (71% in 2022). **307** PhD students and **298** Postdocs left teams in 2023, compared with 253 and 337, respectively, in 2022. **29%** (**89**) of PhDs and **24%** (**71**) of postdocs immediately moved to industry, compared with 32% (82) and 32% (107), respectively, in 2022. Industry is the most common destination for departing PhDs while postdocs were most likely to go onto new postdoc positions (26%).
- A total of **5,119** publications were reported in 2023; compared with 5,248 in 2022. There was a slight rise in the number of publications declared as Open Access. **90%** of publications attributed to active SFI awards were categorised by researchers as open access in 2023 compared with 90% in 2022 and 89% in 2021. Independent analysis of the records using the Unpaywall online tool indicates an open access rate of **80%**. While this is significantly lower than the rate provided by researchers, it does follow a similar positive trajectory, with equivalent 2022 and 2021 rates at 79% and 74%, respectively.
- SFI-funded award holders spun out **5** companies in 2023, compared with 12 spin outs, in 2022. **46** patents were awarded in 2023 compared with 48 in 2022. **47** patents were filed down significantly from 64 in 2022. Invention Disclosures rose to **197** in 2023 from 171 in 2022. There were **5** assignments in 2023, the same as 2022. SFI researchers did not report any contributions to Standards in 2023 compared with 5 in 2022.
- SFI Award Holders participated in **4,449** engagements with **3,177** distinct non-academic organisations in 2023 compared with 3,864 engagements with 2,720 organisations in 2022. **3,383** of the engagements were with MNCs and SMEs. **43%** had legal agreements in place, down from 48% in 2022.
- SFI award holders engaged in **8,663** collaborations with other academic institutions, up from 8,212 in 2022. **72%** of these were with international organisations, consistent with previous years.
- SFI award holders secured **€274.4m** in external funding (e.g. non-SFI grants, industry cash and in-kind etc) in 2023, up 3% from €267m in 2022. While there was a

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<sup>1</sup> Green text indicates an increase on the previous year; red text indicates a decrease; orange text indicates no significant change. Clicking on underlined numbers will bring you to the relevant section.

significant decrease in Irish Exchequer funding (**€79m** compared with €104m in 2022), the 2022 figure was exceptionally high due to a small number of large grants. Funding from Private Enterprise dropped slightly to **€60.4m** from €61m in 2022. EU funding has increased significantly from €85.2m to **€110.5m**.

- SFI award holders were involved in the organisation of **1,041** conferences, workshops and seminars in 2023, up from 888 in 2022. The trend away from online only events has continued, with only **8%** falling into this category compared with 11% in 2021.
- SFI researchers and Research Centres reported undertaking **5,874** education and public engagement activities in 2023. Due to changes in how EPE activity is reported this is not directly comparable to 2022.

# 1 Introduction

This is a technical statistical report which does not seek to draw conclusions from the data herein. Science Foundation Ireland is publishing this report as is with the intent of increasing openness and transparency.

To keep the length of the document within reason, we do not include a full description of either the survey approach or the data analysis. We encourage those interested in further detail, methodologies, definitions, or any other omissions to get in touch with us by contacting Lisa Murphy or Neil Tynan in the Research Ireland Strategy Team via [info@researchireland.ie](mailto:info@researchireland.ie).

The SFI Survey of Research Outputs is an annual survey of the holders of SFI's major grants, carried out by Science Foundation Ireland. Since 2009, the survey has tracked the research outputs of the SFI research community, with the aim of better informing the SFI Board, policy makers and SFI staff as to the impact and value of SFI research, both in academic, societal and economic terms. The survey looks at a wide array of research outputs, such as: academic outputs, academic collaborations, non-academic engagements, team compositions and external funding drawdown directly and indirectly attributed to SFI funding. In doing so, the aim has been to enable the researchers to demonstrate the wide array of outputs that they have been able to realise as a result of their SFI grant.

The 2023 Research Outputs survey was carried out through SESAME, SFI's grants and award management system. Only researchers active in the period 2019 to 2023 were mandated to complete the 2023 Research Outputs survey. Those researchers who were last active in 2018 or earlier were requested to, but were not required to, complete Research Outputs. As discussed in the notes below, where the responses of a specific cohort are used, this is referenced in the report (though a comprehensive overview of all of the data collected is available in Appendix 1).

The data in the report is divided into three levels of detail:

- The executive summary, which picks out some of the most policy-relevant outcomes from the report;
- The high-level view, which highlights the outcomes from the main fields of the report and provides some explanatory commentary;
- The detailed tables, which provide an overview of all of the data collected as part of the 2023 Research Outputs survey.

An overview of how some of the major overarching fields compare with the results from other research outputs surveys is also available in Appendix 2.

We are continually improving the process behind the survey, taking feedback from both our internal and external stakeholders. Many of the current fields in the report were included in the survey as a result of these consultations. However, no major changes were introduced in 2023 as a comprehensive review is due to be carried out shortly.

## Confidentiality

It should be noted that, where tables and charts include data relating to personal characteristics of individuals such as gender and nationality, datapoints relating to 10 or fewer individuals are merged to prevent the disclosure of personal information.

## 1.1 Note on Attribution

When entering team members or research outputs, researchers are requested to specify a “Primary Attribution” and “Secondary Attribution”. The Primary Attribution reflects the main source of funding that has supported a particular person / output and the researcher may select one of their SFI awards (“Attributed to Specified SFI Award”) or, where the proposal ID is unknown to the researcher, Other SFI award (“Attributed to Unspecified SFI Award”). As award details are only available for Specified SFI Awards, only they may be classified as “Active” (active any time in the reporting year) or “Inactive”. Where an SFI award is not the primary attribution for an output, the researcher can select “Other Non-SFI Award” (these outputs are “Associated with SFI Awards”). The Secondary Attribution reflects other sources of funding that have also contributed to the same output, including SFI funding, particularly where the primary attribution was “Other Non-SFI Award”. In some records, no SFI award is attributed in either primary or secondary attribution. However, it is assumed that, where an output is provided, it is at least indirectly associated with an SFI award.

For this Research Outputs report, only the primary attribution is considered while compiling total numbers. A summary table is presented in each chapter for each type of output summarising the figures by attribution, however further analysis is carried out *only* on data with SFI awards from the Programmes listed below as the primary attribution. These data are therefore a subset of the overall total.

## 1.2 Note on Scope

All researchers who have held an SFI research award are requested to complete the Research Outputs survey. Only those who were active between 2019 and 2023 were mandated to complete the survey. Researchers are requested to provide details of their own outputs and those of their teams. The outputs / activities for large-scale awards are provided through an Award Administrator; these include all activities of the principal and funded investigators and their teams. In 2020, to facilitate the reporting by large-scale awards, the survey was extended to ALL funded investigators on these awards, not just those who had held an award in their own right, as was the case in previous years. Submissions and data quality for this cohort was managed by the Award Administrators. This practice was continued in 2023.

It should be noted that the same outputs and activities may legitimately be reported by multiple individuals and award administrators. Every effort is made during post-submission analysis to ensure that the total figures contained herein are free of duplication.

It should also be noted that researchers who were not active in 2023 are only required to report on Publications and Commercial Activity. Although they may provide additional data in their profile, these data are not included in the analysis below.

## 1.3 Note on Comparisons with Previous Years

Throughout this report, we compare this year’s output figures with previous years. It should be noted that there have been changes in methodology each year that can affect the outputs. Such changes are highlighted within the relevant reports and, where appropriate, in the report below. Also, in the earlier years, the survey was conducted amongst holders of major grants (centre-type awards, PI-like awards, RFP) and sought little detail and, for some outputs, only high-level numbers. The survey has extended gradually over the years to include more and more programmes and respondents and the level of detail has increased. To get a better picture of yearly trends, some further work may be required to normalise the data across years.

## 2 Research Outputs Report 2023

### 2.1 Survey Coverage: SFI People and Awards

#### Survey Response Rates

Table I(a): Response Rates - Researchers							
	Award Holders						Other
	Total award holders	Active at 31/12/2023*	Became inactive in 2023*	Became inactive in 2019-2022*	Active anytime between 1/1/2019 and 31/12/2023	Inactive since before 1/1/2019	Funded Investigators on large-scale awards (not funded directly)**
Requested to Complete Research Outputs†	1,602	565	72	357	994	608	499
Submitted	1,112	564	69	285	918	194	319
<b>Response Rate</b>	<b>69.4%</b>	<b>99.8%</b>	<b>95.8%</b>	<b>79.8%</b>	<b>92.4%</b>	<b>31.9%</b>	<b>63.9%</b>

Table I(b): Response Rates – Awards						
	Awards					
	Total	Active at 31/12/2023	Expired in 2023	Expired in 2019-22	Active anytime between 1/1/2019 and 31/12/2023	Inactive since before 1/1/2019
Requested to Complete Research Outputs†	3,368	645	132	632	1,409	1,959
Award Holder Submitted	2,623	642	128	549	1,319	1,304
<b>Response Rate</b>	<b>77.9%</b>	<b>99.5%</b>	<b>97.0%</b>	<b>86.9%</b>	<b>93.6%</b>	<b>66.7%</b>

\*As determined by most recent award held under a research outputs programme as at 01/12/2023

†Note that Research Outputs is only mandatory for Award Holders who held active, relevant awards in 2019-2023.

\*\* 499 Co-PIs and Funded Investigators (FIs) on large-scale awards were also invited to complete the survey but this is simply to facilitate the central reporting of those large-scale grants and is not mandatory. 557 other co-PIs and FIs, having held grants in their own name, are already included within the award holder sub-categories.

- The primary target for the Research Outputs Survey is the 637 (565+72) active award holders in 2023. The equivalent number in 2022 was 539 award holders.
- To capture outputs that typically extend beyond the end of an award, we also invited inactive award holders to complete a scaled-down survey (publications, commercialisations and impacts only). This included 357 researchers who became inactive in 2019-22. These, along with the active award holders comprise the 994 “mandatory” cohort).
- While the response rate for active award holders is unchanged from 2022 (99.4%), the overall response rate by the “mandatory” cohort increased to 92.4% (918 respondents) compared with 88% in 2022 (735 respondents). In particular, there was a notable increase from the 2019-2022 cohort (79.8% compared with 72.9% for the equivalent cohort in 2022).



- A total of 1,431 researchers completed the Research Outputs survey in 2023 (i.e. 633 active PIs, 479 inactive PIs (285+194) and 319 FIs on large-scale awards not funded directly).
- The Awards table profiles the number of research awards held by the researchers requested to complete the survey and those that did submit the survey.

[Go to Detailed Tables](#)

**Table II: Awards held by Mandatory Researchers who submitted in 2023 vs 2022**

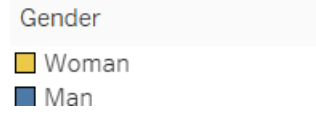
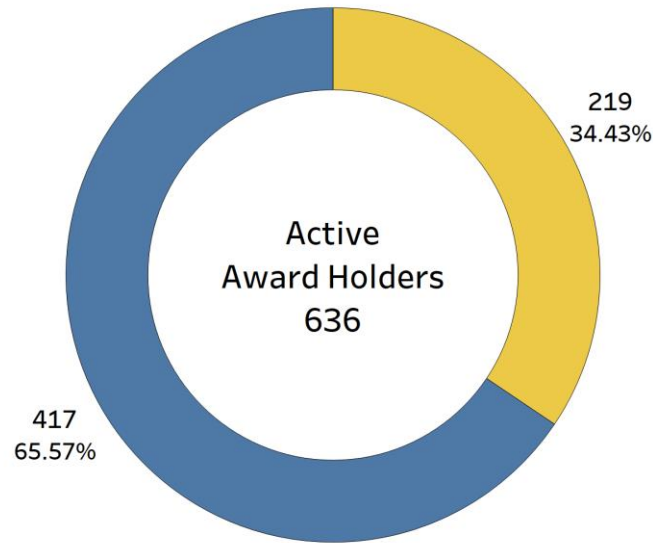
	Awards Profile 2023	Awards Profile 2022	Difference	% Difference
Advance Award Programme	0	1	-1	-100%
Career Development Award	64	70	-6	-9%
Catalyst Award	0	1	-1	-100%
COVID-RRC	69	75	-6	-8%
CSET	0	1	-1	-100%
EPSRC CDTs	7	7	0	0%
EPSRC Joint Funding	19	15	4	27%
ERC	7	10	-3	-30%
FFP	239	207	32	15%
Future Innovator Prize	73	70	3	4%
Future Research Leaders	12	14	-2	-14%
Industry Fellowship	97	98	-1	-1%
Investigator Programme	128	150	-22	-15%
Joint Programming Initiatives	38	45	-7	-16%
National Challenge Fund	96	0	96	n/a
Pathway	68	38	30	79%
PIYRA	3	5	-2	-40%
Policy Programme	4	5	-1	-20%
Principal Investigator	2	10	-8	-80%
Public Service Fellowship	8	10	-2	-20%
Research Centres	31	26	5	19%
Research Infrastructure	33	49	-16	-33%
Research Professorship	19	15	4	27%
Royal Society Award	70	54	16	30%
SFI CRTs	6	6	0	n/a
SFI/HRB/Wellcome Trust	20	27	-7	-26%
SFI/Pfizer	1	4	-3	-75%
SFI-NSF I-Corps	4	7	-3	-43%

**Awards held by Respondents**

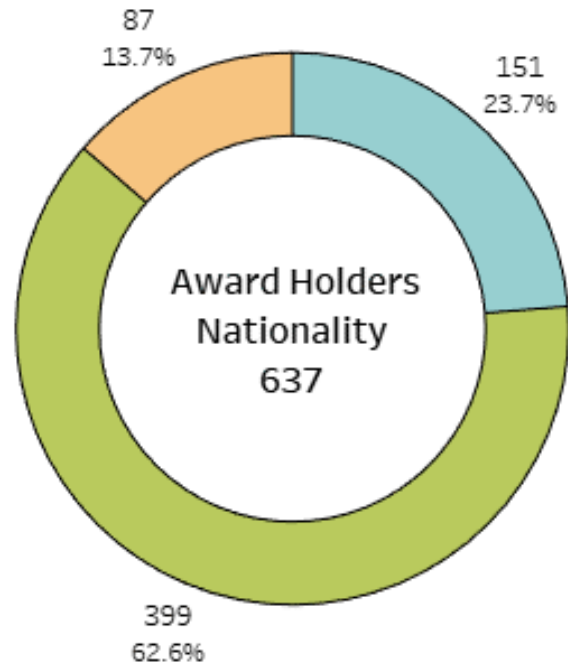
- This table profiles the awards held by researchers who were active between 2019 and 2023, who responded to the Research Outputs Survey.
- For pre-existing programmes, there is an increase in representation for FFP, Pathway, Royal Society, Research Professorship, SFI-NSFC and US-Ireland awards, while many legacy programmes continue to fall out of coverage. National Challenge Fund awards are represented for the first time in Research Outputs.
- NOTE: While this table represents the awards held by respondents, it is not necessarily the case that outputs were attributed to all these awards.

Table II: Awards held by Mandatory Researchers who submitted in 2023 vs 2022				
	Awards Profile 2023	Awards Profile 2022	Difference	% Difference
SFI-NSFC Partnership	16	7	9	129%
Starting Investigator Research Grant	63	73	-10	-14%
Strategic Partnership Programme	20	23	-3	-13%
TIDA	58	92	-34	-37%
US-Ireland R&D Partnership	46	43	3	7%
<b>Total</b>	<b>1,320</b>	<b>1,257</b>	<b>62</b>	<b>5%</b>

Figure 1: SFI Awards Held, by Gender of Award Holder in 2023



- The ratio of women to men award holders active in 2023 has risen to 34:66 compared with 33:67 in 2022.
- The ratio of awards active in 2023 held by women to those held by men has increased to 31:71 compared with 30:70 in 2022 (not illustrated in graph).



- The nationality profile of award holders active in 2023 shows a slight change from 2022. 62.6% of SFI award holders are Irish (65.8% in 2022); the remaining award holders consist of a cohort coming from the rest of Europe (23.7%, compared with 24.6% in 2022) and from countries outside of Europe (13.7% compared with 9.6% in 2022).

## 2.2 Research Team Composition<sup>2</sup>

Table III: Research Team Composition by Position – All attributions						
Position on Award	Attributed to Specified SFI Awards		Attributed to Unspecified SFI Awards and Awards Associated with SFI Awards		Total	
	Number	Category as % of Total	Number	Category as % of Total	Number	Category as % of Total
Award Holder	637	6.89%	0	0.00%	637	6.89%
Co-Principal Investigators	349	3.77%	0	0.00%	349	3.77%
SFI-Approved Funded Investigators	623	6.74%	12	0.13%	635	6.87%
Research Fellow	162	1.75%	92	0.99%	254	2.75%
Postdoctoral Researchers	1128	12.20%	527	5.70%	1655	17.90%
Postgraduate (PhD) Students	2450	26.48%	1291	13.96%	3741	40.44%
Postgraduate (Masters) Students	97	1.05%	118	1.28%	215	2.32%
Undergraduate Students	90	0.97%	45	0.49%	135	1.46%
Technician	55	0.59%	21	0.23%	76	0.82%
Research Assistants	418	4.52%	116	1.25%	534	5.77%
Management & Administrative Staff	386	4.18%	63	0.68%	449	4.85%
Other <sup>3</sup>	315	3.41%	254	2.75%	569	6.16%
<b>Grand Total</b>	<b>6710</b>	<b>72.54%</b>	<b>2539</b>	<b>27.46%</b>	<b>9249</b>	<b>100.00%</b>

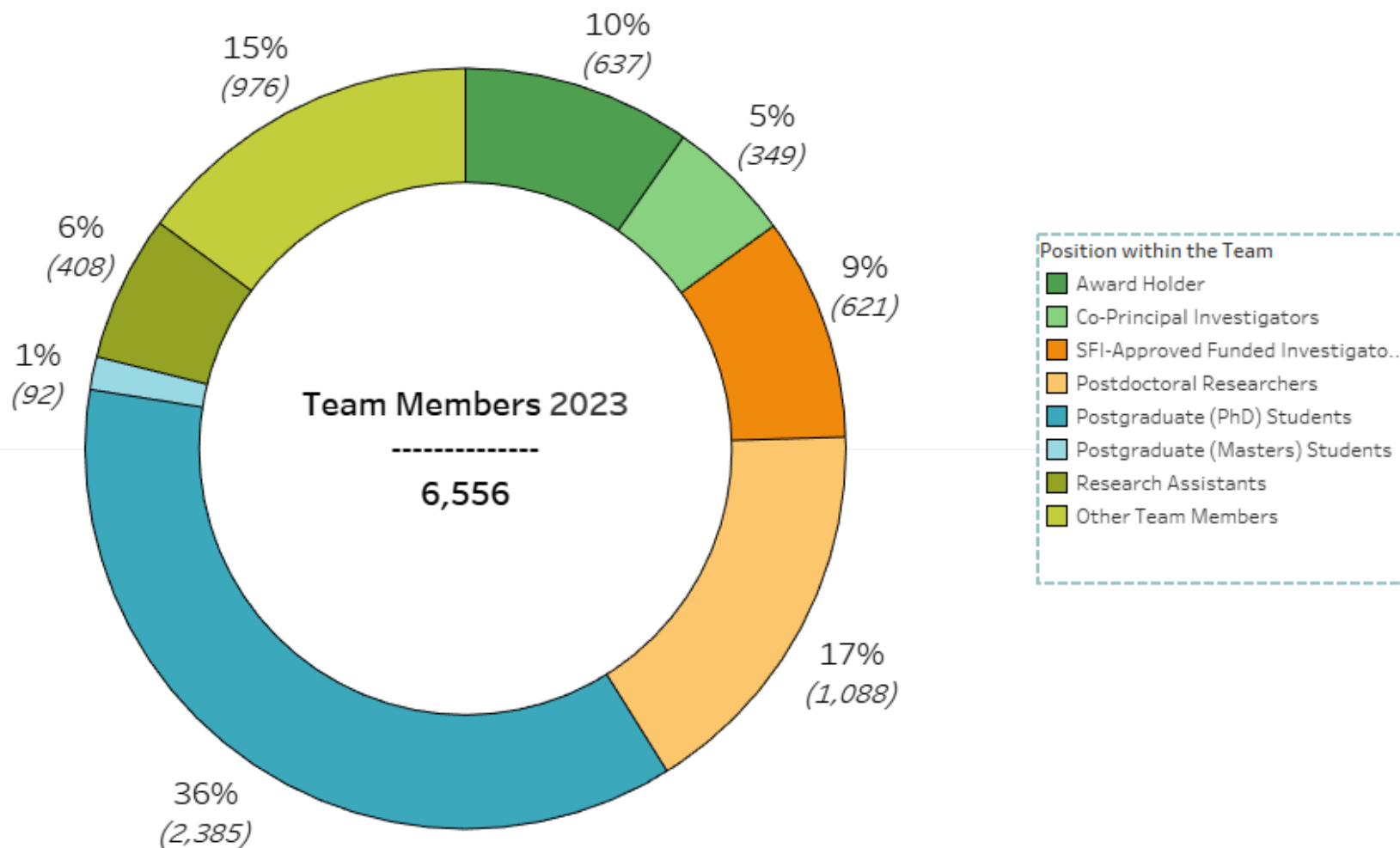
- There were a total of 9,249 people working on teams of SFI award holders during 2023 (6,556 attributed to specified active SFI awards, this figure not illustrated in table above). These figures include 637 award holders. Subsequent charts and tables in this section are based on teams attributed to active SFI grants.
- In 2022, the equivalent figures were 8,766 total team members, including 5,986 members attributed to active SFI awards (of whom 573 were award holders).
- As outlined in the introduction, we draw a distinction between all team members reported (above table), and team members working on active SFI awards (donut chart overleaf).
- The largest categories of team members are the Postdoctoral Researchers and Postgraduate (PhD) Students, accounting for 58.3% of the total team members or 53% of team members attributed to active SFI awards (see donut chart overleaf). The breakdown is broadly similar to previous years.

### [Go to Detailed Tables](#)

<sup>2</sup> Where a person has held different positions on different awards (e.g. award holder on one award and co-PI on another), they will only be counted once.

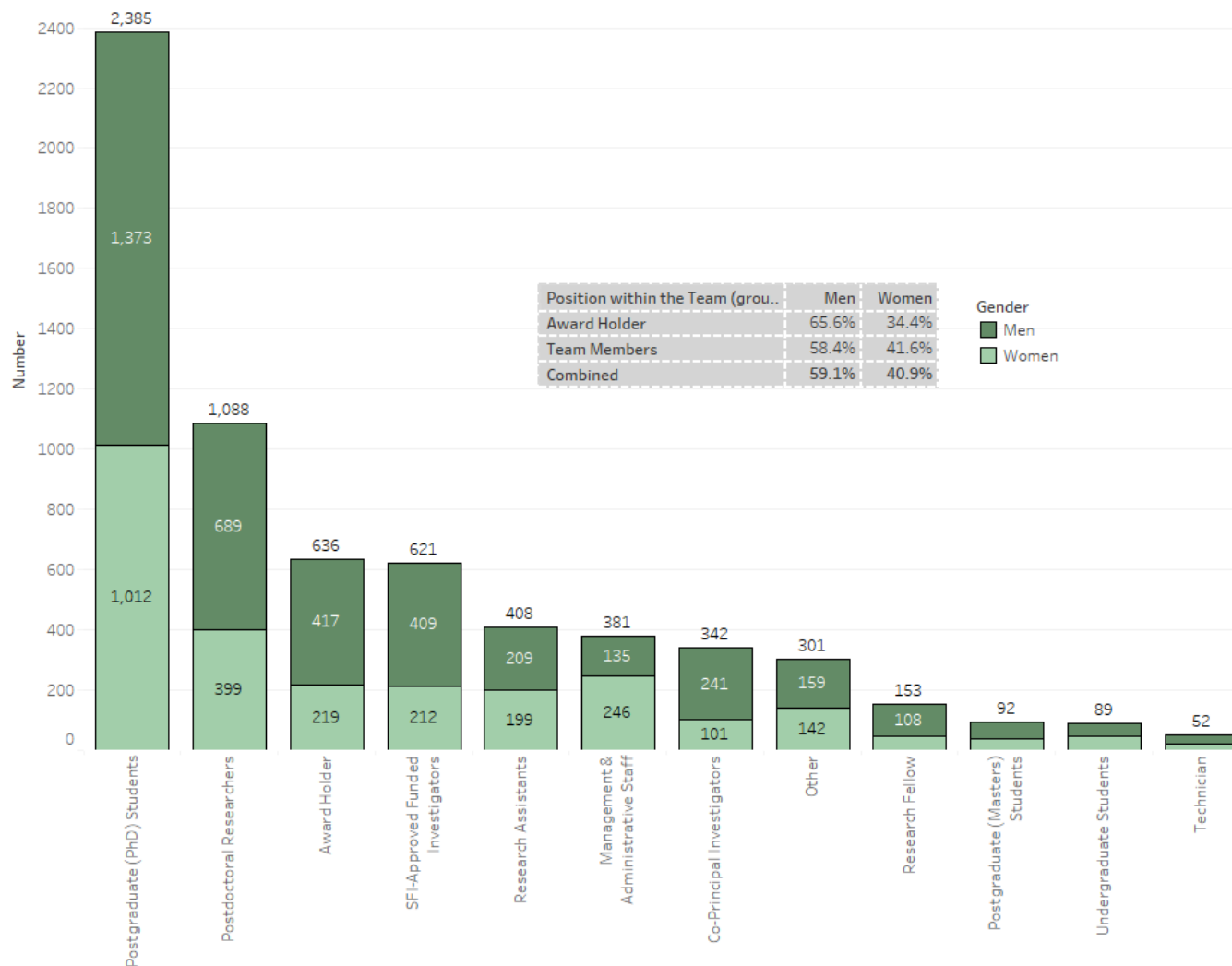
<sup>3</sup> Contains the categories: Medical Staff, Education & Outreach Staff, Visiting Researcher and Other

**Figure II: SFI-Funded Research Team Composition on Active SFI Awards 2023**



The ratio of team members that identify as women to those that identify as men (excluding award holders) has shifted towards greater balance at 41.6:58.4 compared with 40.9:59.1 in 2022. The ratio of women to men in the award holder cohort increased to 34.4:65.6 from 32.6:67.4 in 2022. When we look at Leadership Positions (Award Holders AND Co-PIs) the ratio is 32.7:67.3 compared with 29.2:70.8 in 2022. This continues to reflect that the number of woman identifying researchers drops in the progression from doctoral and postdoctoral research to award holder.

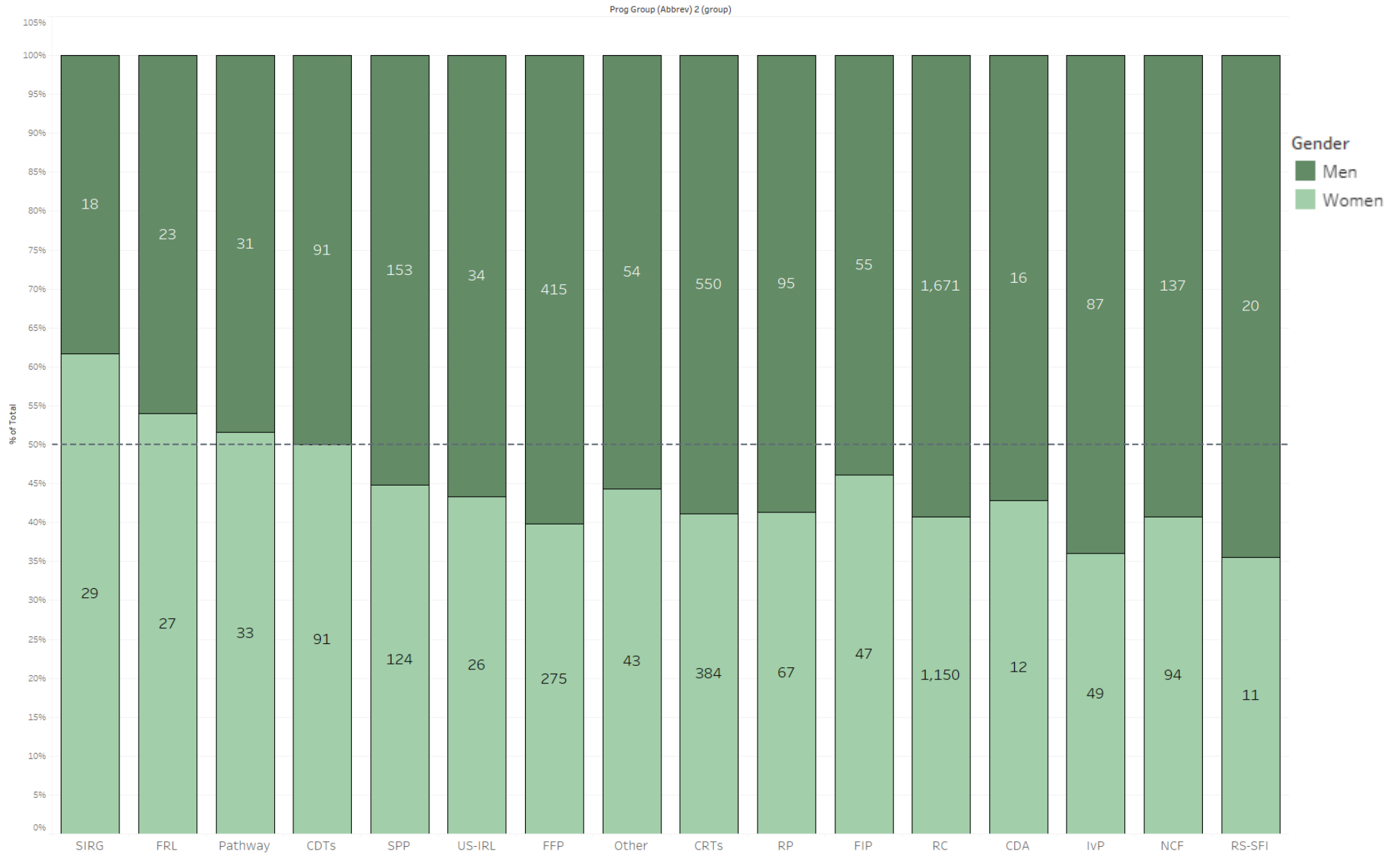
**Figure III: Research Team Composition (Active Awards, incl. Award Holders) in 2023 by Position and Gender<sup>4</sup>**



[Go to Detailed Tables](#)

<sup>4</sup> The SESAME gender identifier options were expanded for grant holders, applicants and reviewers in late 2023 to better encompass genders beyond the binary. Over time, as applicants / grant holders engage with these expanded options and as the options become available to other team members, we expect our data to better represent the gender diversity of researchers on SFI-funded grants. Until such time as other options are selected in sufficient volume to prevent individuals being identifiable, we will continue to only report on the binary options

**Figure IV: Research Team Composition in 2023 by Programme and Gender (Active awards, Excl. Award Holders)**



[Go to Detailed Tables](#)



**Table IV: Research Team Composition by Position and Nationality (Attributed to SFI Awards Active in 2023)<sup>5</sup>**

Position on award	Ireland	Europe (Exc. Ireland)	Rest of World	Total
Award Holder	399	151	87	637
Co-Principal Investigators	254	69	21	344
SFI-Approved Funded Investigators	434	114	73	621
Postdoctoral Researchers	255	295	538	1088
Postgraduate (PhD) Students	792	419	1174	2385
Postgraduate (Masters) Students	59	12	21	92
Technician	31	11	10	52
Research Assistants	197	82	129	408
Research Fellow	50	44	59	153
Undergraduate Students	63	11	15	89
Management & Administrative Staff	288	55	38	381
Other <sup>6</sup>	173	62	66	301
<b>Grand Total</b>	<b>2995</b>	<b>1325</b>	<b>2231</b>	<b>6551</b>

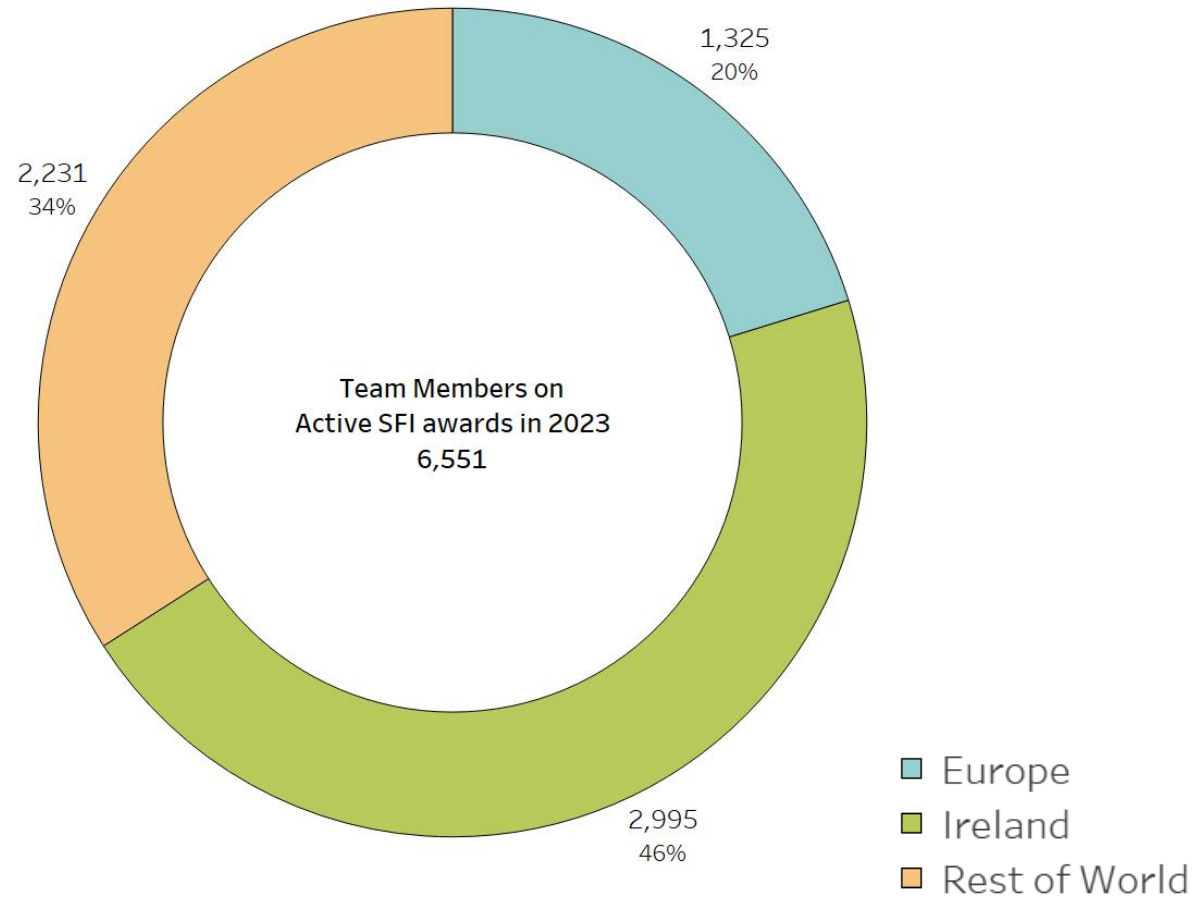
- The regional breakdown of **award holder** nationality is broadly unchanged in 2023 with 62.6% from Ireland, 23.7% from European countries (excl Ireland) and those from outside Europe at 13.7%.
- 43.9% of SFI funded **team members excluding award holders** are Irish, 19.8% are European (excluding Ireland) and 36.3% are from countries outside of Europe.
- 76.6% of SFI funded Postdoctoral Researchers, 67.3% of Research Fellows and 66.8% of PhD students are non-Irish.

[Go to Detailed Tables](#)

<sup>5</sup> Excludes 5 co-PIs where nationality is unknown

<sup>6</sup> Contains the categories: Medical Staff, Education & Outreach Staff, Visiting Researcher and Other

**Figure V: Research Team Composition 2023 by Nationality (Active Awards, incl. Award holders)**



[Go to Detailed Tables](#)

## 2.3 First Destination of Departing Team Members

### All Departing Team Members (Active awards only)

- 1111 SFI-funded team members were reported to have left their positions in SFI research groups in 2023, up slightly from 1003 people in 2022. Similar to 2022, 71.6% remained in Ireland. Another 16.8% moved to Europe, and 11.6% to countries outside of Europe.
- 22% of leavers went to industry (down from 28% in 2022). The percent moving to further education rose to 12% from 8.8% in 2022.

**Table V: All Departing Team Members in 2023 by First Destination Position and Location (Attributed to Active SFI Awards)**

First Destination Position	Ireland		Europe		Rest of World		Total	% of Total Leavers
	#	%	#	%	#	%		
Industry	170	15.30%	47	4.23%	26	2.34%	243	21.87%
Postdoctoral research in HEI	119	10.71%	37	3.33%	20	1.80%	176	15.84%
Lecturers/Researchers in HEI	65	5.85%	22	1.98%	31	2.79%	118	10.62%
Moved to a new position within the team	80	7.20%	0	0.00%	0	0.00%	80	7.20%
Other <sup>7</sup>	361	32.49%	81	7.29%	52	4.68%	494	44.46%
<b>Grand Total</b>	<b>795</b>	<b>71.56%</b>	<b>187</b>	<b>16.83%</b>	<b>129</b>	<b>11.61%</b>	<b>1111</b>	<b>100.00%</b>

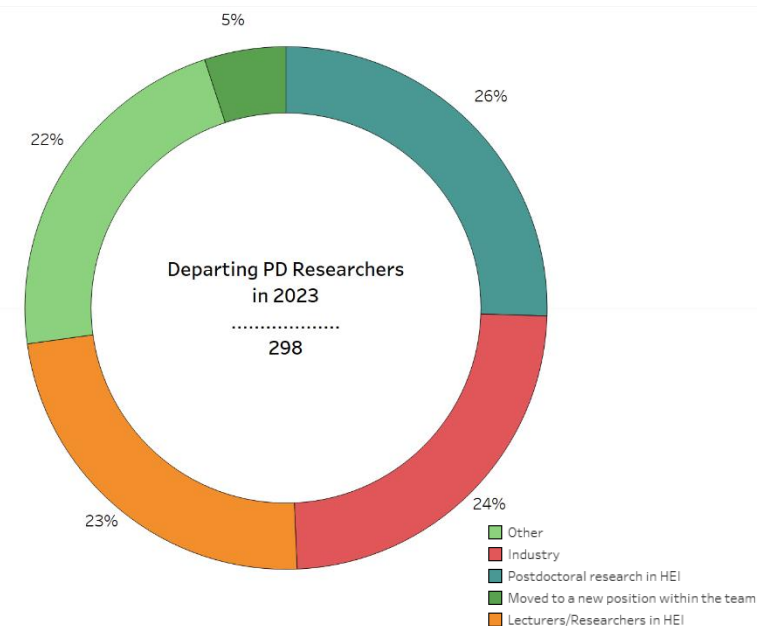
[Go to Detailed Tables](#)

<sup>7</sup> Contains the categories: Career Break, Grant Administration, Research Assistants in HEI, Technicians in HEI, Unemployed, Further education, Visiting Researcher - visit concluded, Specialist Courses, Teaching (Primary/Secondary), Maternity/Paternity Leave, Other Public Sector (non-HEI) Research, Unknown

### Departing Postdoctoral Researchers (Active awards only)

- 298 SFI-funded Postdoctoral Researchers left their positions in 2023 compared with 337 in 2022. This cohort makes up 27% of all leavers from SFI teams. 60% (179) of these remained in Ireland, while 20% (60) moved to another country within Europe and 20% (59) outside Europe.
- 24% of postdocs departed to industry (71). This is a notable decrease on 2022 (32% or 107 postdocs). Meanwhile, departures to other postdoc positions increased to 25.5% (20% in 2022) and is again the largest group (having been Industry for the last two years).
- Of those that left Ireland (119), 30 (25%) took up employment in industry, 25 continued on to new postdoctoral positions (21%) and 36 took up lecturer/researcher positions (30%). This compares with 27%, 24% and 21%, respectively, in 2022.

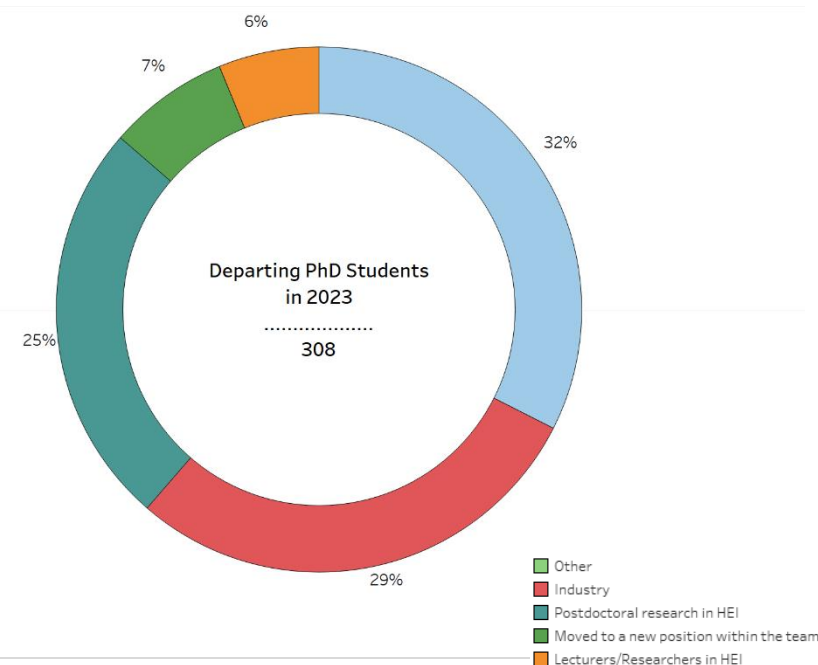
**Figure V: First Destination of Departing Postdoctoral Students in 2023 (Active Awards)**



**Figure VII: First Destination of Departing PhD Students in 2023 (Active Awards)**

### Departing PhD Students (Active awards only)

- 308 SFI-funded PhD Students left their positions in 2023 which is a considerable increase on 2022 when 253 were reported as having departed. 70% (217) of these remained in Ireland, 17% (52) moved to Europe, 13% (39) moved to other locations outside of Europe. The equivalent figures for 2022 were 71% (179), 16% (39) and 14% (35)
- 29% (89) of departing PhD Students moved into industry. 70% of these were to industry positions based in Ireland. This is broadly in line with 2022.
- 25% (77) of PhD Students continued into Postdoctoral Research Positions, in line with the 24.5% in 2022 (see table 3.3.2 in appendix). 66% of these were in Ireland (compared with 64.5% in 2022).
- Of those that left Ireland (91), 26 continued on to postdoctoral positions (29%) and 27 took up employment in industry (30%) compared with 30% and 35%, respectively, in 2022.



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## 2.4 Academic Outputs

- A total of 5,119 publications were reported in 2023, a slight decrease from 2022 (5,248). Of these, 2,867 publications (56%) were attributed to SFI awards (inactive and active) (2,916 in 2022).
- While the SFI Research Centres Programme continues to account for the majority of publications (1,319 or 50% of all 2023 publications attributable to active SFI awards), this is down from 1,353 (52%) in 2022. FFP is next with 304 (or 12%), which is a marked increase from 2022 (when FFP accounted for 185 or 7% of 2022 publications). There was also a marked rise in publications attributed to CRTs (from 193 publications in 2022 to 280 in 2023) and a decline in Research Prof (from 141 publications in 2022 to 111 in 2023).
- Of 2,615 publications from active awards:
  - 51% have a non-Irish co-author; 87% have acknowledged the support of SFI funding in their publication; and 15% had a co-author from industry, similar to 2022.
  - 8% of publications had a sex/gender dimension to the report/analysis compared with 13% in 2022. It should be noted, however, that 2022 was the first year of reporting on this metric and was only recorded in 72% of publications (98% in 2023).

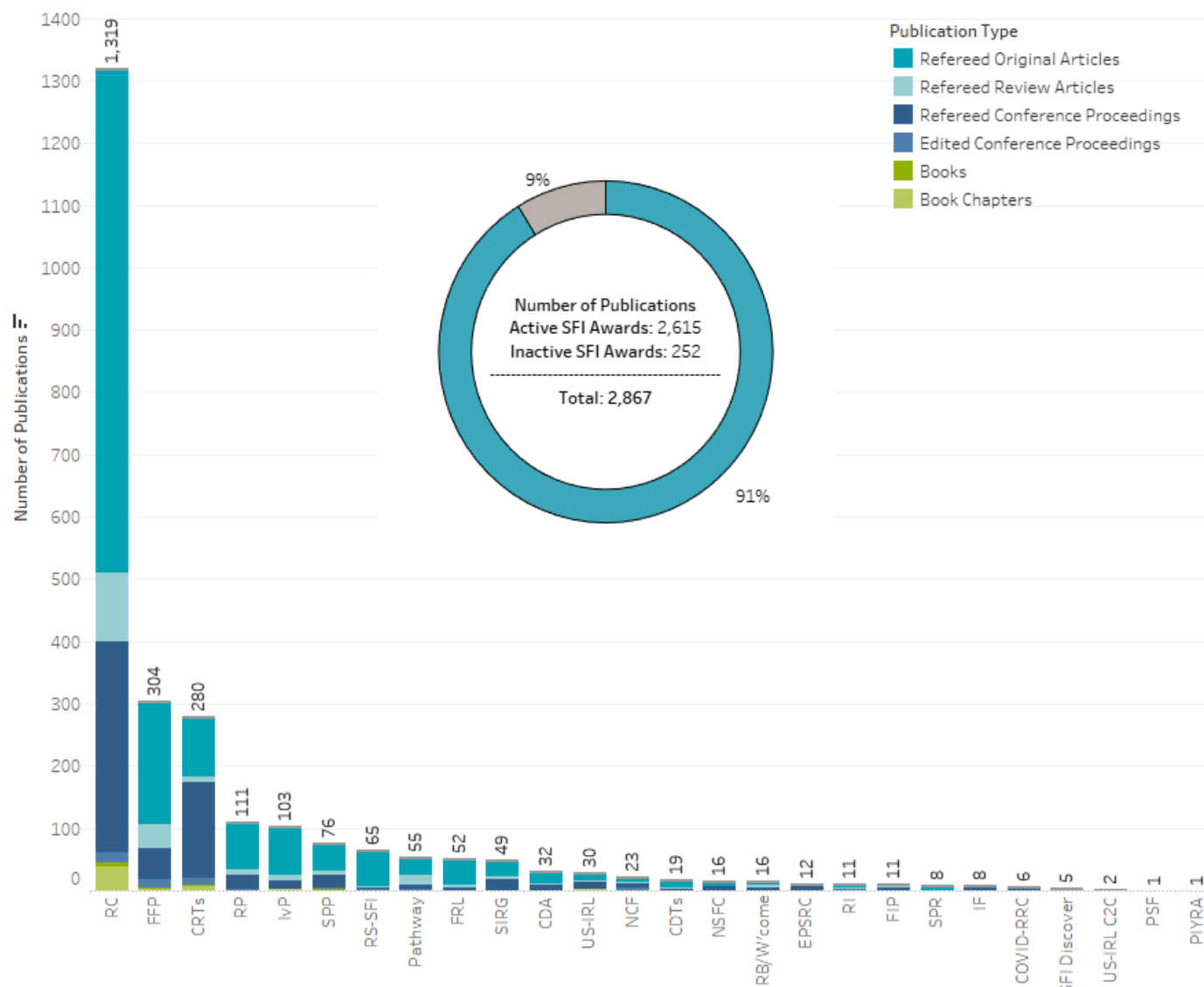


Figure VIII: Academic Collaborations by Type 2023 (Active and Inactive SFI Award holders)

## Unpaywall Analysis of publications

Table VI Unpaywall analysis of subset of publications (All attributions)						
Access Category/Compliance with SFI OA Policy <sup>8</sup>	Refereed Original articles		Refereed Review articles		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Gold / Compliant	1,174	35.1%	146	33.2%	1,320	34.8%
Green / Compliant	256	7.6%	24	5.5%	280	7.4%
Hybrid / Compliance	1,290	38.5%	154	35.0%	1,444	38.1%
Bronze / Not Compliant	71	2.1%	29	6.6%	100	2.6%
Closed / Not Compliant	520	15.5%	83	18.9%	603	15.9%
No DOI	37	1.1%	4	0.9%	41	1.1%
<b>Total</b>	<b>3,448</b>	<b>100.0%</b>	<b>440</b>	<b>100.0%</b>	<b>3,788</b>	<b>100.0%</b>

- In 2023, SFI researchers categorised 90% of their publications as Open Access (OA). This is 93% when analysis is restricted to refereed original articles and refereed review articles.
- An examination of the refereed original articles and refereed review articles using the independent online tool “Unpaywall” indicates that 80% are currently openly available (42% by compliant open access (OA) routes (35% gold, 7% green); 38% by a hybrid route and 3% of articles published using a bronze route). This is a slight increase on 2022 when 79% were determined to be openly available. However, there has been a notable change in the underlying composition of this figure (in 2022 it was 33% gold, 14% green, 29% hybrid and 3% bronze).
- “Openly available” does not necessarily translate into compliance with SFI’s **Open Access Policy**, which requires that publications: (a) be immediately available from the date of publication (gold / green); (b) be available under a CC-BY licence (i.e. are allowed to be re-used); and (c) in the case of publication in hybrid journals, that a Transformative Agreement<sup>9</sup> is in place. Therefore, the compliance rate will be a lower percentage, where publications open by a bronze route and some of those open by a hybrid route are removed. Additional analysis is due to be carried out by IREL to determine the final compliance figure.

<sup>8</sup> Gold – Available immediately via the publisher’s platform, where the payment of an article processing charge (APC) is often required

Green – Published in a subscription journal and deposited in an OA repository (i.e., self-archiving).

Hybrid – Journal operates both a subscription and an OA model. For compliance with SFI’s OA Policy, a transformative agreement must be in place. This ensures that institutions do not pay twice for the same service through subscription and article processing charges.

Bronze - Bronze OA route is when an author publishes a paper in an OA journal that does not support CCBY licensing.

Closed – Publication is behind a paywall

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## 2.5 Innovation and Commercialisation Activities<sup>10</sup>

Table VII: Summary of Innovation and Commercialisation Outputs in 2023 (All Awards)				
	Attributed to Specified SFI awards	Attributed to Unspecified SFI Awards	Associated with SFI Awards	Total Number Reported
Invention Disclosures	146	1	50	197
Patents Filed	36	0	11	47
Licensed Technologies	76	0	5	81
Patents Awarded	34	0	12	46
Assignments	5	0	0	5
Spinouts	3	0	2	5
Standards Contributed To	0	0	0	0
Start-ups	3	0	4	7
Patents Exploited	0	0	0	0

Table VIII: Summary of Innovation and Commercialisation Outputs in 2023 (Attributed to Specified Active and Inactive SFI Awards)		
	Active	Inactive
Invention Disclosures	130	16
Patents Filed	26	10
Licensed Technologies	70	6
Assignments	4	1
Standards Contributed To	0	0
Patents Awarded	8	26
Start-ups	3	0
Spinouts	1	2
Patents Exploited	0	0

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- Spinouts: There were 5 spinout companies reported in 2023 compared with 12 in 2022. 3 were attributed to SFI compared with 9 in 2022.
- Start Ups: There were 7 start-up companies reported in 2023, compared with 2 in 2022. 3 were attributed to SFI awards compared with 0 in 2022.
- Patents: The number of patents awarded was 46 (compared with 48 in 2022); 34 of which were attributed to SFI awards (41 in 2022). No patents were reported as exploited. SFI researchers were involved in 47 patent filings in 2023, 36 of which were directly attributed to SFI awards. This is a significant decrease from 2022, when 64 patents were reported as filed, 48 of which were attributed to SFI awards.
- Licensed Technologies: There were 81 licenced technologies reported by SFI researchers in 2023; 76 of these were attributed to SFI awards. This is an increase on 2022 when 68 licences were reported, 59 of which were attributed to SFI awards.
- Invention Disclosures: There were 197 invention disclosures reported in 2023 up from 171 in 2022; 146 of these were reported as arising directly from SFI awards (144 in 2022).
- Standards: There were 0 standards contributed to in 2023 compared with 5 in 2022.
- Assignments<sup>11</sup> : 5 assignments were reported by SFI researchers, all of which were attributed to SFI awards, compared with 5 assignments in 2002, 3 of which were attributed to SFI awards.

<sup>10</sup> Although Innovation & Commercialisation activities here are reported as arising from SFI-funded research, SFI does not produce these outputs directly. These are the product of the research and commercialisation ecosystem and are dependent upon Enterprise Ireland (EI), the HEI Technology Transfer Offices (TTOs) and other stakeholders. The above figures have been verified by KTI.

<sup>11</sup> An IP assignment is a contract that transfers ownership of intellectual property from one person or organisation to another. It differs from a licence agreement in that, with an IP licence the owning party will grant the licensee a right under the IP (e.g. to manufacture certain products), but ownership of the IP right itself remains with the licensor (per Knowledge Transfer Ireland website)

## 2.6 Non-Academic Engagements

This section reports on engagements between active SFI award holders and non-academic organisations across all of their research activities (including those not funded by SFI).

	<b>Total Engagements</b>	<b>Organisations</b>
With Small and Medium Enterprises	1642	1362
With Multinational Corporations	1741	1020
With Government Departments or Semi-State Bodies	706	470
With Private Foundations/Charities/Non-Governmental Organisations (NGO)	360	329
<b>Total</b>	<b>4449</b>	<b>3177</b>

- There was a total of 4,449 engagements reported with 3,177 distinct organisations in 2023. This is an increase on 2022 when there were 3,864 engagements with 2,720 organisations.
- Most of these engagements (3,383) are with MNC and SMEs.
- 43% of non-academic engagements reported by active award holders have a legal agreement in place compared with 48% in 2022.
- The regional distribution of collaborations remains the same as 2022: 48% of engagements are with organisations based in Ireland, 10% based in the United States, 10% based in the UK (excluding N Ireland) and the remaining 32% are spread across other countries.

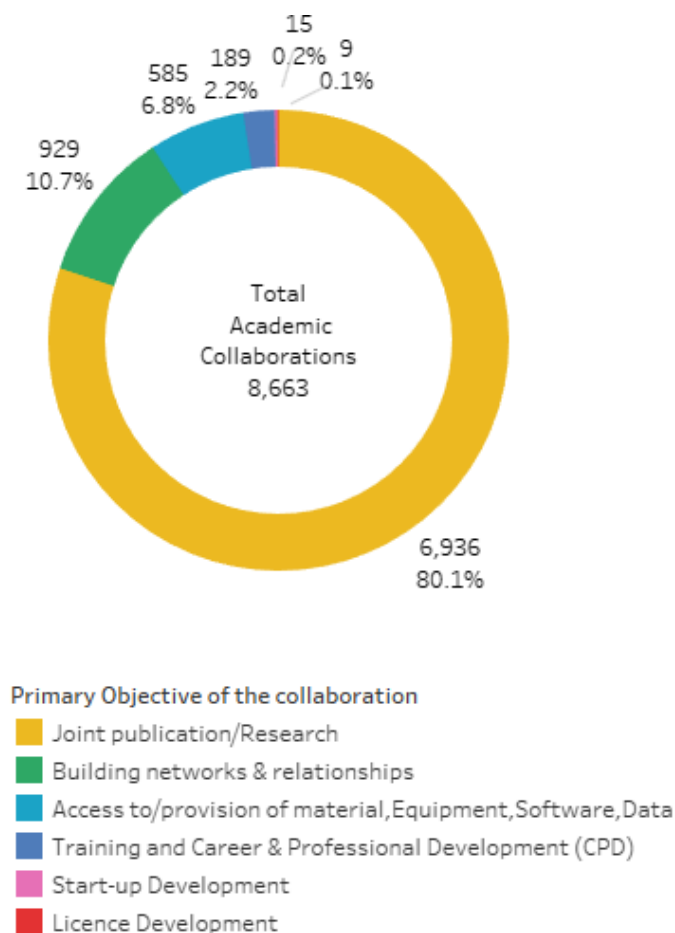
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## 2.7 Academic - Academic Collaborations

This section reports on collaborations between active SFI award holders and other academic institutions across their research activities (including those not funded by SFI).

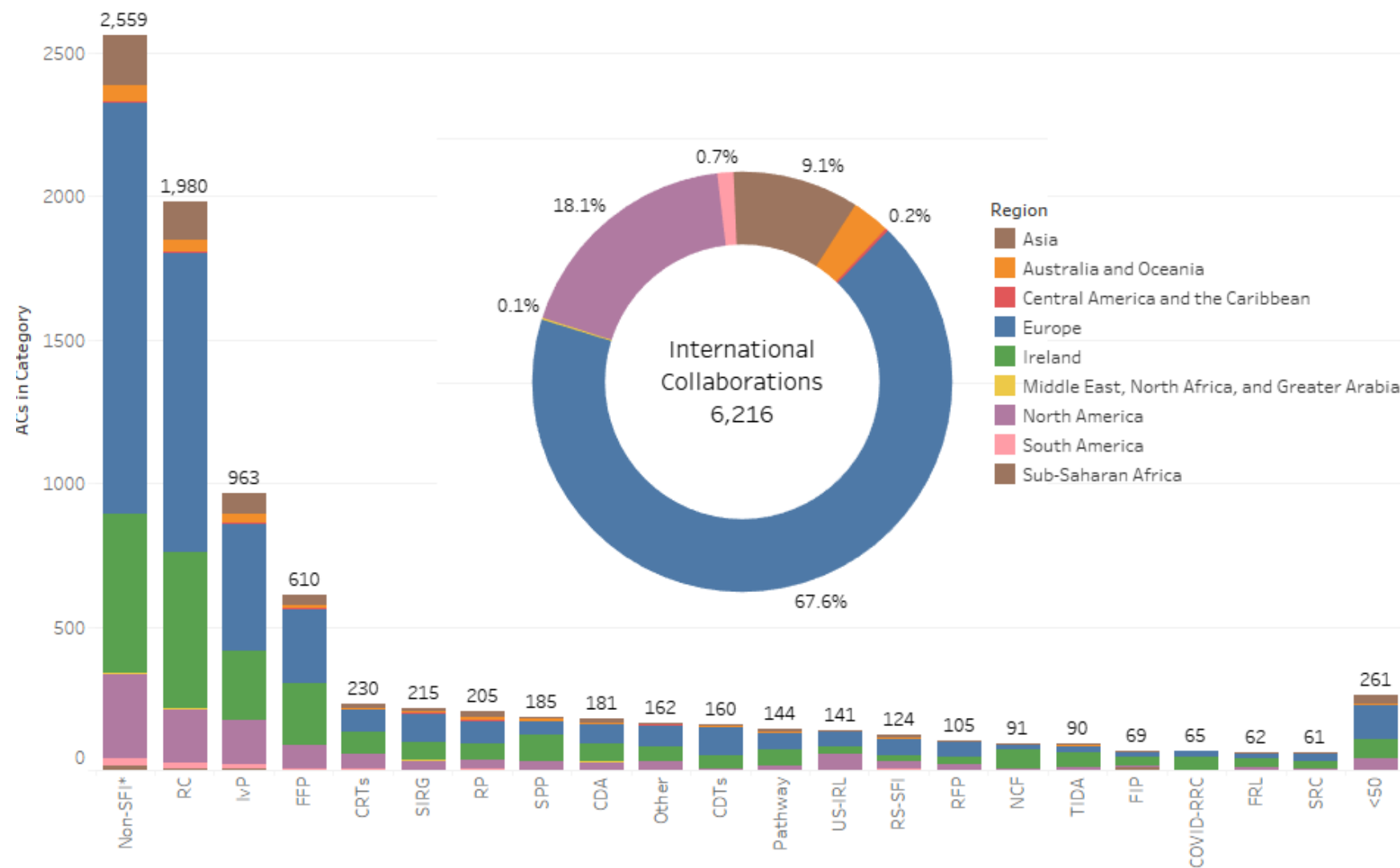
- In 2023, active SFI award holders engaged in 8,663 academic collaborations. This represents an increase of 5% on the total number of academic collaborations by active SFI award holders in 2022 (8,212).
- 72% (6,216) of academic collaborations with active SFI award holders are with international partners. The largest number of international collaborations is with European academic institutes (68%), whilst North America (18%) and Asia (9%) are also important regions for international collaboration (see Figure XII overleaf).
- By far, the primary objective of academic collaborations is to facilitate “joint publication and/or research” (80%), followed by “building networks and relationships” (11%) and “access to/provision of material, equipment, software and/or data” (7%).



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Figure IVIII: Academic Collaborations by Objective 2023 (Active SFI Award holders)

**Figure X: Academic Collaborations 2023 by Programme & Region**



\*The Non-SFI attributed bar gives the regional breakdown of Collaborations attributed to Non-SFI awards, where no programme breakdown is available

## 2.8 External Funding

- The amount of external funding (including grants, industry cash, and industry in-kind) obtained by SFI researchers was €274.4m in 2023 (up 3% from €267m in 2022).
- Total funding from Irish Exchequer sources has dropped by almost 32% from €104m in 2022 to €79m. This is largely due to the fact that last year saw SFI researchers securing a number of large grants from, among others, HRB and DTIF which led to a 50% increase on the 2021 funding.
- Total funding from EU sources has increased substantively with SFI researchers securing €110m compared with €85.2m in 2022, an increase of 30%.
- Total funding from Private Enterprise has decreased by 1% to €60.4m from €61.3m in 2022.
- Total funding from Charity / Non-Profit sources has increased by 140% from €7.5m to €18.0m, primarily due to a small number of large grants from philanthropic organisations.

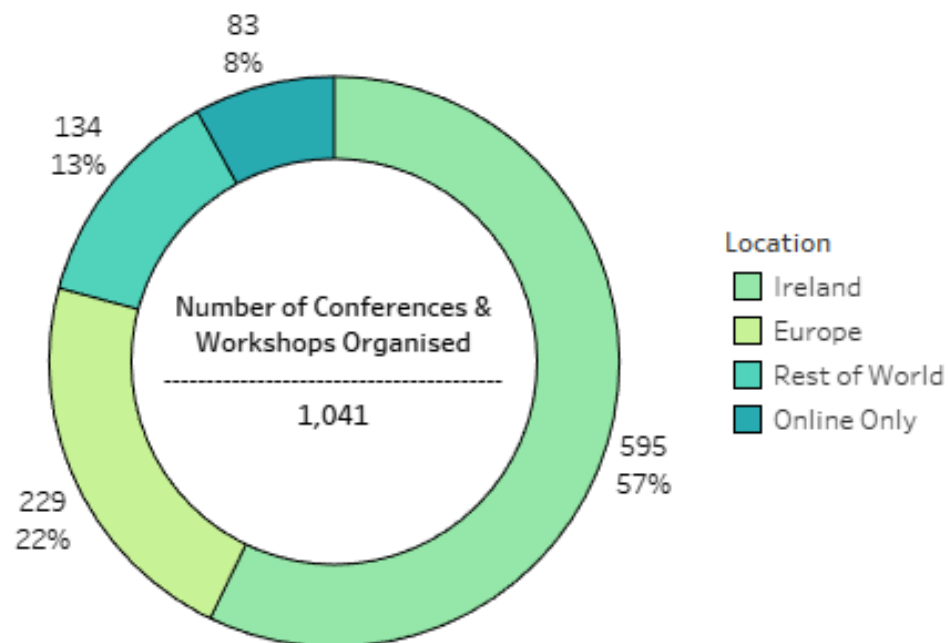
Table X: Summary of External Funding secured by SFI Funded Researchers in 2023 (All Awards, amounts in €s)				
	Irish Exchequer	Non-Irish Exchequer	National †	International†
2022	104,052,786	163,096,477	109,422,996	96,472,837
<b>Ratio</b>	<b>1:1.6</b>		<b>1:0.88</b>	
2023	78,995,756	195,384,127	87,105,253	126,846,824
<b>Ratio</b>	<b>1:2.5</b>		<b>1:1.5</b>	
<i>†It is not possible to classify all external funding categories as national or international, for example, "private enterprise"; therefore, this figure is less than the total external funding secured figure of € 274,379,883</i>				

Table XI: Source of External Funding secured by SFI Funded Researchers in 2023 (All awards)		
	Total Funding Secured by PI (€)	Cash Funding Secured by PI (€)
Private Enterprise	60,427,806	30,459,294
European Union - Other	20,579,326	17,873,569
Horizon Europe - Clusters	18,481,854	17,915,653
Horizon Europe - MSCA	18,047,468	10,748,416
Irish Research Council (IRC)	14,783,800	11,136,188
Other Irish Government Source	13,801,428	10,483,442
Horizon Europe - EIC	12,036,583	11,656,583
Horizon Europe - Other	10,817,531	8,718,944
Enterprise Ireland - Non-Commercialisation Award	10,488,731	10,226,320
Enterprise Ireland - Commercialisation Award	9,205,786	9,184,847
Health Research Board (HRB)	8,203,199	6,073,186
Charity/Non-Profit Organisation (Irish)	8,109,497	6,907,610
European Union - Horizon 2020 (ERC)	7,341,452	5,841,536
Department of the Environment, Climate and Communications	6,866,613	6,866,613
Charity/Non-Profit Organisation (International)	6,227,714	4,696,831
Horizon Europe - ERC	6,223,934	6,223,934
Department of Agriculture, Food and the Marine	5,221,139	4,711,033
European Union - Horizon 2020 (Marie Curie)	4,984,586	4,984,586
European Union - Horizon 2020 (Other)	5,402,328	4,546,173
European Union - Framework Programme	3,851,841	3,495,397
Other International Interest Organisation	3,774,428	3,757,695
Wellcome Trust	3,673,366	3,188,213
Irish Higher Education Institution	3,039,255	2,619,784
Other International Government Source	2,597,963	1,242,542
Environmental Protection Agency (EPA)	2,116,312	1,872,067
Marine Institute (MI)	1,995,899	1,980,899
Higher Education Authority Ireland (HEA)	1,814,093	1,289,069
Teagasc	1,459,500	1,129,600
European Union - Horizon 2020 (Research Infrastructure)	1,079,487	294,485
European Union - Horizon 2020 (Industrial Leadership)	709,585	709,585
Horizon Europe - Research Infrastructure	530,850	530,850
European Union - Horizon 2020 (Societal Challenges)	451,536	451,536
National Institute of Health USA (NIH)	34,992	34,992
<b>Grand Total</b>	<b>274,379,883</b>	<b>211,851,473</b>

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## 2.9 Conferences, Workshops & Seminars Organised

Figure IX: Conferences, Workshops and Seminars Organised by SFI Researchers by Region in 2023  
- All funding



- SFI-funded researchers were involved in the organisation of 1041 national and international conferences in 2023 compared with 888 in 2022.
- The move away from Online Only events has continued, with the number of these events dropping down to 73 (or 8%) in 2023 compared with 151 (or 17%) in 2022. Of the events that did take place in person or as hybrid events, 595 of these were held in Ireland (57%), 229 in Europe (22%) and 134 in countries outside of Europe (13%), compared with 449 (51%), 184 (21%) and 104 (12%), respectively, in 2022.
- SFI Researchers were convenors of 19% of these conferences, workshops & seminars. They were on the scientific or organising committees for 31%, co-organisers on 33% and were hosts for 17%, similar to 2022.

[Go to Detailed Tables](#)

## 2.10 Education and Public Engagement

There were 5,874 education and public engagement activities reported in 2023, with the majority reported via Research Centres. Due to changes implemented in how this data is captured and subsequently how it was deduplicated, the equivalent 2022 figure is not comparable to 2023.

Table XII: Education and Public Engagement by Target Audience in 2023 (Attributed to All Funding Sources, Active and Inactive Awards)				
Activity Type / Target Audience	Specified SFI Award	Other SFI award	Other NON-SFI award	Total
<b>Public / Stakeholder Engagement</b>	<b>4238</b>	<b>6</b>	<b>236</b>	<b>4480</b>
Adults	1776		107	1883
Children	454	3	29	486
Families (adults and children together)	705	1	35	741
Other	941	2	42	985
Policymakers	362		23	385
<b>Formal Education / In-class activity</b>	<b>1321</b>	<b>2</b>	<b>71</b>	<b>1394</b>
3rd/4th level students (age 18+)	350		25	375
Primary students (age 4 to 12)	309		9	318
Second level students (age 12 to 18)	585	2	27	614
Teachers	77		10	87
<b>Grand Total</b>	<b>5559</b>	<b>8</b>	<b>307</b>	<b>5874</b>

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## APPENDIX 1 – SUPPORTING DATA

### 3 Annual SFI Survey of Research Outputs 2023: Tables and Graphs

### 3.1 SFI People and Awards

#### Survey Response Rates

Table 3.1.1 (a): Response Rates - Award Holders (identical to Table I(a) above)							
	Award Holders						Other
	Total award holders	Active at 31/12/2023*	Became inactive in 2023*	Became inactive in 2019-2022*	Active anytime between 1/1/2019 and 31/12/2023	Inactive since before 1/1/2019	Funded Investigators on large-scale awards (not funded directly)**
Requested to Complete Research Outputs†	1,602	565	72	357	994	608	499
Submitted	1,112	564	69	285	918	194	319
<b>Response Rate</b>	<b>69.4%</b>	<b>99.8%</b>	<b>95.8%</b>	<b>79.8%</b>	<b>92.4%</b>	<b>31.9%</b>	<b>63.9%</b>

Table 3.1.1 (b): Response Rates – Awards (identical to Table I(b) above)						
	Awards					
	Total	Active at 31/12/2023	Expired in 2023	Expired in 2019-22	Active anytime between 1/1/2019 and 31/12/2023	Inactive since before 1/1/2019
Requested to Complete Research Outputs†	3,368	645	132	632	1,409	1,959
Award Holder Submitted	2,623	642	128	549	1,319	1,304
<b>Response Rate</b>	<b>77.9%</b>	<b>99.5%</b>	<b>97.0%</b>	<b>86.9%</b>	<b>93.6%</b>	<b>66.7%</b>

\*As determined by most recent award held under a research outputs programme as at 01/12/2023

†Note that Research Outputs is only mandatory for Award Holders who held active, relevant awards in 2019-2023.

\*\* 499 Co-PIs and Funded Investigators (FIs) on large-scale awards were also invited to complete the survey but this is simply to facilitate the central reporting of those large-scale grants and is not mandatory. 557 other co-PIs and FIs, having held grants in their own name, are already included within the award holder sub-categories.

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## 3.2 Research Team Composition

**Table 3.2.1: Research Team Composition by Position – All attributions (identical to Table III above)**

Position on Award	Attributed to Specified SFI Awards		Attributed to Unspecified SFI Awards and Awards Associated with SFI Awards		Total	
	Number	Category as % of Total	Number	Category as % of Total	Number	Category as % of Total
Award Holder	637	6.89%	0	0.00%	637	6.89%
Co-Principal Investigators	349	3.77%	0	0.00%	349	3.77%
SFI-Approved Funded Investigators	623	6.74%	12	0.13%	635	6.87%
Research Fellow	162	1.75%	92	0.99%	254	2.75%
Postdoctoral Researchers	1128	12.20%	527	5.70%	1655	17.90%
Postgraduate (PhD) Students	2450	26.48%	1291	13.96%	3741	40.44%
Postgraduate (Masters) Students	97	1.05%	118	1.28%	215	2.32%
Undergraduate Students	90	0.97%	45	0.49%	135	1.46%
Technician	55	0.59%	21	0.23%	76	0.82%
Research Assistants	418	4.52%	116	1.25%	534	5.77%
Management & Administrative Staff	386	4.17%	63	0.68%	449	4.85%
Other <sup>12</sup>	315	3.41%	254	2.75%	569	6.16%
<b>Grand Total</b>	<b>6710</b>	<b>72.54%</b>	<b>2539</b>	<b>27.46%</b>	<b>9249</b>	<b>100.00%</b>

[Go to High-Level View](#)

<sup>12</sup> Contains the categories: Medical Staff, Education & Outreach Staff, Visiting Researcher and Other



Table 3.2.2: Research Team Composition by Position and Gender (Attributed to Specified SFI Awards Active in 2023)*						
Position Held on Award	Men		Women		Total	
	Number	Category as % of Overall Total	Number	Category as % of Overall Total	Number	Category as % of Overall Total
Award Holder*	417	6.37%	219	3.34%	636	9.71%
Co-Principal Investigators*	241	3.68%	101	1.54%	342	5.22%
SFI-Approved Funded Investigators	409	6.25%	212	3.24%	621	9.48%
Postdoctoral Researchers	689	10.52%	399	6.09%	1088	16.62%
Postgraduate (PhD) Students	1373	20.97%	1012	15.46%	2385	36.42%
Postgraduate (Masters) Students	54	0.82%	38	0.58%	92	1.41%
Research Assistants	209	3.19%	199	3.04%	408	6.23%
Technician	29	0.44%	23	0.35%	52	0.79%
Research Fellow	108	1.65%	45	0.69%	153	2.34%
Undergraduate Students	44	0.67%	45	0.69%	89	1.36%
Management & Administrative Staff	135	2.06%	246	3.76%	381	5.82%
Other <sup>13</sup>	159	2.43%	142	2.17%	301	4.60%
<b>Grand Total</b>	<b>3867</b>	<b>59.05%</b>	<b>2681</b>	<b>40.95%</b>	<b>6548</b>	<b>100.00%</b>

\*In 2023, the gender options for award holders and co-PIs were expanded to include “non-binary” and “prefer to self-describe”. An exercise inviting researchers to review their data in light of these additional options is ongoing. As such, for now, and for consistency of reporting, only “Man” and “Woman” options are included here.

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<sup>13</sup> Contains the categories: Medical Staff, Education & Outreach Staff, Visiting Researcher and Other

**Table 3.2.3: Research Team Composition by Position and Nationality (Attributed to Specified SFI Awards Active in 2023) (identical to Table IV above)\***

Position Held on Award	Ireland	Europe (Exc. Ireland)	Rest of World	Total
Award Holder	399	151	87	637
Co-Principal Investigators	254	69	21	344
SFI-Approved Funded Investigators	434	114	73	621
Postdoctoral Researchers	255	295	538	1088
Postgraduate (PhD) Students	792	419	1174	2385
Postgraduate (Masters) Students	59	12	21	92
Technician	31	11	10	52
Research Assistants	197	82	129	408
Research Fellow	50	44	59	153
Undergraduate Students	63	11	15	89
Management & Administrative Staff	288	55	38	381
Other <sup>14</sup>	173	62	66	301
<b>Grand Total</b>	<b>2995</b>	<b>1325</b>	<b>2231</b>	<b>6551</b>

\* Excludes 5 co-PIs where nationality has not been provided

[Go to High-Level View](#)

<sup>14</sup> Contains the categories: Medical Staff, Education & Outreach Staff, Visiting Researcher and Other

**Table 3.2.4: Research Team Composition by Position (Attributed to All Funding Sources)**

Position Held on Award	Number	Category as % of Total
Award Holder	637	6.89%
Co-Principal Investigators	349	3.77%
SFI-Approved Funded Investigators	635	6.87%
Postdoctoral Researchers	1655	17.89%
Postgraduate (PhD) Students	3741	40.45%
Postgraduate (Masters) Students	215	2.32%
Research Fellow	254	2.75%
Undergraduate Students	135	1.46%
Technician	76	0.82%
Research Assistants	534	5.77%
Management & Administrative Staff	449	4.85%
Other <sup>15</sup>	569	6.15%
<b>Grand Total</b>	<b>9249</b>	<b>100.00%</b>

[Go to High-Level View](#)

<sup>15</sup> Contains the categories: Medical Staff, Education & Outreach Staff, Visiting Researcher and Other

Table 3.2.5: Research Team Composition in 2023 by Position and Gender (Attributed to All Funding Sources)*						
Position Held on Award	Women		Men		Total	
	Number	Category as % of Total	Number	Category as % of Total	Number	Category as % of Total
Award Holder	417	4.51%	219	2.37%	636	6.88%
Co-Principal Investigators	241	2.61%	101	1.09%	342	3.70%
SFI-Approved Funded Investigators	418	4.52%	217	2.35%	635	6.87%
Postdoctoral Researchers	995	10.77%	660	7.14%	1655	17.91%
Postgraduate (PhD) Students	2048	22.16%	1693	18.32%	3741	40.48%
Postgraduate (Masters) Students	112	1.21%	103	1.11%	215	2.33%
Research Assistants	264	2.86%	270	2.92%	534	5.78%
Technician	44	0.48%	32	0.35%	76	0.82%
Research Fellow	174	1.88%	80	0.87%	254	2.75%
Undergraduate Students	66	0.71%	69	0.75%	135	1.46%
Management & Administrative Staff	156	1.69%	293	3.17%	449	4.86%
Other <sup>16</sup>	327	3.54%	242	2.62%	569	6.16%
<b>Grand Total</b>	<b>5262</b>	<b>56.94%</b>	<b>3979</b>	<b>43.06%</b>	<b>9241</b>	<b>100.00%</b>

\*Positions with low reporting numbers in the context of gender have been removed from the analysis to ensure that the privacy of individuals is maintained. Data was excluded from the analysis where the grant holder/co-PI reported their gender as ‘Prefer Not to Say’ or ‘Non-Binary’ or the gender identity was unknown. The table displayed, therefore, represents 99.95% of available data.

[Go to High-Level View](#)

<sup>16</sup> Contains the categories: Medical Staff, Education & Outreach Staff, Visiting Researcher and Other

**Table 3.2.6: Research Team Composition in 2023 by Position and Nationality (Attributed to All Funding Sources)**

Position Held on Award	Ireland	Europe (Exc. Ireland)	Rest of World	Total
Award Holder	399	151	87	637
Co-Principal Investigators	254	69	21	344
SFI-Approved Funded Investigators	445	116	74	635
Postdoctoral Researchers	404	445	806	1655
Postgraduate (PhD) Students	1371	659	1711	3741
Postgraduate (Masters) Students	135	29	51	215
Research Fellow	85	69	100	254
Undergraduate Students	102	14	19	135
Technician	44	19	13	76
Research Assistants	255	110	169	534
Management & Administrative Staff	339	67	43	449
Other <sup>17</sup>	294	136	139	569
<b>Grand Total</b>	<b>4127</b>	<b>1884</b>	<b>3233</b>	<b>9244</b>

\* Excludes 5 co-PIs where nationality was not provided

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<sup>17</sup> Contains the categories: Medical Staff, Education & Outreach Staff, Visiting Researcher and Other

## 3.3 First Destination of Departing Team Members

<b>Table 3.3.1: All Departing Team Members in 2023 by First Destination Position and Location (Attributed to Active SFI Awards) (identical to Table V above)</b>								
First Destination Position	Ireland		Europe		Rest of World		Total	% of Total Leavers
	#	%	#	%	#	%		
Industry	170	15.30%	47	4.23%	26	2.34%	243	21.87%
Postdoctoral research in HEI	119	10.71%	37	3.33%	20	1.80%	176	15.84%
Lecturers/Researchers in HEI	65	5.85%	22	1.98%	31	2.79%	118	10.62%
Moved to a new position within the team	80	7.20%	0	0.00%	0	0.00%	80	7.20%
Other <sup>18</sup>	361	32.49%	81	7.29%	52	4.68%	494	44.46%
<b>Grand Total</b>	<b>795</b>	<b>71.56%</b>	<b>187</b>	<b>16.83%</b>	<b>129</b>	<b>11.61%</b>	<b>1111</b>	<b>100.00%</b>

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<sup>18</sup> Contains the categories: Career Break, Grant Administration, Research Assistants in HEI, Technicians in HEI, Unemployed, Further education, Visiting Researcher - visit concluded, Specialist Courses, Teaching (Primary/Secondary), Maternity/Paternity Leave, Other Public Sector (non-HEI) Research, Unknown

## 3.4 Academic Outputs

Table 3.4.1: Publications by type in 2023 (Attributed to All Funding Sources, Active and Inactive Awards)				
	Attributed to Specified SFI awards, Active and Inactive	Attributed to Unspecified SFI awards	Associated with SFI awards	Total
Refereed Original Articles	1789	2	1568	3359
Refereed Review Articles	233	1	209	443
Refereed Conference/Meeting Proceedings	698	1	312	1011
Edited Conference/Meeting Proceedings	68		33	101
Books	12		23	35
Book Chapters	67		103	170
<b>Grand Total</b>	<b>2867</b>	<b>4</b>	<b>2248</b>	<b>5119</b>

Table 3.4.2: Publications by type in 2023 (Attributed to Active and Inactive SFI Awards)			
	Active	Inactive	Total
Refereed Original Articles	1575	214	1789
Refereed Review Articles	227	6	233
Refereed Conference/Meeting Proceedings	684	14	698
Edited Conference/Meeting Proceedings	55	13	68
Books	12		12
Book Chapters	62	5	67
<b>Grand Total</b>	<b>2615</b>	<b>252</b>	<b>2867</b>

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**Table 3.4.3: Publication Output in 2023 by Type and Award (Attributed to Active SFI Awards)\***

	RC	FFP	CRTs	RP	lvP	SPP	RS-SFI	Pathway	FRL	SIRG	Other	CDA	US-IRL	NCF	CDTs	NSFC	HRB/W'come	EPSRC	RI	FIP	Grand Total
Refereed Original Articles	810	199	97	77	79	45	59	30	42	27	17	21	14	10	15	10	8	6	6	3	1569
Refereed Review Articles	110	37	10	9	8	7	1	17	6	4	1	3	2	2	2		4		1	3	227
Refereed Conf/Mtg Proceedings	337	51	152	22	13	19	1	5	4	18	13	8	12	7	2	6	2	6	2	4	684
Edited Conference/Meeting Proceedings	16	12	11	1		3	3	3			2			3					1		55
Books	7	1	1	1		1													1		12
Book Chapters	39	4	9	1	3	1	1						2	1						1	62
<b>Grand Total</b>	<b>1319</b>	<b>304</b>	<b>280</b>	<b>111</b>	<b>103</b>	<b>76</b>	<b>65</b>	<b>55</b>	<b>52</b>	<b>49</b>	<b>33</b>	<b>32</b>	<b>30</b>	<b>23</b>	<b>19</b>	<b>16</b>	<b>14</b>	<b>12</b>	<b>11</b>	<b>11</b>	<b>2615</b>

\*Programmes with fewer than 10 publications were grouped under “Other”

**Table 3.4.4: % Publication Output in 2023 (Attributed to Active SFI Awards)**

	CDA	CDTs	CRTs	EPSRC	FFP	FIP	FRL	HRB/W'come	lvP	NCF	NSFC	Other	Pathway	RC	RI	RP	RS-SFI	SIRG	SPP	US-IRL	Grand Total
Outputs with non-Irish co-author	69%	42%	29%	67%	55%	64%	73%	57%	58%	35%	50%	67%	75%	50%	91%	54%	92%	41%	50%	73%	51%
Outputs available in Open Access Repositories	97%	95%	94%	100%	91%	82%	90%	100%	92%	87%	81%	94%	89%	89%	73%	80%	98%	86%	86%	87%	90%
SFI Accredited Outputs	94%	84%	94%	100%	87%	64%	94%	79%	93%	70%	94%	91%	93%	86%	91%	78%	83%	94%	76%	97%	87%
Outputs with co-author from industry	9%	21%	12%	0%	9%	18%	2%	0%	15%	13%	13%	21%	4%	19%	55%	13%	5%	6%	12%	17%	12%

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**Figure 3.5.1: Summary of Innovation and Commercialisation Outputs in 2023 (All Awards) (Identical to Table VI above)**

	Attributed to Specified SFI awards	Attributed to Unspecified SFI Awards	Associated with SFI Awards	Total Number Reported
Invention Disclosures	146	1	50	197
Patents Filed	36	0	11	47
Licensed Technologies	76	0	5	81
Patents Awarded	34	0	12	46
Assignments	5	0	0	5
Spinouts	3	0	2	5
Standards Contributed To	0	0	0	0
Start-ups	3	0	4	7
Patents Exploited	0	0	0	0

**Table 3.5.2: Summary of Innovation and Commercialisation Outputs in 2023 (Attributed to Specified Active and Inactive SFI Awards) (Identical to Table VII above)**

	Active	Inactive
Invention Disclosures	130	16
Patents Filed	26	10
Licensed Technologies	70	6
Assignments	4	1
Standards Contributed To	0	0
Patents Awarded	8	26
Start-ups	3	0
Spinouts	1	2
Patents Exploited	0	0

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<sup>19</sup> Although Innovation & Commercialisation activities here are reported as arising from SFI-funded research, it is important to stress that SFI does not produce these outputs directly. These are the product of the research and commercialisation ecosystem and are dependent upon Enterprise Ireland (EI), the HEI Technology Transfer Offices (TTOs) and other stakeholders. The above figures have been verified by Knowledge Transfer Ireland.

## 3.6 Non-Academic Engagements

Table 3.6.1: Non-Academic Engagements in 2023 (Active award holders, All Attributions)				
	Attributed to Specified SFI awards	Attributed to Unspecified SFI Awards	Associated with SFI Awards	Total Engagements
With Multinational Corporations	1342	4	395	1741
With Small and Medium Enterprises	1147	10	485	1642
With Government Departments or Semi-State Bodies	516	2	188	706
With Private Foundations/Charities/Non-Governmental Organisations (NGO)	241	1	118	360
<b>Grand Total</b>	<b>3246</b>	<b>17</b>	<b>1186</b>	<b>4449</b>

**Table 3.6.2 Unique organisations involved in Non-Academic Engagements in 2023 (with Active award holders, all attributions) (identical to Table IX above)**

	Total Engagements	Organisations
With Small and Medium Enterprises	1642	1362
With Multinational Corporations	1741	1020
With Government Departments or Semi-State Bodies	706	470
With Private Foundations/Charities/Non-Governmental Organisations (NGO)	360	329
<b>Total</b>	<b>4449</b>	<b>3177</b>

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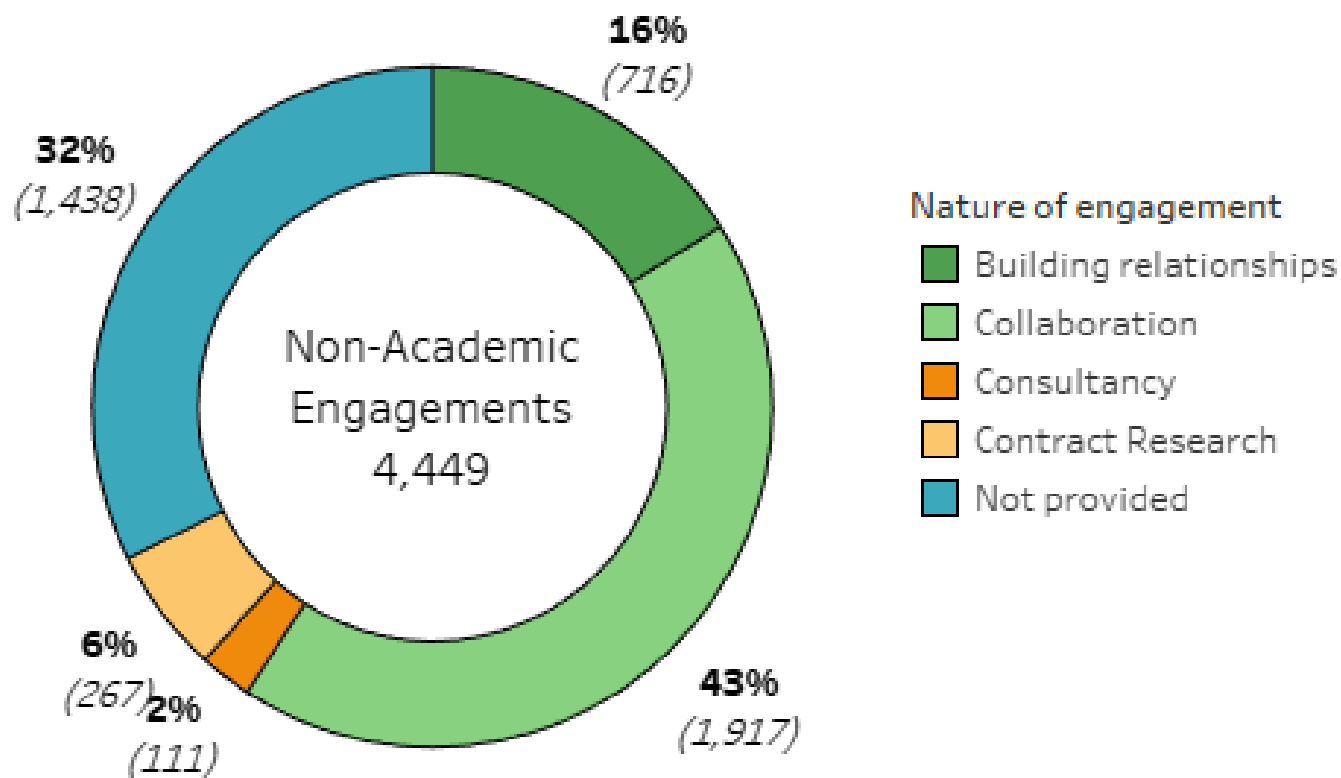
Table 3.6.4: Non-Academic Engagements by Programme in 2023 (Attributed to Specified SFI Awards)					
Programme	MNC	SME	Government Departments or Semi-State Bodies	Private Foundations/ Charities/Non Governmental Organisations (NGO)	Total
RC	664	528	116	61	1369
IVP	131	122	38	23	314
SPP	82	55	74	19	230
FFP	55	78	50	27	210
RP	74	58	35	13	180
NCF	31	30	87	27	175
CRTs	73	33	13	10	129
FIP	22	27	14	21	84
TIDA	29	42	5	1	77
CDA	38	30	4		72
CDTs	17	17	12	5	51
SIRG	20	19	6	3	48
Pathway	8	9	9	8	34
RI	15	9	7	1	32
FRL	10	9	8	4	31
IF	13	13	3	1	30
US-IRL	8	9	10	2	29
COVID-RRC	8	4	4	3	19
JPI	4	11	2		17
RS-SFI	4	3	4	4	15
SRC	7	7			14
RFP	4	4	1		9
CSET	3	6			9
SPR			6	2	8
NSFC	2	4	1		7
HRB/W'come		1	3	1	5
PIYRA	3	2			5
EPSRC	1	4			5
Catalyst	4	1			5
SFI Discover				5	5
Others (<=4 NAEs)	12	12	4	0	28
<b>Grand Total</b>	<b>1342</b>	<b>1147</b>	<b>516</b>	<b>241</b>	<b>3246</b>

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<b>Table 3.6.5: Non-Academic Engagements with Legal Agreements in place in 2023 (All attributions)</b>	
	Legal Agreement in Place
	Total Engagements
With Multinational Corporations	894
With Small and medium Enterprises	744
With Government Departments or Semi-State Bodies	180
With Private Foundations/Charities/Non-Governmental Organisations (NGO)	86
<b>Grand Total</b>	<b>1904</b>
<b>Percentage of Total</b>	<b>43%</b>

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Figure X: Nature of Engagement for Non-Academic Engagements in 2023 (Active Award holders)



We have changed the way in which researchers report on Non-academic engagements to capture the nature of these engagements more accurately. As a result, some of the pre-existing engagements have not been updated with the new categorisation system and the detail on the nature of the engagement was not captured (Shown in blue segment of donut chart above). A follow up exercise will be carried out in the future to complete this field.

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Table 3.6.6: Country where non-academic contact is based 2023 (Active SFI Award holders)		
	Total Engagements	%
Ireland	2145	48.21%
United States of America	463	10.41%
United Kingdom (excluding Northern Ireland)	441	9.91%
Germany	225	5.06%
France	136	3.06%
Netherlands	111	2.49%
Spain	102	2.29%
Switzerland	99	2.23%
Italy	84	1.89%
Belgium	82	1.84%
Northern Ireland	78	1.75%
Sweden	42	0.94%
Canada	37	0.83%
Denmark	34	0.76%
Austria	27	0.61%
Norway	27	0.61%
Australia	25	0.56%
China	21	0.47%
Japan	21	0.47%
Finland	20	0.45%
Israel	18	0.40%
South Africa	18	0.40%
Portugal	17	0.38%
Greece	16	0.36%
Poland	11	0.25%
New Zealand	10	0.22%
Czech Republic	10	0.22%
India	10	0.22%
Hungary	9	0.20%
Zambia	8	0.18%
Viet Nam	6	0.13%
Slovenia	6	0.13%
United Arab Emirates	5	0.11%
Turkey	5	0.11%
Singapore	5	0.11%

Table 3.6.6: Country where non-academic contact is based 2023 (Active SFI Award holders)		
	Total Engagements	%
Brazil	5	0.11%
Luxembourg	4	0.09%
Korea, South (Republic of Korea)	4	0.09%
Malawi	4	0.09%
Saudi Arabia	4	0.09%
Romania	3	0.07%
Colombia	3	0.07%
Uganda	3	0.07%
Taiwan, Province of China	3	0.07%
Kenya	3	0.07%
Ukraine	2	0.04%
Zimbabwe	2	0.04%
Swaziland	2	0.04%
Namibia	2	0.04%
Latvia	2	0.04%
Congo, Democratic Republic of the	2	0.04%
Slovakia	2	0.04%
Serbia	2	0.04%
Cyprus	2	0.04%
Bulgaria	2	0.04%
Rwanda	1	0.02%
Iceland	1	0.02%
Egypt	1	0.02%
Chile	1	0.02%
American Samoa	1	0.02%
Malta	1	0.02%
Greenland	1	0.02%
Croatia	1	0.02%
Bosnia and Herzegovina	1	0.02%
Cambodia	1	0.02%
The Netherlands	1	0.02%
Morocco	1	0.02%
Estonia	1	0.02%
Georgia	1	0.02%
Mexico	1	0.02%

<b>Table 3.6.6: Country where non-academic contact is based 2023 (Active SFI Award holders)</b>		
	<b>Total Engagements</b>	<b>%</b>
Tanzania, United Republic of	1	0.02%
Iran (Islamic Republic of)	1	0.02%
Argentina	1	0.02%
Lithuania	1	0.02%
<b>Grand Total</b>	<b>4449</b>	<b>100.00%</b>



## 3.7 Academic Collaborations

Table 3.7.1: National and International Academic Collaborations by Region in 2023 (All Attributions)								
	Attributed to Specified SFI Awards		Attributed to Unspecified SFI Awards		Associated with SFI Awards		Total	
	No. of Collaborations	% of Collaborations within Region	No. of Collaborations	% of Collaborations within Region	No. of Collaborations	% of Collaborations within Region	No. of Collaborations	% of all Collaborations
Europe	2771	45.4%	28	47.5%	1402	56.1%	4201	48.5%
Ireland	1892	31.0%	18	30.5%	537	21.5%	2447	28.2%
North America	832	13.6%	10	16.9%	286	11.4%	1128	13.0%
Asia	389	6.4%	1	1.7%	173	6.9%	563	6.5%
Australia and Oceania	124	2.0%	1	1.7%	57	2.3%	182	2.1%
South America	51	0.8%	1	1.7%	26	1.0%	78	0.9%
Sub-Saharan Africa	26	0.4%		0.0%	15	0.6%	41	0.5%
Central America and the Caribbean	11	0.2%		0.0%	3	0.1%	14	0.2%
Middle East, North Africa, and Greater Arabia	8	0.1%		0.0%	1	0.0%	9	0.1%
<b>Grand Total</b>	<b>6104</b>	<b>100.0%</b>	<b>59</b>	<b>100.0%</b>	<b>2500</b>	<b>100.0%</b>	<b>8663</b>	<b>100.0%</b>

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Table 3.7.2: International Academic Collaborations by Region in 2023 (All attributions)								
	Attributed to Specified SFI Awards		Attributed to Unspecified SFI Awards		Associated with SFI awards		Total	
	No. of Collaborations	% of Collaborations within Region	No. of Collaborations	% of Collaborations within Region	No. of Collaborations	% of Collaborations within Region	No. of Collaborations	% of all Collaborations
Europe	2771	65.8%	28	68.3%	1402	71.4%	4201	67.58%
North America	832	19.8%	10	24.4%	286	14.6%	1128	18.15%
Asia	389	9.2%	1	2.4%	173	8.8%	563	9.06%
Australia and Oceania	124	2.9%	1	2.4%	57	2.9%	182	2.93%
South America	51	1.2%	1	2.4%	26	1.3%	78	1.25%
Sub-Saharan Africa	26	0.6%		0.0%	15	0.8%	41	0.66%
Central America and the Caribbean	11	0.3%		0.0%	3	0.2%	14	0.23%
Middle East, North Africa, and Greater Arabia	8	0.2%		0.0%	1	0.1%	9	0.14%
<b>Grand Total</b>	<b>4212</b>	<b>100.0%</b>	<b>41</b>	<b>100.0%</b>	<b>1963</b>	<b>100.0%</b>	<b>6216</b>	<b>100.00%</b>

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Table 3.7.3: National and International Academic Collaborations by Objective in 2023 (All attributions)								
	Attributed to Specified SFI Awards		Attributed to Unspecified SFI Awards		Associated with SFI awards		Total Collaborations	
	No. of Collaborations	% of Collaborations with this Objective	No. of Collaborations	% of Collaborations with this Objective	No. of Collaborations	% of Collaborations with this Objective	No. of Collaborations	% of all Collaborations
Joint publication/Research	4814	78.87%	55	93.22%	2067	82.68%	6936	80.06%
Building networks & relationships	648	10.62%	2	3.39%	279	11.16%	929	10.72%
Access to/provision of material,Equipment,Software,Data	481	7.88%	2	3.39%	102	4.08%	585	6.75%
Training and Career & Professional Development (CPD)	142	2.33%		0.00%	47	1.88%	189	2.18%
Start-up Development	13	0.21%		0.00%	2	0.08%	15	0.17%
Licence Development	6	0.10%		0.00%	3	0.12%	9	0.10%
<b>Grand Total</b>	<b>6104</b>	<b>100.00%</b>	<b>59</b>	<b>100.00%</b>	<b>2500</b>	<b>100.00%</b>	<b>8663</b>	<b>100.00%</b>

Table 3.7.4: National and International Academic Collaborations by Objective in 2023 (All attributions)		
	No. of Collaborations	% of Collaborations with this Objective
Joint publication/Research	6936	80.06%
Building networks & relationships	929	10.72%
Access to/provision of material,Equipment,Software,Data	585	6.75%
Training and Career & Professional Development (CPD)	189	2.18%
Start-up Development	15	0.17%
Licence Development	9	0.10%
<b>Grand Total</b>	<b>8663</b>	<b>100.00%</b>

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Table 3.7.5: International Academic Collaborations by Programme and Region in 2023 (Attributed to Active SFI Awards)

	Asia	Australia and Oceania	Central America and the Caribbean	Europe	Middle East, North Africa, and Greater Arabia	North America	South America	Sub-Saharan Africa	Grand Total
CDA	7	1		29	1	18	1		57
CDTs	6	1	1	99		5			112
COVID-RRC				11					11
CRTs	13	5		81		53	5		157
EPSRC	4			26		2			32
ERC				1		1			2
ERC Support				3		2			5
FFP	34	13	1	261		85	2	1	397
FIP	1			8		4		11	24
FRL	2	2		17		11			32
HRB/W'come				6		5			11
IF	2			4		1			7
IvP	20	5	1	129		40	1	1	197
JPI				2					2
NCF	1			16		6		1	24
NSFC	17			10		3	1		31
Pathway	9	2	1	59		16			87
PIYRA				1		3			4
RC	65	16	1	476	2	99	7	3	669
RI				11		7			18
RP	16	8	1	76		31	1	2	135
RS-SFI	3	1		23		15		1	43
SIRG	8	5	1	61	2	14			91
SPP	7	6		44		30			87
SPR	1			8					9
US-IRL				38		38			76
US-IRL C2C				3		12			15
<b>Grand Total</b>	<b>216</b>	<b>65</b>	<b>7</b>	<b>1503</b>	<b>5</b>	<b>501</b>	<b>18</b>	<b>20</b>	<b>2335</b>

## 3.8 External Funding

<b>Table 3.8.1: Source of External Funding secured by SFI Funded Researchers in 2023 (All awards) (identical to Table XII)</b>		
	Total Funding Secured by PI (€)	Cash Funding Secured by PI (€)
Private Enterprise	60,427,806	30,459,294
European Union - Other	20,579,326	17,873,569
Horizon Europe - Clusters	18,481,854	17,915,653
Horizon Europe - MSCA	18,047,468	10,748,416
Irish Research Council (IRC)	14,783,800	11,136,188
Other Irish Government Source	13,801,428	10,483,442
Horizon Europe - EIC	12,036,583	11,656,583
Horizon Europe - Other	10,817,531	8,718,944
Enterprise Ireland - Non-Commercialisation Award	10,488,731	10,226,320
Enterprise Ireland - Commercialisation Award	9,205,786	9,184,847
Health Research Board (HRB)	8,203,199	6,073,186
Charity/Non-Profit Organisation (Irish)	8,109,497	6,907,610
European Union - Horizon 2020 (ERC)	7,341,452	5,841,536
Department of the Environment, Climate and Communications	6,866,613	6,866,613
Charity/Non-Profit Organisation (International)	6,227,714	4,696,831
Horizon Europe - ERC	6,223,934	6,223,934
Department of Agriculture, Food and the Marine	5,221,139	4,711,033
European Union - Horizon 2020 (Marie Curie)	4,984,586	4,984,586
European Union - Horizon 2020 (Other)	5,402,328	4,546,173
European Union - Framework Programme	3,851,841	3,495,397
Other International Interest Organisation	3,774,428	3,757,695
Wellcome Trust	3,673,366	3,188,213
Irish Higher Education Institution	3,039,255	2,619,784
Other International Government Source	2,597,963	1,242,542
Environmental Protection Agency (EPA)	2,116,312	1,872,067
Marine Institute (MI)	1,995,899	1,980,899
Higher Education Authority Ireland (HEA)	1,814,093	1,289,069
Teagasc	1,459,500	1,129,600
European Union - Horizon 2020 (Research Infrastructure)	1,079,487	294,485
European Union - Horizon 2020 (Industrial Leadership)	709,585	709,585
Horizon Europe - Research Infrastructure	530,850	530,850
European Union - Horizon 2020 (Societal Challenges)	451,536	451,536
National Institute of Health USA (NIH)	34,992	34,992
<b>Grand Total</b>	<b>274,379,883</b>	<b>211,851,473</b>

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<b>Table 3.8.2: External Funding secured by SFI Funded Researchers in 2023 by Irish Exchequer vs Non-Irish Exchequer and National vs International Funding Sources (All Awards)</b>				
	Irish Exchequer	Non-Irish Exchequer	National	International
Charity/Non-Profit Organisation (International)		6,227,714		6,227,714
Charity/Non-Profit Organisation (Irish)		8,109,497	8,109,497	
Department of Agriculture, Food and the Marine (DAFM)	5,221,139		5,221,139	
Department of the Environment, Climate and Communications (DCENR)	6,866,613		6,866,613	
Enterprise Ireland - Commercialisation Award	9,205,786		9,205,786	
Enterprise Ireland - Non-Commercialisation Award	10,488,731		10,488,731	
Environmental Protection Agency (EPA)	2,116,312		2,116,312	
European Union - Framework Programme		3,851,841		3,851,841
European Union - Horizon 2020 (ERC)		7,341,452		7,341,452
European Union - Horizon 2020 (Industrial Leadership)		709,585		709,585
European Union - Horizon 2020 (Marie Curie)		4,984,586		4,984,586
European Union - Horizon 2020 (Other)		5,402,328		5,402,328
European Union - Horizon 2020 (Research Infrastructure)		1,079,487		1,079,487
European Union - Horizon 2020 (Societal Challenges)		451,536		451,536
European Union - Other		20,579,326		20,579,326
Health Research Board (HRB)	8,203,199		8,203,199	
Higher Education Authority Ireland (HEA)	1,814,093		1,814,093	
Horizon Europe - Clusters		18,481,854		18,481,854
Horizon Europe - EIC		12,036,583		12,036,583
Horizon Europe - ERC		6,223,934		6,223,934
Horizon Europe - MSCA		18,047,468		18,047,468
Horizon Europe - Other		10,817,531		10,817,531
Horizon Europe - Research Infrastructure		530,850		530,850
Irish Higher Education Institution	3,039,255		3,039,255	
Irish Research Council (IRC)	14,783,800		14,783,800	
Marine Institute (MI)	1,995,899		1,995,899	
National Institute of Health USA (NIH)		34,992		34,992
Other International Government Source		2,597,963		2,597,963
Other International Interest Organisation		3,774,428		3,774,428
Other Irish Government Source	13,801,428		13,801,428	
Private Enterprise		60,427,806		
Teagasc	1,459,500		1,459,500	
Wellcome Trust		3,673,366		3,673,366
<b>Grand Total</b>	<b>78,995,756</b>	<b>195,384,127</b>	<b>87,105,253</b>	<b>126,846,824</b>

*†It is not possible to classify all external funding categories as national or international, for example, “private enterprise”; therefore, this figure is less than the total external funding secured figure of €274,735,569*

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## 3.9 Conferences, Seminars and Workshops

**Table 3.9.1: Conferences, Workshops and Seminars Organised by SFI Researchers in 2023 by Role (All Funding Sources, Active and Inactive Awards)**

Role	Number of Conferences
Co-organiser	339
Convenor	201
Host	178
Member Scientific committee	121
Member Organising committee	77
Member Organising and Scientific committee	67
Member Organising and Programme committee	58
<b>Total</b>	<b>1041</b>

**Tables 3.9.2: Conferences, Workshops and Seminars Organised by SFI Researchers in 2023 by Region (All Funding Sources, Active and Inactive Awards)**

Region	Number of Conferences
Ireland	595
Europe	229
Online Only	83
North America	73
Asia	41
Sub-Saharan Africa	7
Australia and Oceania	7
South America	5
Middle East, North Africa, and Greater Arabia	1
<b>Total</b>	<b>1041</b>

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### 3.10 Education and Public Engagement

**Table 3.10.1: Education and Public Engagement by Target Audience in 2023 (Attributed to All Funding Sources, Active and Inactive Awards) (Identical to Table XIV above)**

Activity Type / Target Audience	Specified SFI Award	Other SFI award	Other NON-SFI award	Grand Total
<b>Public / Stakeholder Engagement</b>	<b>4238</b>	<b>6</b>	<b>236</b>	<b>4480</b>
Adults	1776		107	1883
Children	454	3	29	486
Families (adults and children together)	705	1	35	741
Other	941	2	42	985
Polymakers	362		23	385
<b>Formal Education / In-class activity</b>	<b>1321</b>	<b>2</b>	<b>71</b>	<b>1394</b>
3rd/4th level students (age 18+)	350		25	375
Primary students (age 4-12)	309		9	318
Second level students (age 12 -18)	585	2	27	614
Teachers	77		10	87
<b>Grand Total</b>	<b>5559</b>	<b>8</b>	<b>307</b>	<b>5874</b>

**Table 3.10.2: Education and Public Engagement by Target Audience in 2023 (Specified SFI Awards – Active and Inactive)**

Activity Type / Target Audience	Active	Inactive	Grand Total
<b>Public / Stakeholder Engagement</b>	<b>4216</b>	<b>22</b>	<b>4238</b>
Adults	1763	13	1776
Children	451	3	454
Families (adults and children together)	703	2	705
Other	938	3	941
Polymakers	361	1	362
<b>Formal Education / In-class activity</b>	<b>1315</b>	<b>6</b>	<b>1321</b>
3rd/4th level students (age 18+)	350		350
Primary students (age 4 - 12)	307	2	309
Second level students (age 12 -18)	581	4	585
Teachers	77		77
<b>Grand Total</b>	<b>5531</b>	<b>28</b>	<b>5559</b>

**Table 3.10.3: Education and Public Engagement by Target Audience in 2023 (Specified SFI awards) by Programme**

Activity Type / Target Audience	CDA	CDTs	COVID -RRC	CRTs	EPSRC	FFP	FIP	FRL	ICS	IF	IvP	NCF	NSFC	Other	Pathway	PSF	RC	RP	RS-SFI	SIRG	SPP	SPR	SRC	US-IRL	Grand Total
<b>Public / Stakeholder Engagement</b>	<b>4</b>	<b>6</b>		<b>8</b>	<b>1</b>	<b>173</b>	<b>33</b>	<b>23</b>	<b>3</b>	<b>9</b>	<b>17</b>	<b>63</b>	<b>1</b>	<b>17</b>	<b>40</b>	<b>1</b>	<b>3577</b>	<b>44</b>	<b>9</b>	<b>17</b>	<b>182</b>	<b>3</b>	<b>1</b>	<b>6</b>	<b>4238</b>
Adults	1	2		4	1	84	18	4	2	5	3	31		8	11	1	1508	14	4	5	64	2	1	3	1776
Children				3		36	2	2		1	6		1	5	3		382	1		3	9				454
Families (adults and children together)	1	1				24	5	4	1		1	8		2	13		593	18	5	6	23				705
Other	2	3				27	6	12		2	7	13			13		784	7		2	62			1	941
Polymakers				1		2	2	1		1		11		2			310	4		1	24	1		2	362
<b>Formal Education / In-class activity</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>1</b>		<b>54</b>	<b>5</b>	<b>4</b>		<b>3</b>	<b>7</b>	<b>7</b>		<b>9</b>	<b>16</b>		<b>1110</b>	<b>30</b>	<b>5</b>	<b>9</b>	<b>47</b>	<b>1</b>		<b>3</b>	<b>1321</b>
3rd/4th level students (age 18+)	2	1	1			27	3			2	3	4		2	6		261	19	1	4	14				350
Primary students (age 4-12)		2				8		3						1	3		259	3	1	1	26	1		1	309
Second level students (age 12-18)	1	1		1		16	1	1			4	2		6	7		523	7	3	4	6			2	585
Teachers	2					3	1			1		1					67	1			1				77
<b>Grand Total</b>	<b>9</b>	<b>10</b>	<b>1</b>	<b>9</b>	<b>1</b>	<b>227</b>	<b>38</b>	<b>27</b>	<b>3</b>	<b>12</b>	<b>24</b>	<b>70</b>	<b>1</b>	<b>26</b>	<b>56</b>	<b>1</b>	<b>4687</b>	<b>74</b>	<b>14</b>	<b>26</b>	<b>229</b>	<b>4</b>	<b>1</b>	<b>9</b>	<b>5559</b>

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## APPENDIX 2 – YEAR ON YEAR COMPARISON

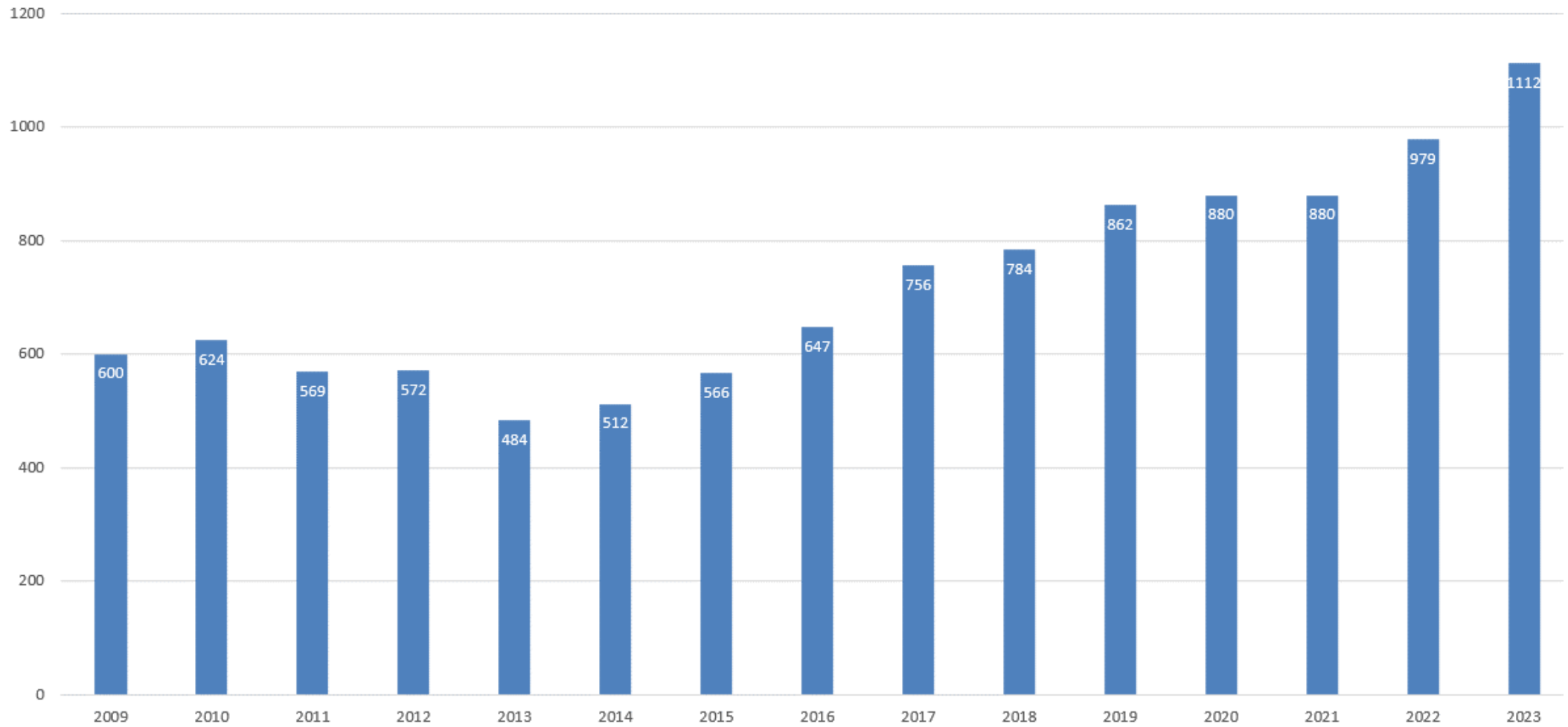
### 4 Year on Year Comparison

The following tables provide comparisons of headline figures since 2008. However, it should be noted that there have been changes in methodology each year that can affect the outputs. For example, as outlined in the Executive Summary, in 2016 we extended the mandatory cohort with the effect of increasing the number of researchers reporting by 100. Also, in the earlier years, the survey was conducted amongst holders of major grant categories (centre-type awards, PI-like awards, RFP) and sought little detail and, for some outputs, only high-level numbers. This has extended gradually over the years to include more and more programmes and the level of detail has increased. To get a better picture of yearly trends, some further work may be required to normalise the data across years.

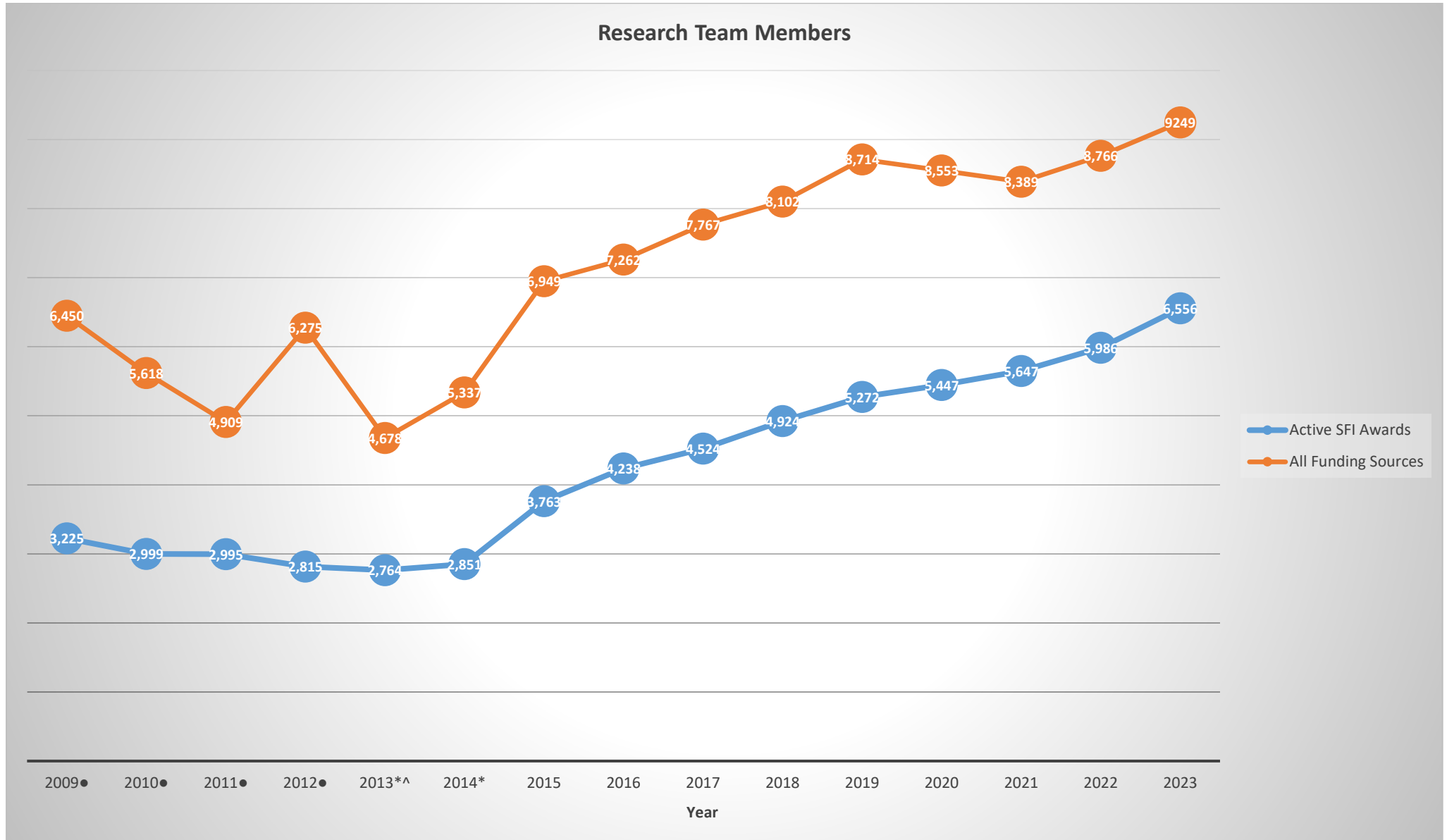
In some cases, where errors were identified in previous years' reports, the historic data has been corrected.

## 4.1 Submissions

Total Number of Award Holders (Active and Inactive) who Submitted



## 4.2 Research Team Members (including Award Holders)



●Active SFI awards were active on 31st December of year of interest and continued to receive funding the following year.

\*Active SFI awards were active at any point during year of interest.

^Figure incorporates outputs reported by researchers who did not submit a profile.

### 4.3 Publications



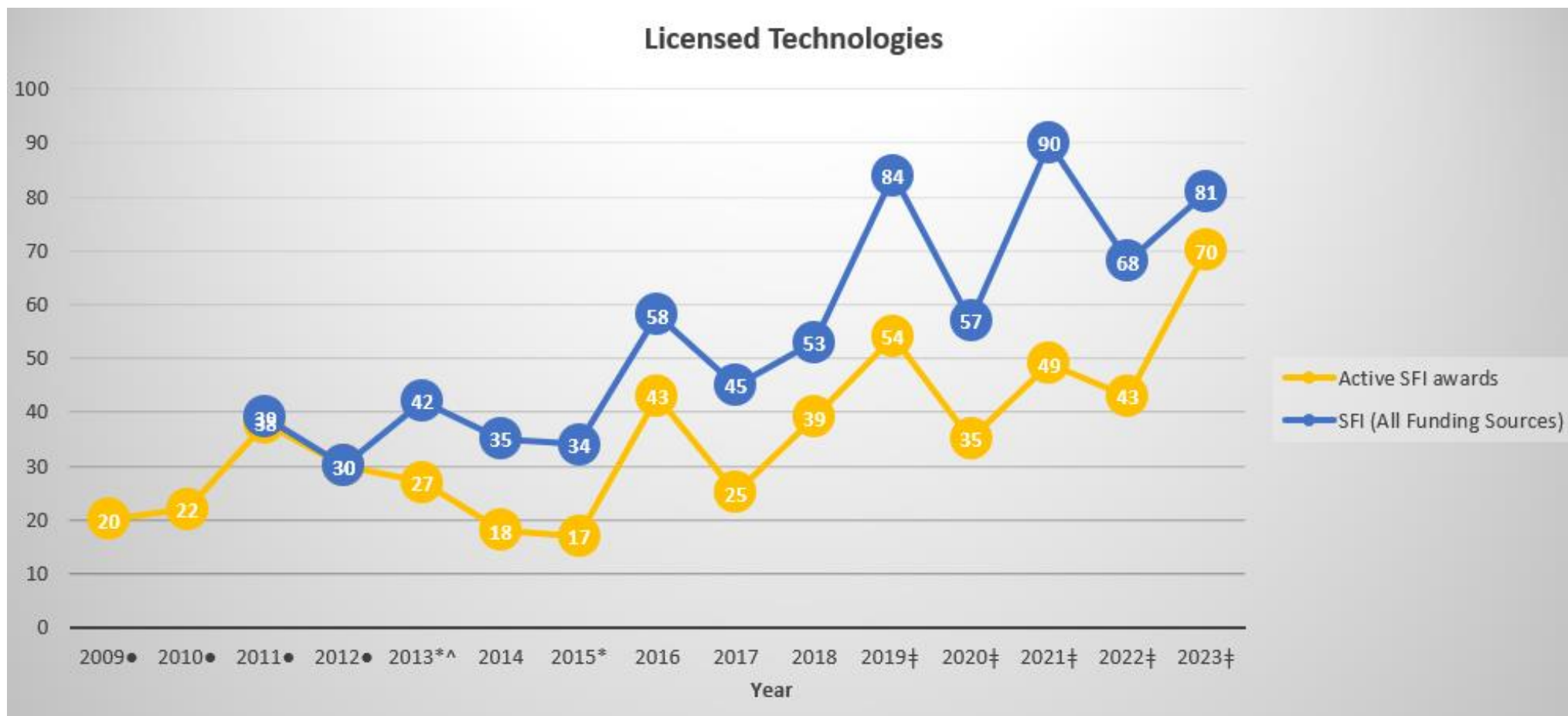
●Active SFI awards were active on 31st December of year of interest and continued to receive funding the following year.

\*Active SFI awards were active at any point during year of interest.

^Figure incorporates outputs reported by researchers who did not submit a profile.

'2020 data was updated following publication of 2021 report

#### 4.4 Pre-Commercial Outputs



● Active SFI awards were active on 31st December of year of interest and continued to receive funding the following year.

Active SFI awards were active at any point during year of interest.

^ Figure incorporates outputs reported by researchers who did not submit a profile.

‡ Additional data provided by KTI

### Patents Filed

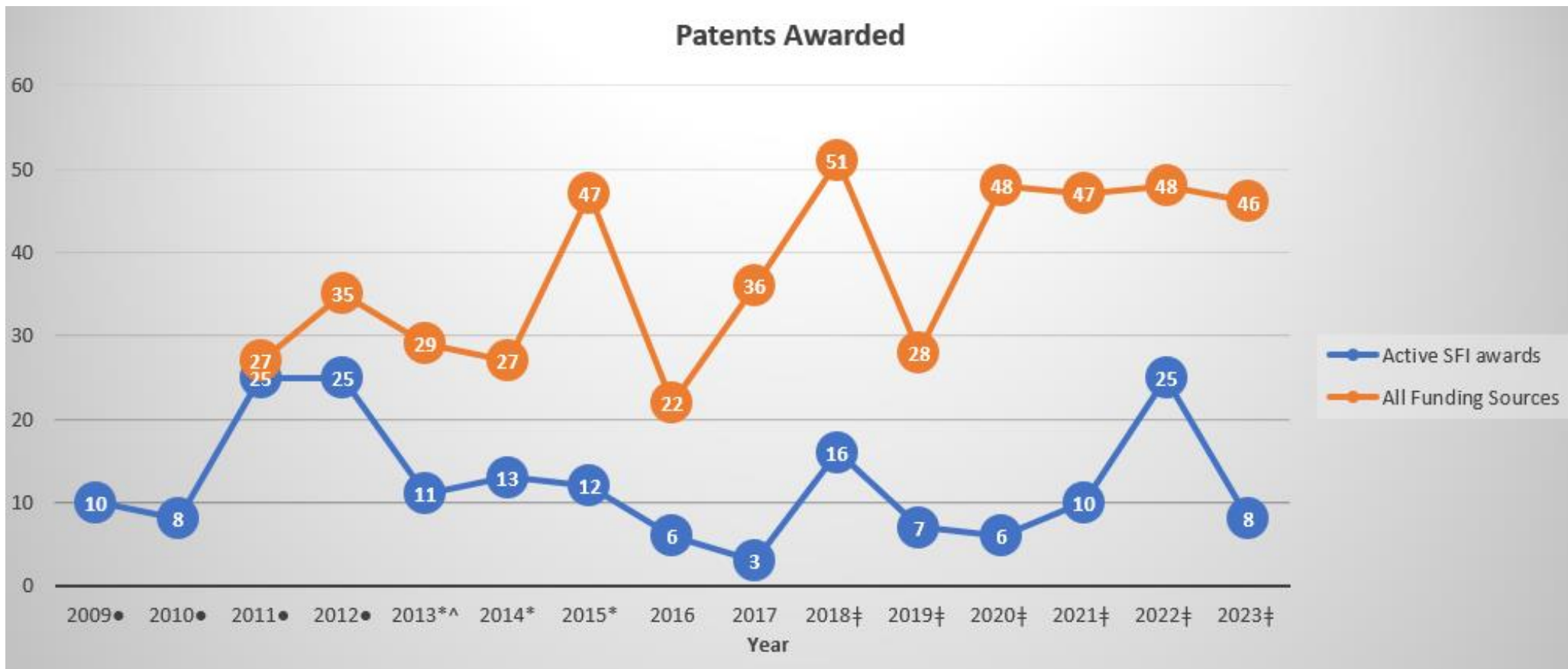


● Active SFI awards were active on 31st December of year of interest and continued to receive funding the following year.

\*Active SFI awards were active at any point during year of interest.

^Figure incorporates outputs reported by researchers who did not submit a profile.

‡ Additional data provided by KTI



● Active SFI awards were active on 31st December of year of interest and continued to receive funding the following year.

\* Active SFI awards were active at any point during year of interest.

^ Figure incorporates outputs reported by researchers who did not submit a profile.

‡ Additional data provided by KTI



●Active SFI awards were active on 31st December of year of interest and continued to receive funding the following year

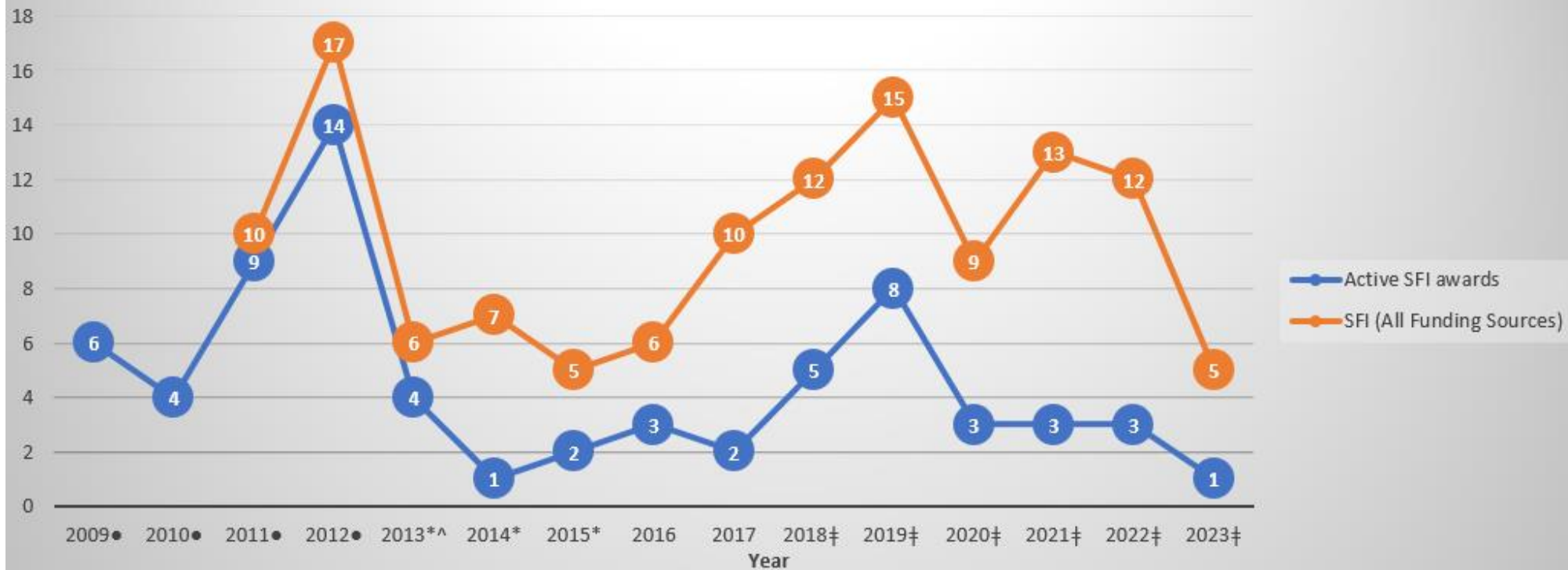
\*Active SFI awards were active at any point during year of interest

^Figure incorporates outputs reported by researchers who did not submit a profile.

‡ Additional data provided by KTI



### Spin Out Companies

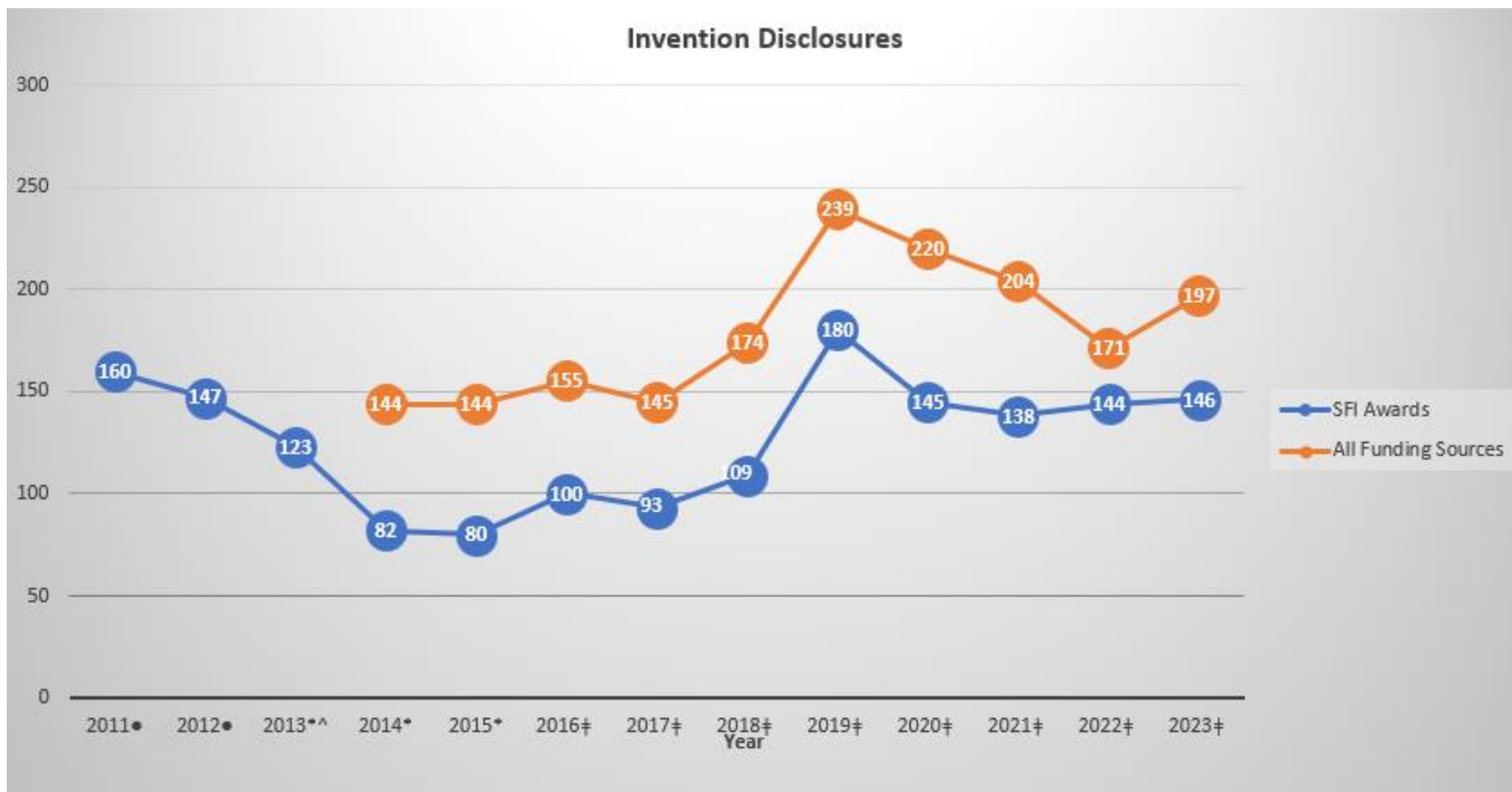


● Active SFI awards were active on 31st December of year of interest and continued to receive funding the following year.

\* Active SFI awards were active at any point during year of interest.

^ Figure incorporates outputs reported by researchers who did not submit a profile.

‡ Additional data provided by KT1



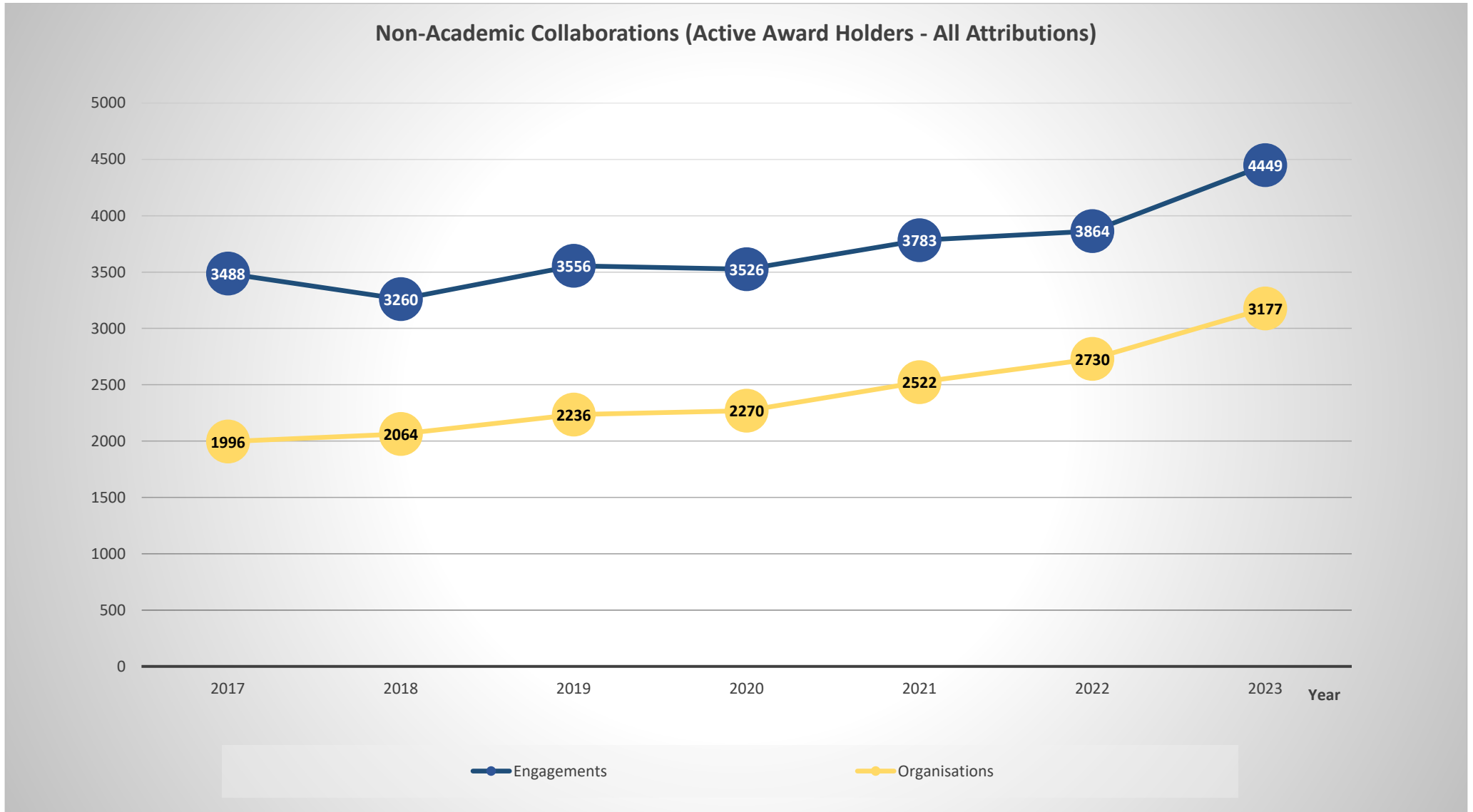
● Active SFI awards were active on 31st December of year of interest and continued to receive funding the following year.

\* Active SFI awards were active at any point during year of interest.

^ Figure incorporates outputs reported by researchers who did not submit a profile.

‡ Additional data provided by KTI

## 4.5 Non-Academic Engagements<sup>20</sup>



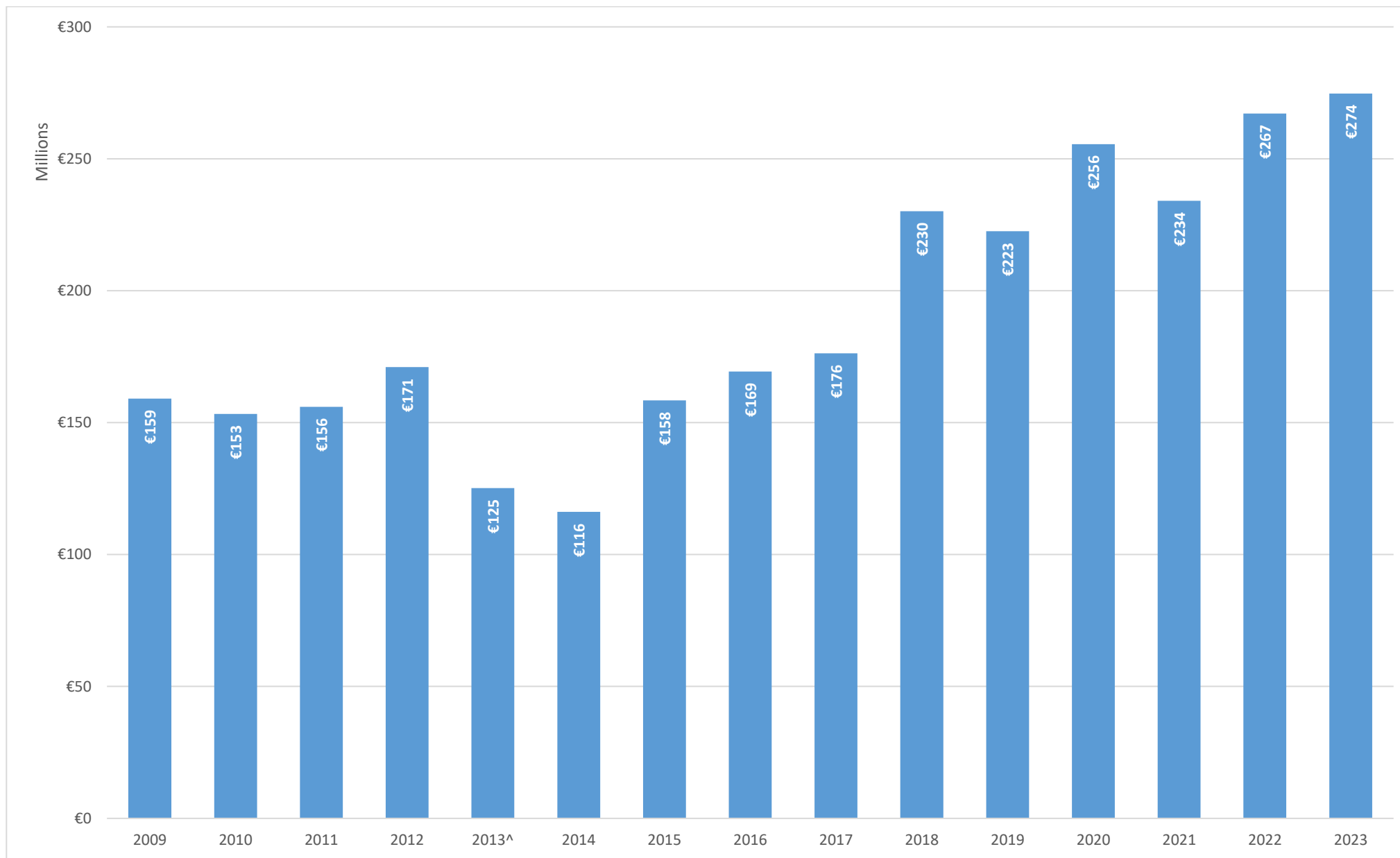
<sup>20</sup> In 2020, focus changed from collaborations on active SFI awards to ALL collaborations reported by active award holders. Comparisons with pre-2018 data is unreliable.

## 4.6 Academic Collaborations<sup>21</sup>



<sup>21</sup> In 2020, focus changed from collaborations on active SFI awards to ALL collaborations reported by active award holders. Comparisons with pre-2018 data is unreliable.

## 4.7 External Funding\*



\*All non-SFI funding secured by SFI funded researchers, including exchequer, philanthropic, industry funding etc. Detailed categories can be found in section 2.8.

<sup>^</sup>Figure incorporates outputs reported by researchers who did not submit a profile.