

Annual Census
2007



**Research for
Ireland's Future**

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Introduction

The first SFI Annual Census 2007 was conducted in early 2008. The purpose of the census is to collect metrics on 2007, to provide planning information, and to provide a baseline for trending information in subsequent years. It is intended to conduct this census on an annual basis going forward.

The online questionnaire was issued to 533 holders of the following SFI grant types: Principal Investigator (PI), President of Ireland Young Researcher Award (PIYRA), Principal Investigator Career Advancement Award (PICA), Mathematics Initiative (MI), Centres for Science Engineering & Technology (CSET), Strategic Research Cluster (SRC) and Research Frontiers Programme (RFP). 500 researchers completed the questionnaire, a response rate of 94% was achieved, providing an excellent basis for the census.

The following sections present the key findings of the census, structured around the following headings:

1. Types of grants held & the host institutions of these grants
2. Constitution of the research groups and destinations of departing members
3. Outputs of the research groups
4. Collaborations of the research groups
5. Funding
6. Overall assessment of SFI

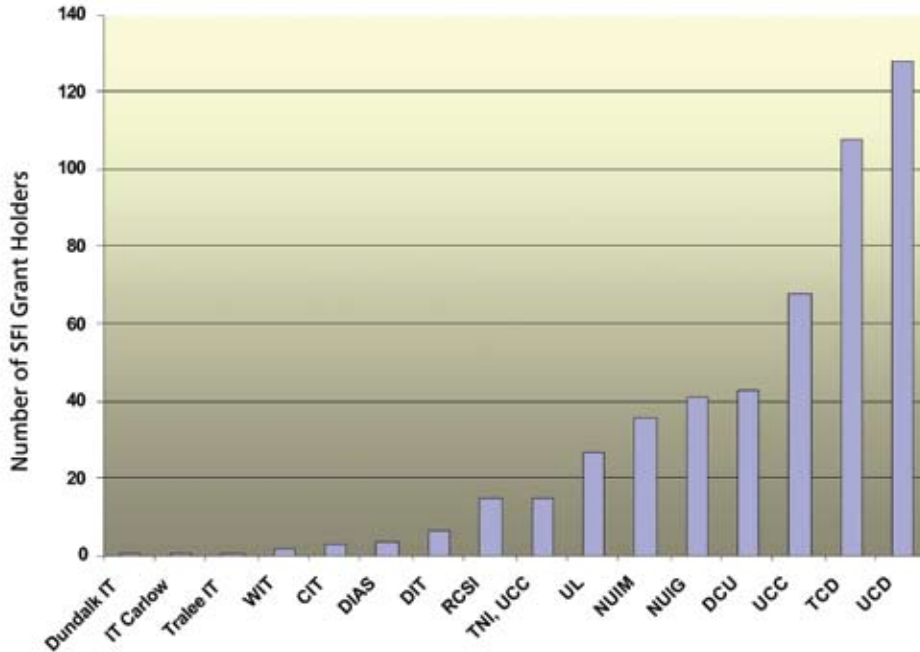
Findings are presented in graphical or tabular form, with a brief textual explanation/interpretation.

Data presented is as directly reported by respondents. In some instances this may result in a degree of over-reporting e.g. two respondents co-publishing a single journal article could be reported by both respondents resulting in a double entry.

SFI would like to thank its grant holders for their excellent cooperation in conducting this census. It is planned to conduct a similar census of 2008 early next year.

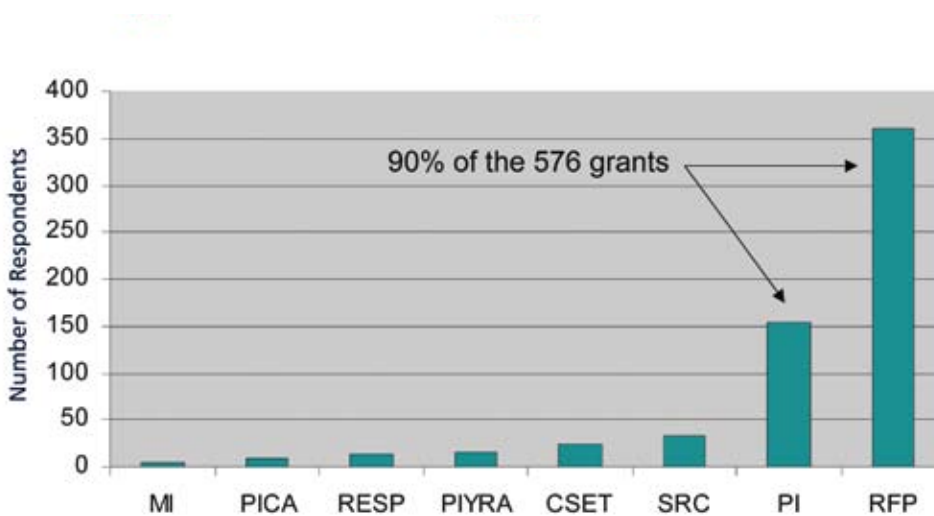
1 Types of grants held

1.1 SFI Grant Holders per Higher Education Institute (HEI)



1.2 SFI Grant Types Held

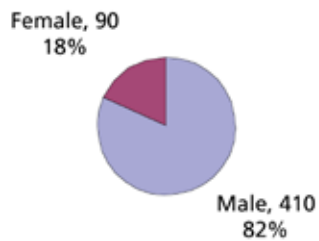
- 500 respondents holding 576 grants
- 57 of the 153 PI grant holders (37%) also hold RFP grants
- Of the 360 RFP grant holders, 73% hold a single grant, 22% hold 2 grants concurrently, with just over 3% holding 3 or more grants concurrently



2 Constitution of the research groups

2.1 Gender Analysis

Grant Holders (500)



Team Members: SFI-funded (1909)



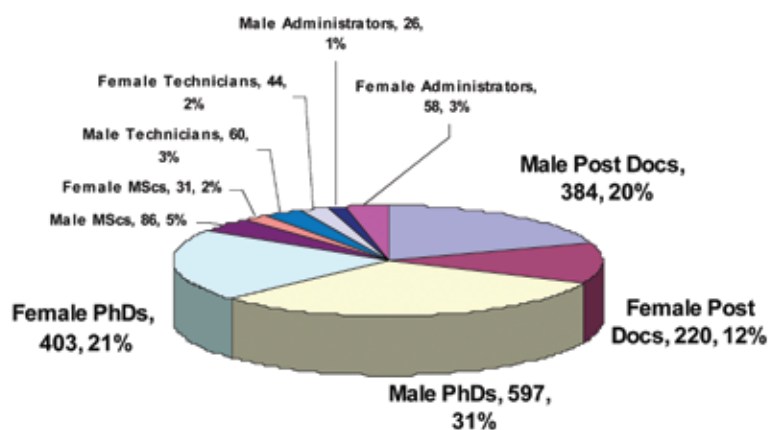
Team Members: all funding sources (3946)



→ 'Team Member' male/female split is 3:2 versus a 4:1 split for 'Grant Holders'

2.2 Composition of SFI Research Teams on 31-12-07

In the teams led by the 500 grant holders, there are 1909 SFI-funded positions. 52% of these are PhD students, 32% are Post Docs, with the balance spread across Masters, Technicians and Administration. This team composition is broadly consistent with SSTI best practice team structure.

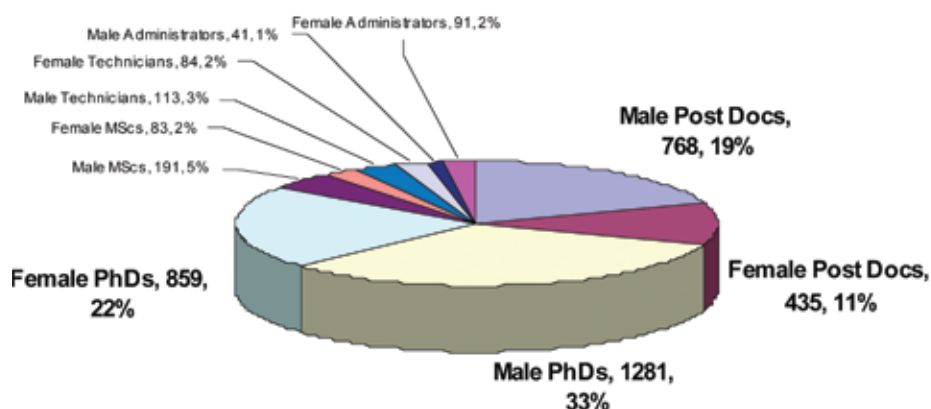


2.3 Composition of Research Teams on 31-12-07 (Positions funded by SFI and other sources)

In the teams led by the 500 grant holders there are 3946 positions funded (SFI and other sources).

In the context of the previous slide this indicates that in the research groups led by the 500 grant holders, SFI funding maintains approx. 50% of the team members.

Again, approx. 50% are PhD Students, and approx. 30% are Post Docs.



2.4 Composition of Teams by 'Nationality'

SFI Funding Total Team = 1,909	Irish as % Total Team	EU-non Irish as % Total Team	non-EU as % Total Team
Post Docs	12%	12%	7%
PhD Students	28%	13%	12%
Master Students	4%	1%	1%
Technicians	4%	1%	1%
Administration	4%	0%	0%
	52%	27%	21%

All Funding Sources Total Team = 3,946	Irish as % Total Team	EU-non Irish as % Total Team	non-EU as % Total Team
Post Docs	13%	11%	6%
PhD Students	32%	12%	10%
Master Students	5%	1%	1%
Technicians	5%	1%	0%
Administration	3%	0%	0%
	58%	25%	17%

In SFI funded teams and in teams funded by SFI and other sources, just over half the team members are of Irish nationality, approximately a quarter are from the EU countries other than Ireland, and around a fifth are from outside the EU.

2.5 Where did the departing SFI team members go?

Where did the 202 departing Post Docs go?

SFI Funding	In Ireland	Abroad	Total	% of Total
Post Docs	21	55	76	38%
Lecturers	15	32	47	23%
Other	18	16	34	17%
Industry-Other	19	2	21	10%
Industry-Science/Engineering	13	5	18	9%
Technician	1	1	2	1%
Specialist Course	2	0	2	1%
Secondary Teacher	0	2	2	1%
	89	113	202	
	44%	56%		

- One third went on to another Post Doc
- One quarter became Lecturers
- One fifth went into Industry
- Just over half went abroad

2.6 Where did the departing SFI team members go?

Where did the 116 departing PhD graduates go?

SFI-Funding	In Ireland	Abroad	Total	% of Total
Post Docs	54	17	71	61%
Industry-Science/Engineering	12	5	17	15%
Industry-Other	14	1	15	13%
Other	3	5	8	7%
Administration	2	1	3	3%
Technician	1	0	1	1%
Specialist Course	1	0	1	1%
Secondary Teacher	0	0	0	0%
	87	29	116	
	75%	25%		

- Three quarters stayed in Ireland
- The majority went on to a Post Doc
- 28% went into Industry

2.7 Where did the departing SFI team members go?

Where did the 30 departing MSc graduates go?

SFI-Funding	In Ireland	Abroad	Total	% of Total
Industry-Science/Engineering	7	2	9	30%
Other	3	3	6	20%
Industry-Other	4	1	5	17%
PhD Study	3	1	4	13%
Technician	1	2	3	10%
Administration	2	0	2	7%
Specialist Course	0	1	1	3%
Secondary Teacher	0	0	0	0%
	20	10	30	
	67%	33%		

- Almost half went into Industry
- Two thirds stayed in Ireland

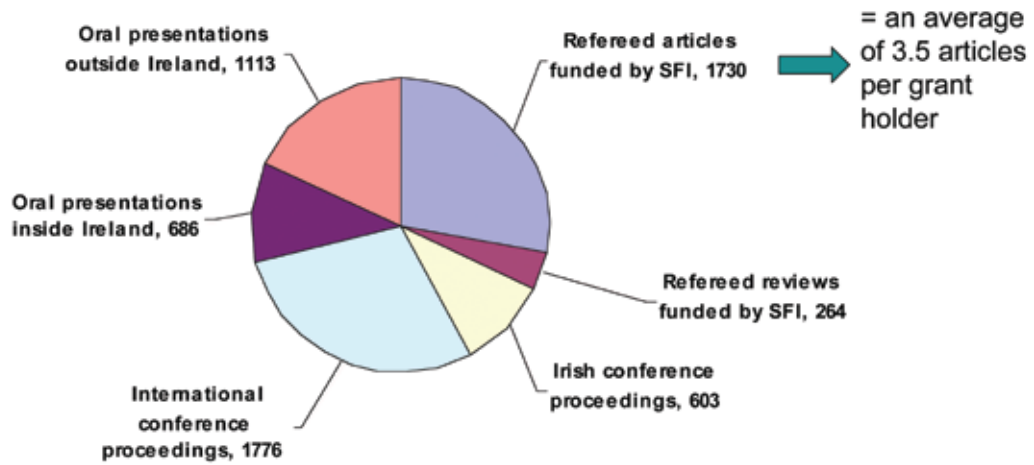
Where did the 26 departing Technicians go?

SFI-Funding	In Ireland	Abroad	Total	% of Total
Industry-Science/Engineering	10	0	10	38%
Technician	8	1	9	35%
Other	4	2	6	23%
Industry-Other	1	0	1	4%
PhD Study	0	0	0	0%
MSc Study	0	0	0	0%
Specialist Course	0	0	0	0%
Administration	0	0	0	0%
Secondary Teacher	0	0	0	0%
	23	3	26	
	88%	12%		

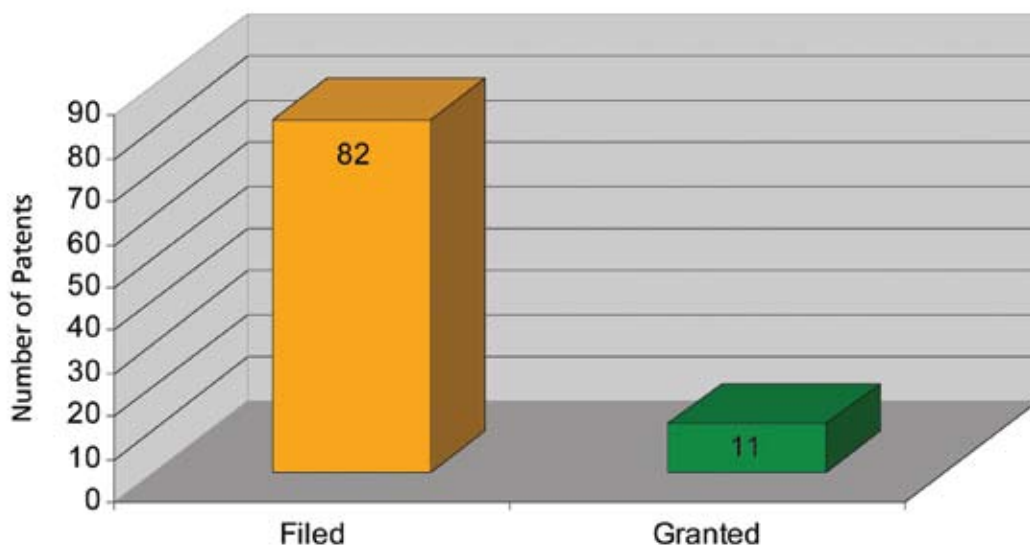
- Almost 90% stayed in Ireland
- Over one third took another Technician role, with one third going into Industry (Science/Engineering)

3 Outputs of the research groups

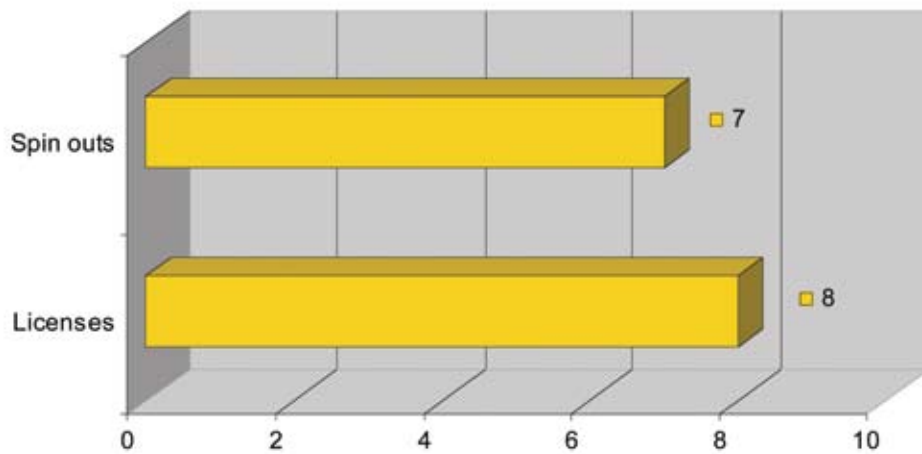
3.1 Academic Outputs of SFI Research Groups in 2007



3.2 Patents filed by & granted to SFI researchers in 2007



3.3 IP Exploitation arising from SFI funded research groups during 2007



4 Collaborations of the research groups

4.1 Respondents reporting academic collaborations (1)

Academic Collaborations	2171	→	Collaborations	Respondents
			0	50
			1-10	419
			11-100	31

- The 500 respondents reported a total of 2171 academic collaborations. Using a crude averaging approach this represents just over four academic collaborations per respondent
- More specifically, 50 respondents reported zero collaborations, with over 80% of respondents (419) reporting between one and ten collaborations. The remaining 31 respondents reported a variety of collaborations ranging from 11 to 100

'Pure' PI versus 'Pure' RFP

- The 92 holders of PI grants that do not hold RFP, CSET or SRC grants reported a total of 469 academic collaborations i.e. 22% of the total; an average of five collaborations each
- The 299 holders of RFP grants that do not hold PI, CSET or SRC grants reported a total of 934 collaborations i.e. 43% of the total; an average of three collaborations each

4.2 Respondents reporting academic collaborations (2)

Collaborations with	Collaborations based on	<25%	>25% & <50%	>50% & <75%	>75%	NA
Academic	Knowledge	90	132	60	137	81
Academic	Personnel	158	94	22	26	200
Academic	Material	142	88	22	36	212
Academic	Publishing	85	108	56	106	145

How to read this table?

- 90 respondents reported that of their academic collaborations, less than 25% were based upon knowledge exchange
- 132 respondents reported that of their academic collaborations, between 25% and 50% were based upon knowledge exchange
- 60 respondents reported that of their academic collaborations, between 50% and 75% were based upon knowledge exchange
- 137 respondents reported that of their academic collaborations, over 75% were based upon knowledge exchange
- 81 respondents reported that either they had no collaborations or no collaborations based on knowledge exchange

Over 80% of respondents reported academic collaborations based upon knowledge exchange. This decreased to approx 60% of respondents for both collaborations based upon either personnel or material exchange. Finally, 29% of respondents reported academic collaborations based upon co-publishing. So, knowledge exchange is the primary form of academic collaboration.

4.3 Respondents reporting industrial (SME/MNC) collaborations (1)

SME Collaborations	222	→	Collaborations	Respondents
			0	389
			1-10	109
			11-100	2

MNC1 Collaborations	234	→	Collaborations	Respondents
			0	376
			1-10	122
			11-100	2

MNC2 Collaborations	170	→	Collaborations	Respondents
			0	417
			1-10	92
			11-100	1

- Respondents reported a total of 626 industrial collaborations spread across SMEs and MNCs*
- 111 respondents reported 222 collaborations with SMEs (note this does not mean 222 separate SMEs)
- 124 respondents reported 234 collaborations with MNCs that have significant Irish operations with over 100 employees (MNC1)
- 93 respondents reported 170 collaborations with MNCs that have Irish operations with less than 100 employees (MNC2)

*Note: MNC1 = Multi National Corporation with significant Irish Operations (> 100 employees)

MNC2 = Multi National Corporation without significant Irish Operations (> 100 employees)

4.4 Respondents reporting industrial (SME/MNC) collaborations (2)

Collaborations with	Collaborations based on	<25%	>25% & <50%	>50% & <75%	>75%	NA
SME	Knowledge	21	23	7	58	391
SME	Personnel	30	14	7	11	438
SME	Material	25	5	2	7	461
SME	Publishing	20	6	4	5	465
MNC1	Knowledge	22	27	16	53	382
MNC1	Personnel	35	14	2	11	438
MNC1	Material	41	16	7	10	426
MNC1	Publishing	28	3	1	11	457
MNC2	Knowledge	25	19	12	33	411
MNC2	Personnel	16	10	0	8	466
MNC2	Material	26	15	3	14	442
MNC2	Publishing	25	3	5	7	460

How to read this table?

- ■■ 21 respondents reported that of their academic collaborations, less than 25% were based upon knowledge exchange
- ■ 23 respondents reported that of their academic collaborations, between 25% and 50% were based upon knowledge exchange
- ■ 7 respondents reported that of their academic collaborations, between 50% and 75% were based upon knowledge exchange
- ■ 58 respondents reported that of their academic collaborations, over 75% were based upon knowledge exchange
- ■ 391 respondents reported that either they had no collaborations or no collaborations based on knowledge exchange

Approx. 20% of respondents reported industrial (SME or MNC1 & 2) collaborations based upon knowledge exchange whereas only approx. 10% of respondents reported industrial collaborations across the categories of personnel exchange, material exchange or co-publishing.

4.5 Collaborations: Frequency of interactions during 2007

	Contacts 2007			
	Less than 5	Between 5 & 15	More than 15	NA
Academic	42	150	258	50
SME	38	54	31	386
MNC1	27	63	36	347
MNC2	26	44	23	407

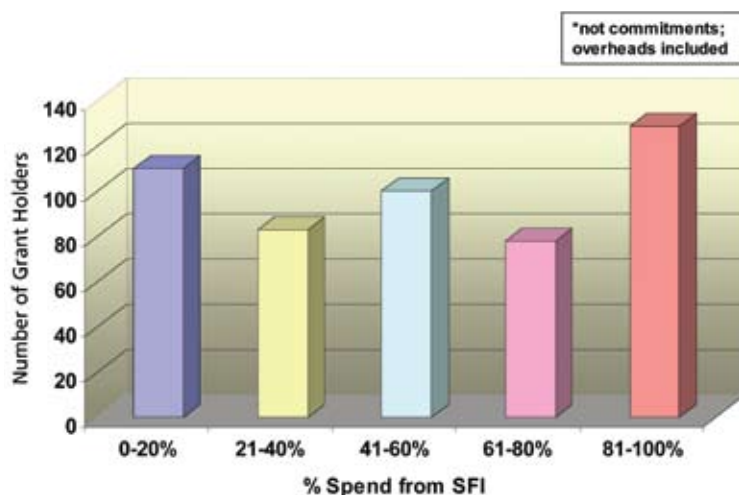
How to read this table?

- 42 respondents reported that their academic collaborations involved less than 5 'contacts' (phone, e-mail, face-2-face) during 2007
- 150 respondents reported that their academic collaborations involved between 5 and 15 contacts during 2007
- 258 respondents reported that their academic collaborations involved more than 15 contacts during 2007
- 50 respondents reported that frequency of academic collaborations was not applicable to them.

Frequent collaborative activity is particularly evident in academic interactions with over half the respondents reporting more than 15 academic-academic interactions during 2007.

5 Funding

5.1 Percentage of research groups' spend* in 2007 which comes from SFI funding



129 Respondents reported that the majority of their 2007 spend (between 80% and 100%) came from SFI. At the other end of the scale 110 respondents indicated that less than 20% of their 2007 spend came from SFI, indicating a diverse funding base. The remaining 261 respondents reported levels of reliance upon SFI funding somewhere in between.

5.2 Value of new awards secured by SFI research groups in 2007

Value of new awards in 2007 (SFI and other sources)			€553,144,964
Source of funding in 2007 (other than SFI)*			
HEA	€91,487,051	16.54%	
EI	€30,081,964	5.44%	
Other	€23,290,970	4.21%	
HSE	€21,000,000	3.80%	
HRB	€18,241,163	3.30%	
EU	€14,589,865	2.64%	
DAFF	€12,951,936	2.34%	
IRCSET	€12,347,413	2.23%	
IDA	€6,935,006	1.25%	
EPA	€5,692,730	1.03%	
DCENR	€5,317,006	0.96%	
NSF	€2,840,006	0.51%	
WELLCOME	€2,399,771	0.43%	
TEAGASC	€617,026	0.11%	
	€247,791,911	44.80%	

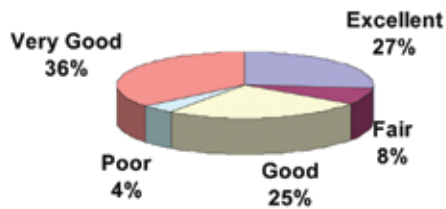
* Capital funding may be included e.g PRTLl.

SFI funded research groups reported securing approx. €248m in non-SFI funding in 2007, approx. 45% of all funding secured in 2007 (approx. €553m).

6 Overall assessment of SFI

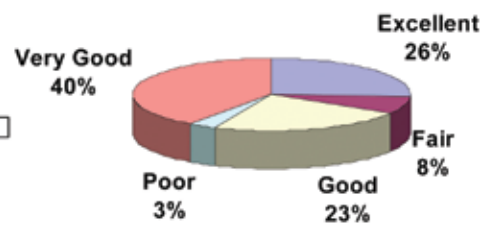
6.1 Views of the Grant Holders

Quality of Evaluation



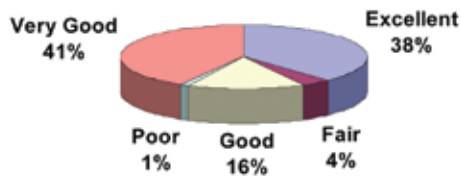
Two thirds of grant holders rate the evaluation process as excellent or very good

Efficiency of Evaluation



Two thirds of grant holders rate the efficiency of evaluation as excellent or very good

Overall Assessment of SFI



Four fifths of grant holders rate the overall performance of SFI in 2007 as excellent or very good

Appendix A – Glossary

CIT	Cork Institute of Technology
CSET	Centres for Science Engineering & Technology
DAFF	Department of Agriculture, Fisheries & Food
DCENR	Department of Communications, Marine & Natural Resources
DCU	Dublin City University
DIAS	Dublin Institute of Advanced Studies
DIT	Dublin Institute of Technology
EI	Enterprise Ireland
EPA	Environmental Protection Agency
EU	European Union
HEA	Higher Education Authority
HEIs	Higher Education Institutions
HRB	Health Research Board
HSE	Health Services Executive
IDA	IDA Ireland
IT	Institute of Technology
IRCSET	Irish Research Council for Science, Engineering and Technology
MI	Mathematics Initiative
MNC	Multi National Corporation
NUIG	National University of Ireland Galway
NUIM	National University of Ireland Maynooth
PIYRA	President of Ireland Young Researcher Award
PI	Principal Investigator
PICA	Principal Investigator Career Advancement Award
PRTL	Programme for Research in Third-Level Institutions
RESP	Research Professor Award
RFP	Research Frontiers Programme
RCSI	Royal College of Surgeons in Ireland
SME	Small Medium Sized Enterprise
SRC	Strategic Research Cluster
TCD	Trinity College Dublin
TEAGASC	Teagasc – Irish Agriculture & Food Development Authority
TNI	Tyndall National Institute
UCC	University College Cork
UCD	University College Dublin
UL	University of Limerick
WIT	Waterford Institute of Technology
WELLCOME	Wellcome Trust

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