

RESEARCH STRUCTURE & STATISTICS

Academic Year 2020/2021

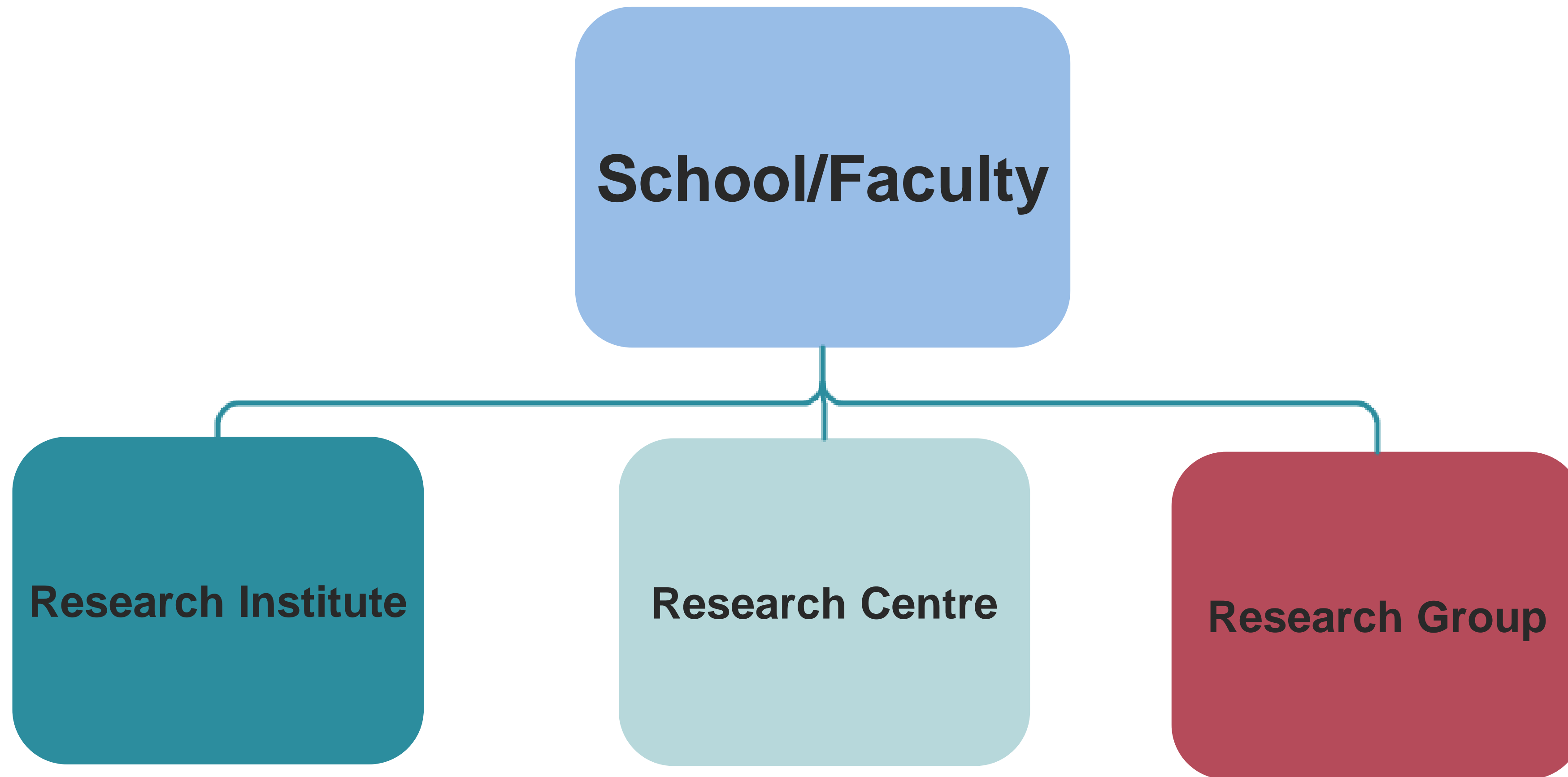
SETU RESEARCH OFFICE

setu.ie
INSPIRING FUTURES

Research

Infrastructure

Waterford Campus School/Faculty Structure



- **School of Science & Computing**
- **School of Engineering**
- **School of Business**
- **School of Humanities**
- **School of Health Science**
- **School of Education & lifelong Learning**

Waterford Campus School/Faculty Structure

Walton Institute
(Comms/Digital)

Nutritional
Research Centre
Ireland (NRCI)

South East
Applied Material
Centre (SEAM)

Eco-Innovation
Research Centre

Centre For the
Advancement of
Learning Maths,
Science &
Technology
(CALMAST)

Pharmaceutical &
Molecular
Biotechnolgy
Centre

Centre for
Management
Research
Healthcare &
Healthcare
Economics
(CMRHHE)

Centre for Health
Behaviour
Research (CHBR)

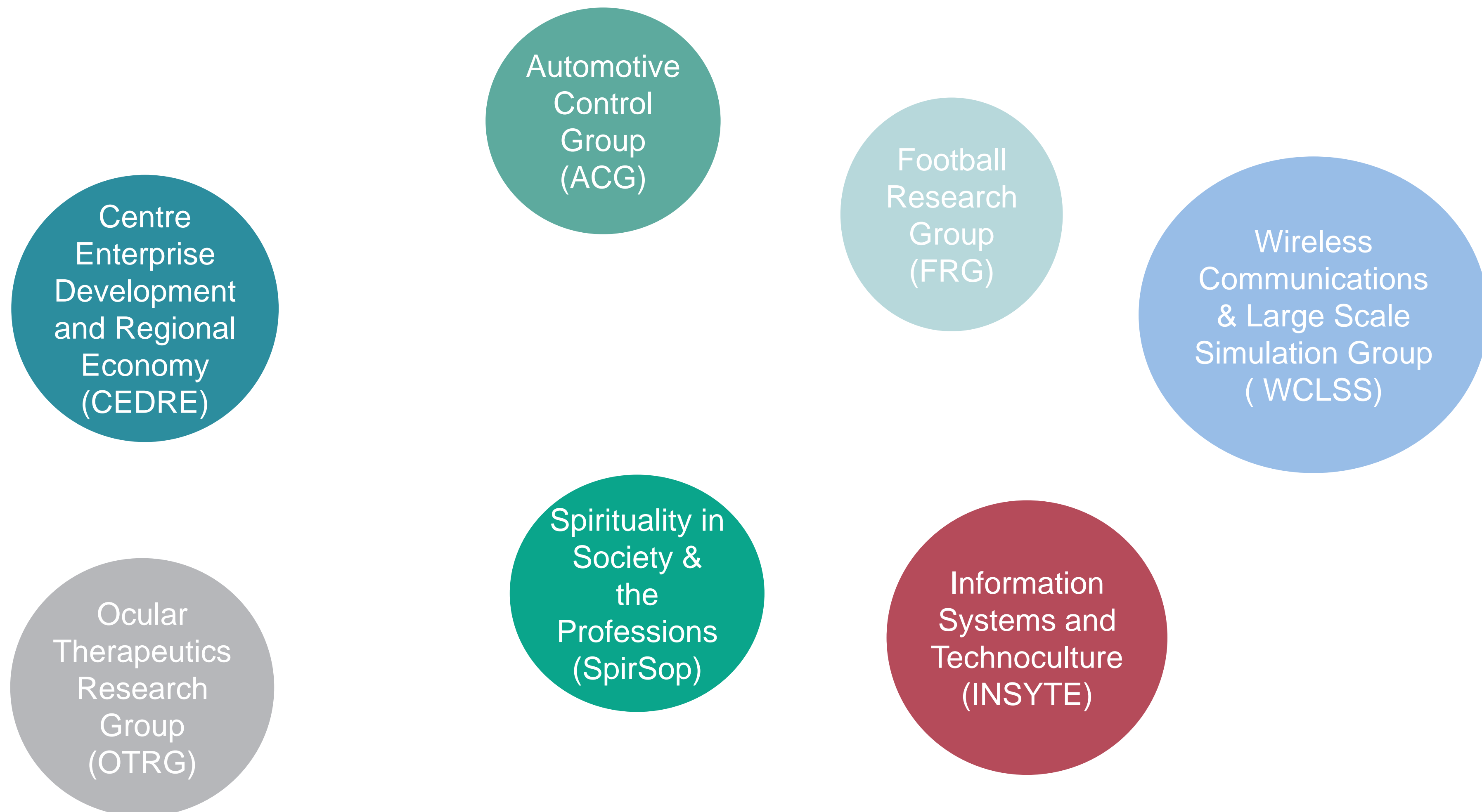
Hybrid Centre of
Innovation in
Business
Technology
Management
(RIKON)

AIB Centre for
Finance &
Business
Research (CFBR)

Sustainable
Architecture and
Built Environment
Research Centre
(SABRE)

Waterford Campus School/Faculty Structure

Example of Research Groups



Carlow Campus Structure

DesignCORE

- **Faculty of Business, Digital marketing and Design.**

CompuCORE

- **Faculty of Humanities and Social Sciences.**

EnviroCORE

- **Faculty of Computing and Data Science.**

EngCORE

- **Faculty of Health and Sport**

HealthCORE

- **Faculty of Science.**

SocialCORE

- **Faculty of Engineering**

EduCORE



Strategic Research Areas

1) Software Engineering,
Telecommunication networks
(ISCED 06)

2) Applied Materials
(ISCED 07)

3) Pharmaceutical and molecular
biotechnology
(ISCED 05)

4) Eco-innovation and agri-
technology
(ISCED 05/06/07/08)

5) Business, finance and enterprise
development
(ISCED 04)

6) Health , Welfare, Sport and
Nutrition
(ISCED 09/10)

Key Infrastructure Points

- All schools/faculties have level 10 (PhD/Doctoral programme) authority
- All PhD programmes are structured 4yr with universal modules
- Over 500 research active staff (300/200)
- We have recently invested in the Elsevier 'Pure' (CRIS) system
Waterford 2022/Carlow 2023
- SETU has 4 EI R&D 'Gateways' providing R&D services to SME's in the region SEAM/PMBRC/Walton/Design-CORE
- Largest Government-owned super computer on Campus
- Live Agricultural Farm (approx 12 months from completion)

Research Partnerships



RESEARCH STATISTICS
Academic Year 2020/2021



RESEARCH FUNDING

Research revenue totals, school and sponsor breakdown, 5-year comparison



RESEARCH EXPENDITURE

Research expenditure total, 5-year comparison, contrast vs funding revenues



RESEARCH IMPACT

Breakdown of publication and technology transfer metrics for 2020/2021, including 5-year comparison and trend analysis



RESEARCH POSTGRADUATES

Breakdown of student numbers for 2020/2021, 5-year comparison and trend analysis

The key figures from the academic year 2020/2021 are presented across the four strands presented above. Where appropriate, trend analysis and 5-year comparison summaries have been presented to lend perspective to the figures provided.

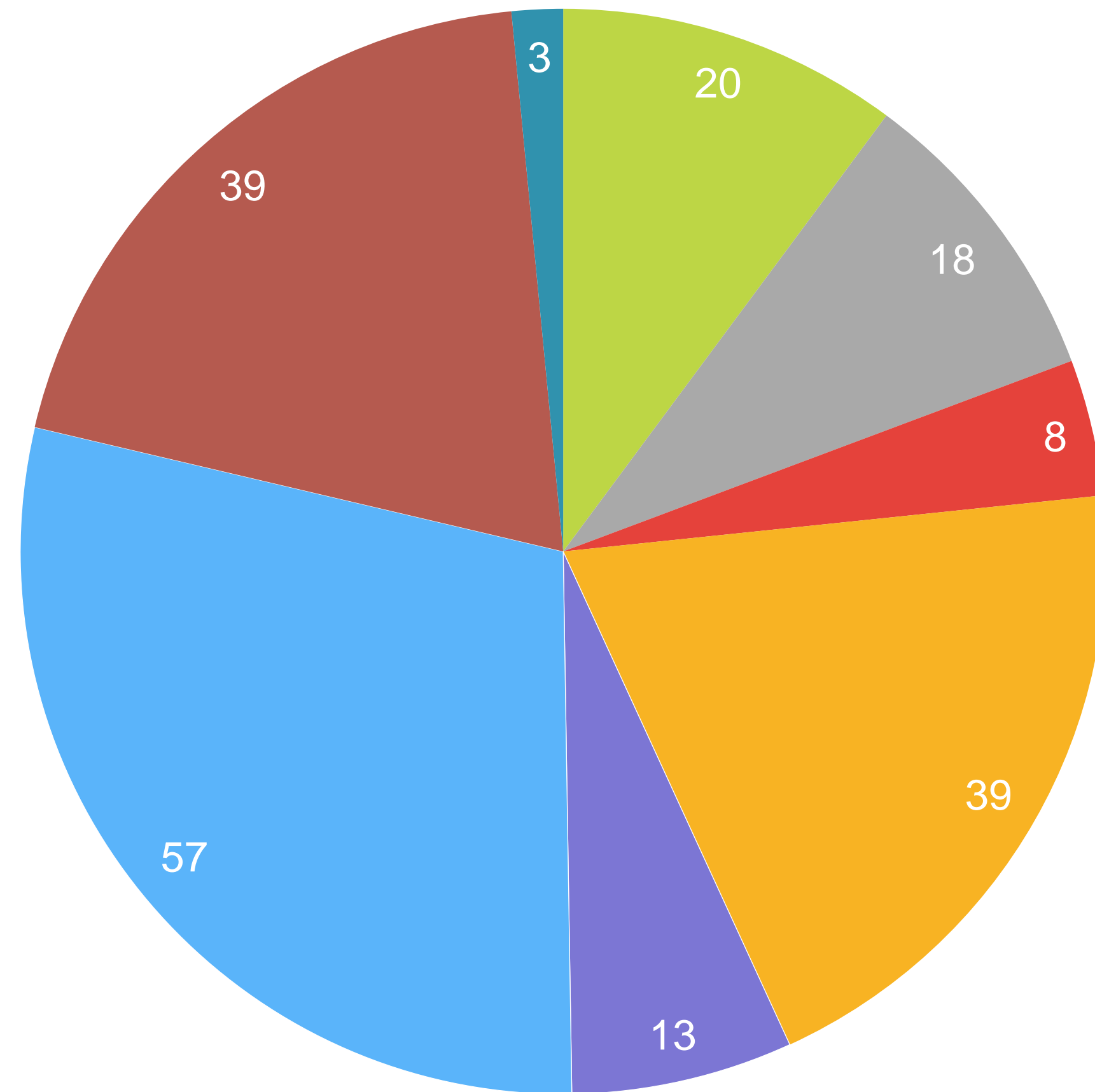
Note: The Telecommunications Software & Systems Group (TSSG) is now known as the Walton Institute following its re-designation as a Research Institute and it is represented within this slide deck as such

RESEARCH FUNDING

RESEARCH PROPOSALS 2020/2021

Waterford Totals by School

12



■ School of Business
■ School of Lifelong Learning & Education
■ School of Humanities
■ Walton Institute
■ School of Engineering
■ School of Health Sciences
■ School of Science & Computing
■ Research & Innovation



Proposal Total

A total of **197** funding proposals were submitted.



Proposal Successes

At the end of the academic year 2020/2021, **119** research proposals were approved for funding (excluding Innovation Vouchers). Some of these proposals were submitted prior to the start of the academic year, just like others are pending review following the end of the year.



School Notes

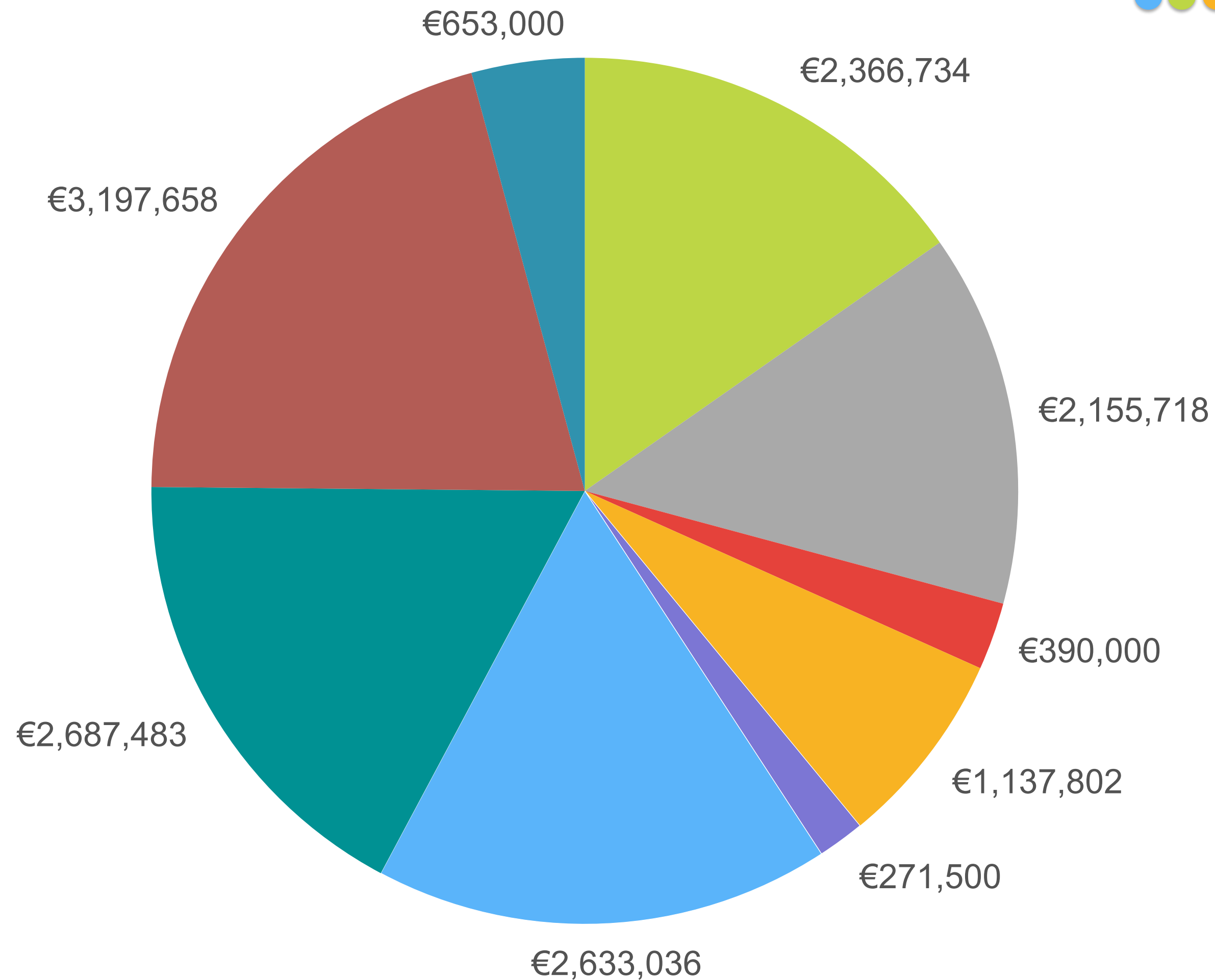
The Walton Institute is classified separately due to its size and research activity. Research & Innovation is not a School but operates distinctly in both managing and attracting research activity.

- ✓ All schools submitted at least one proposal
- ✓ Minimum number of applications per school was 3
- ✓ Proposals covered a diverse research agenda and multiple funding bodies

RESEARCH FUNDING 2020/2021

Financial Totals by School Waterford

13



School of Business
School of Lifelong Learning & Education
School of Humanities
Research & Innovation
RFAM
School of Engineering
School of Health Sciences
School of Science & Computing
Walton Institute



Funding Total

A total of €15,492,931 was awarded in 2020/2021.



Singular Achievements

More than **€785k** was awarded to the **New Frontiers** project to help entrepreneurial development, phase 2 of CONNECT was awarded **€606k** by SFI, a further **€523k** was awarded for **Commercialisation Fund** activity. Our **Technology Gateways** secured **€655k** from Capital Calls.



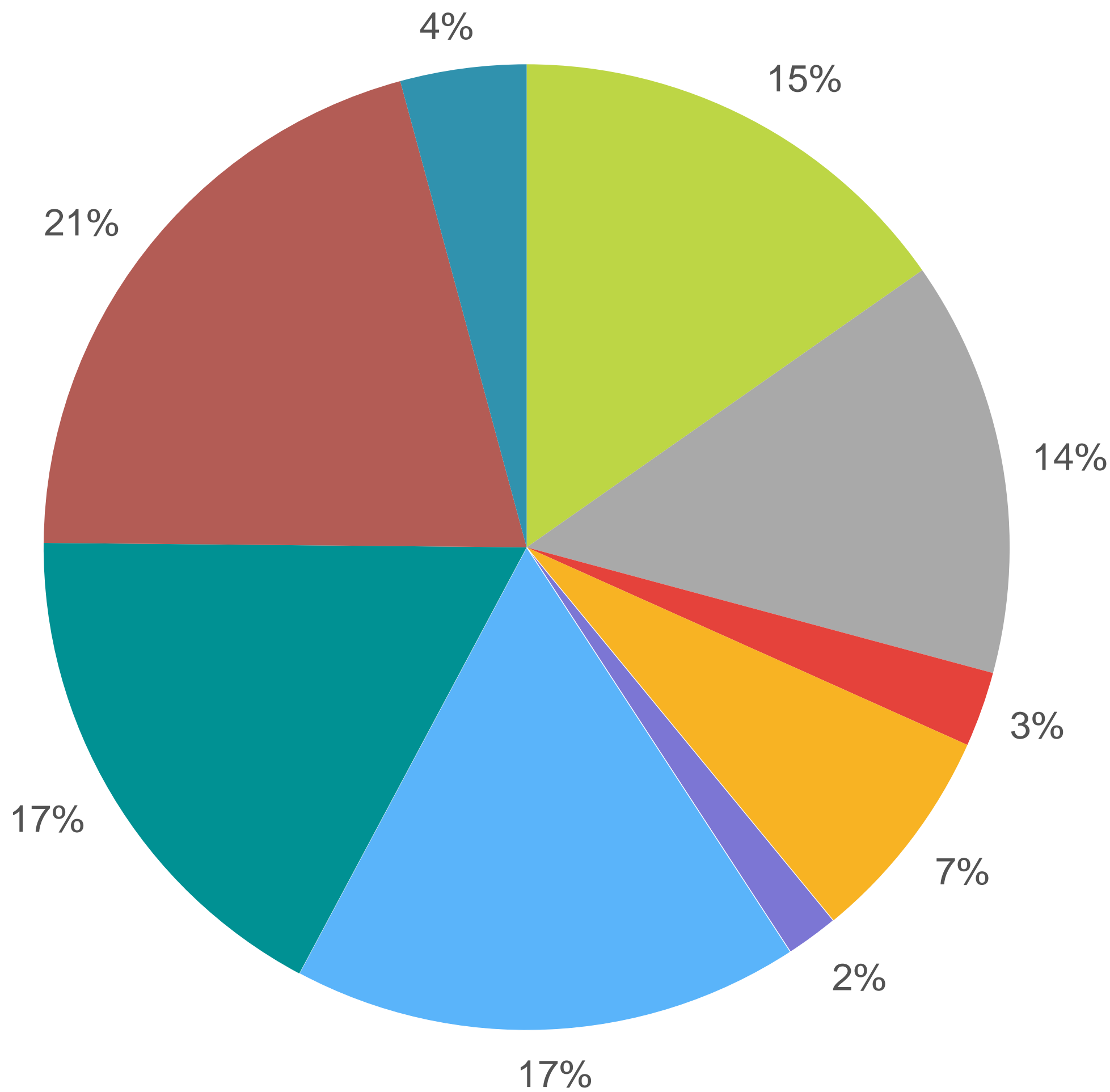
School Notes

The Walton Institute is classified separately due to its size and research activity. Research & Innovation is not a School but operates distinctly in both managing and attracting research activity. R&I funding includes research overheads.

- ✓ R&I revenues include research overheads from Enterprise Ireland of €1.45m
- ✓ Total funding revenue is up on the previous academic year as many activities return to normal following the first year of the COVID-19 pandemic
- ✓ All schools secured funding

RESEARCH FUNDING 2020/2021

Percentage Share by School Waterford



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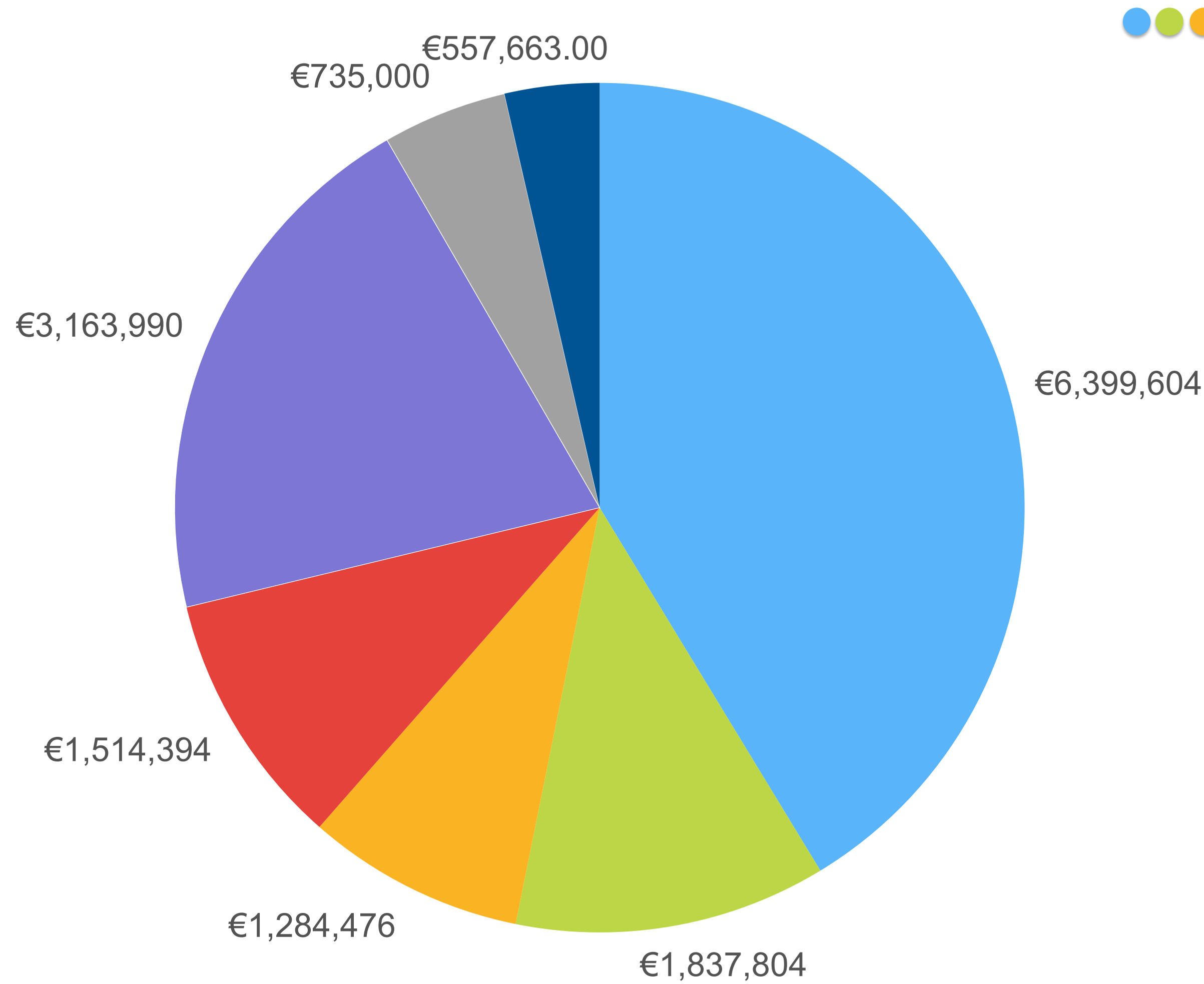
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- School of Business
- School of Lifelong Learning & Education
- School of Humanities
- Research & Innovation
- School of Engineering
- School of Health Sciences
- School of Science & Computing
- Walton Institute

FUNDING SOURCES 2020/2021

Funding Awards by Sponsor (Waterford)



Enterprise Ireland

Figure accounts for Innovation Voucher activity and also a substantial research overhead of more than €1.45m



Industry Sponsors

Figure includes revenues from a range of consultancy activities carried out with industry in addition to **7 Co-fund Scholarships**



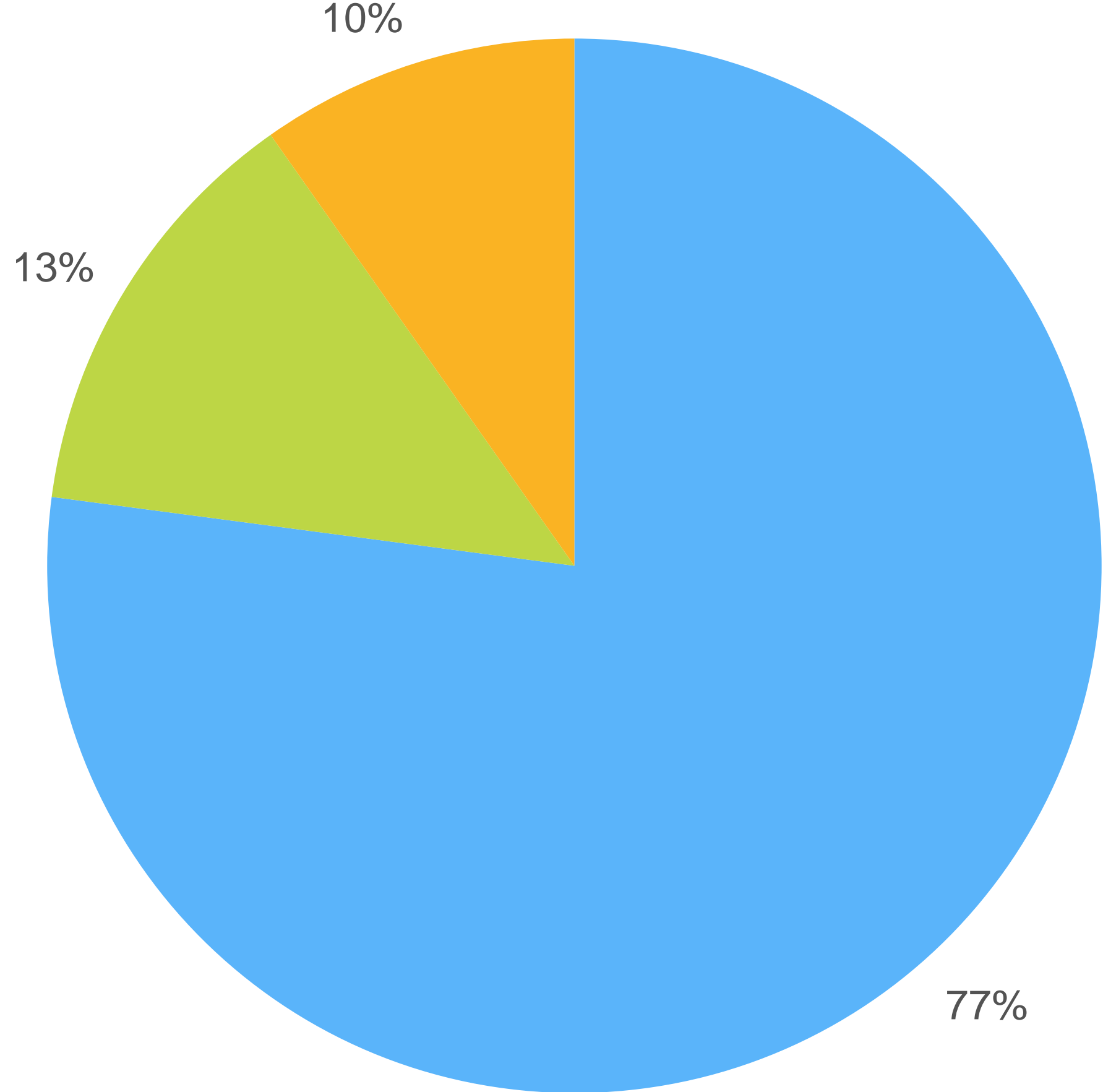
Other Sponsors

Other sponsors include governmental departments, national agencies, philanthropic organisations, and civic authorities

- ✓ EU-funded projects include successes in NGI Explorers Open Calls, MCSA and Erasmus+
- ✓ €264k of industrial revenues directly funds WIT PhD scholarships through the Co-fund scheme
- ✓ Technology Gateways secured additional funding to continue and expand their work with SMEs in the region

- Enterprise Ireland
- Science Foundation Ireland
- HEA
- Other
- European Commission
- Industry
- Irish Research Council

Funding Sponsors by Category Waterford



■ National ■ European/International ■ Industry



National Sponsors

Includes Enterprise Ireland, governmental departments, Irish Research Council, national agencies, and civic authorities



European/International Sponsors

Revenues awarded via various calls within the Horizon 2020 framework and other international agencies/funders

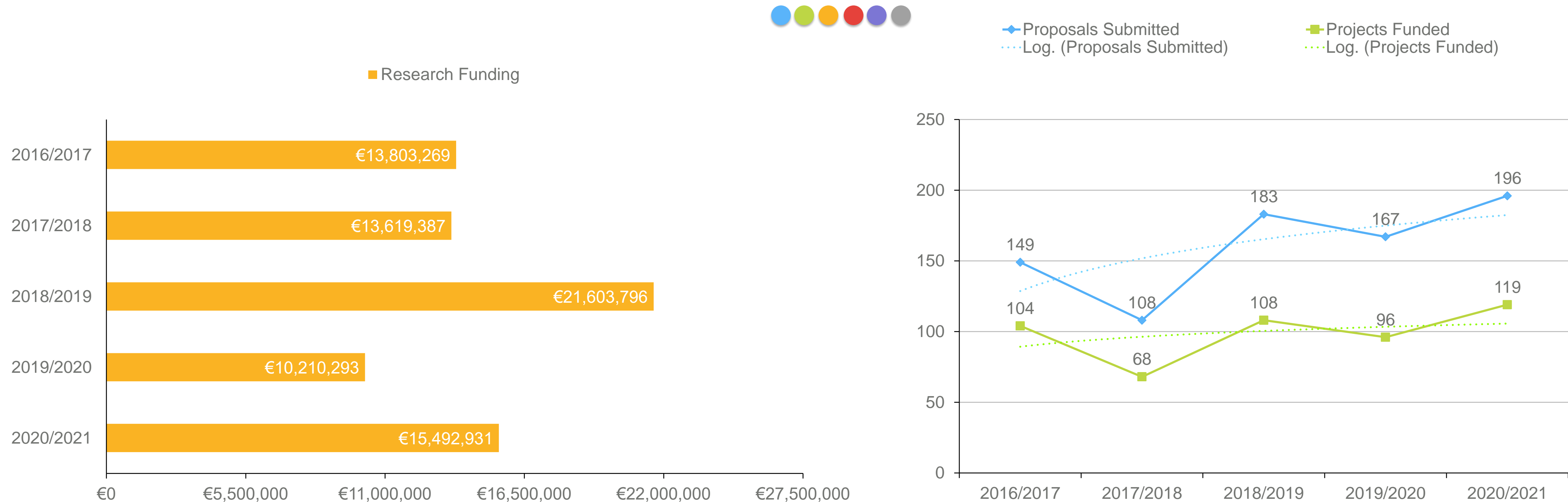


Industry Sponsors

Figure includes revenues from a range of consultancy activities carried out with industry, in addition to co-fund scholarship sponsors

- Slight increase on 2019/2020 figure for EU funding as Horizon Europe launch delayed
- ✓ Positive industrial engagement through Innovation Partnership projects, Innovation Vouchers, and Co-fund scholarship sponsors
- ✓ Continued support of our STEM outreach activities through the SFI Discover Programme

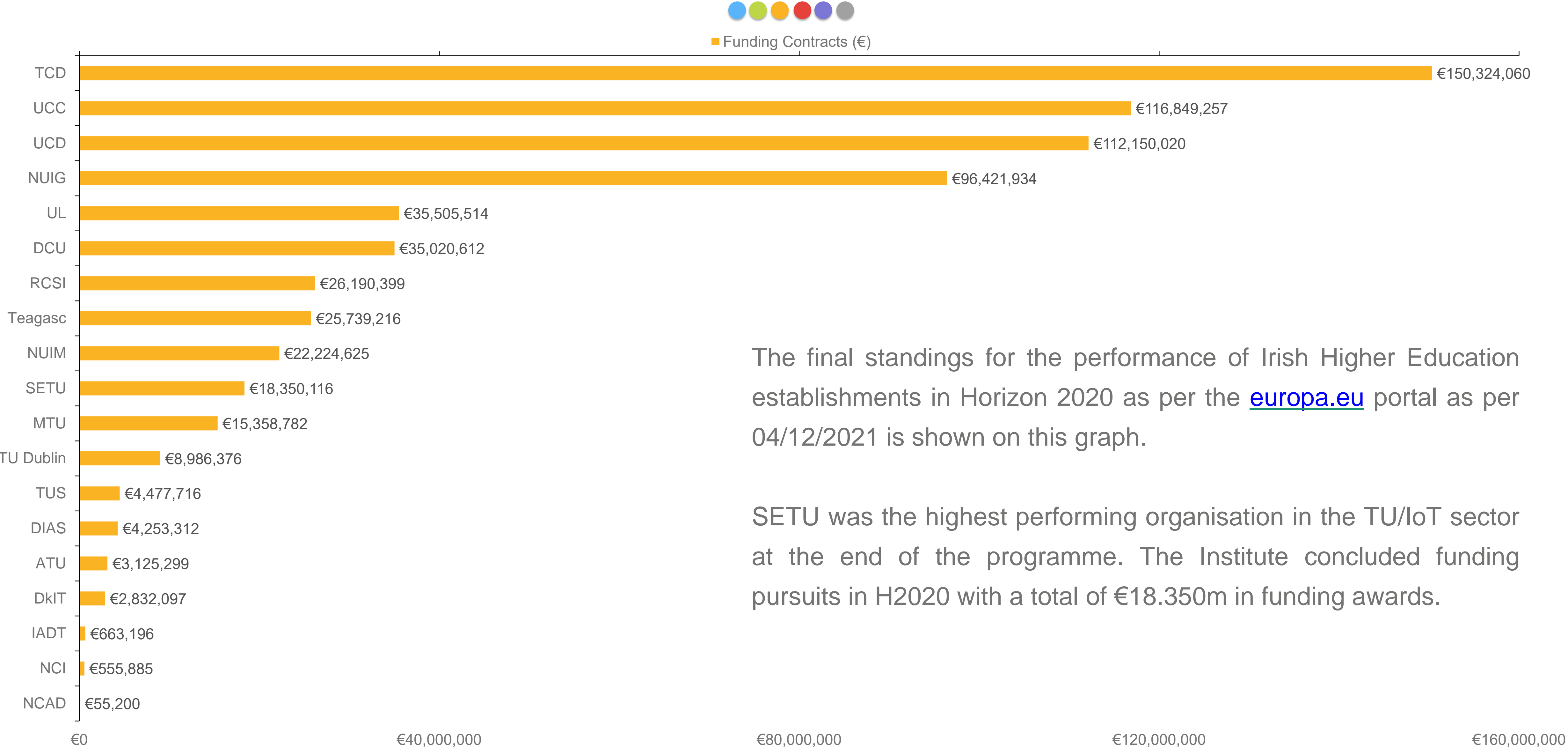
5-YEAR COMPARISON Research Funding & Funding Proposals (Waterford)



The 5-year comparison of research funding activity provides interesting context for the Institute. Funding for the academic year 2018/2019 delivered a significant peak, far beyond the sustained average of previous 5-year periods. Considerable success in large-budget H2020 projects broke this ceiling. 2020/2021 still felt the effect of COVID-19 but showed signs of a return to normal levels. The delayed start to Horizon Europe impacted possible EU funding but this is expected to grow as the programme is now in operation. Proposal submission and success figures for 2020/2021 indicate an increase on last year's figures. The 5-year trend maintains an upward trajectory.

HORIZON 2020 Funding Awards

SETU within the Sector



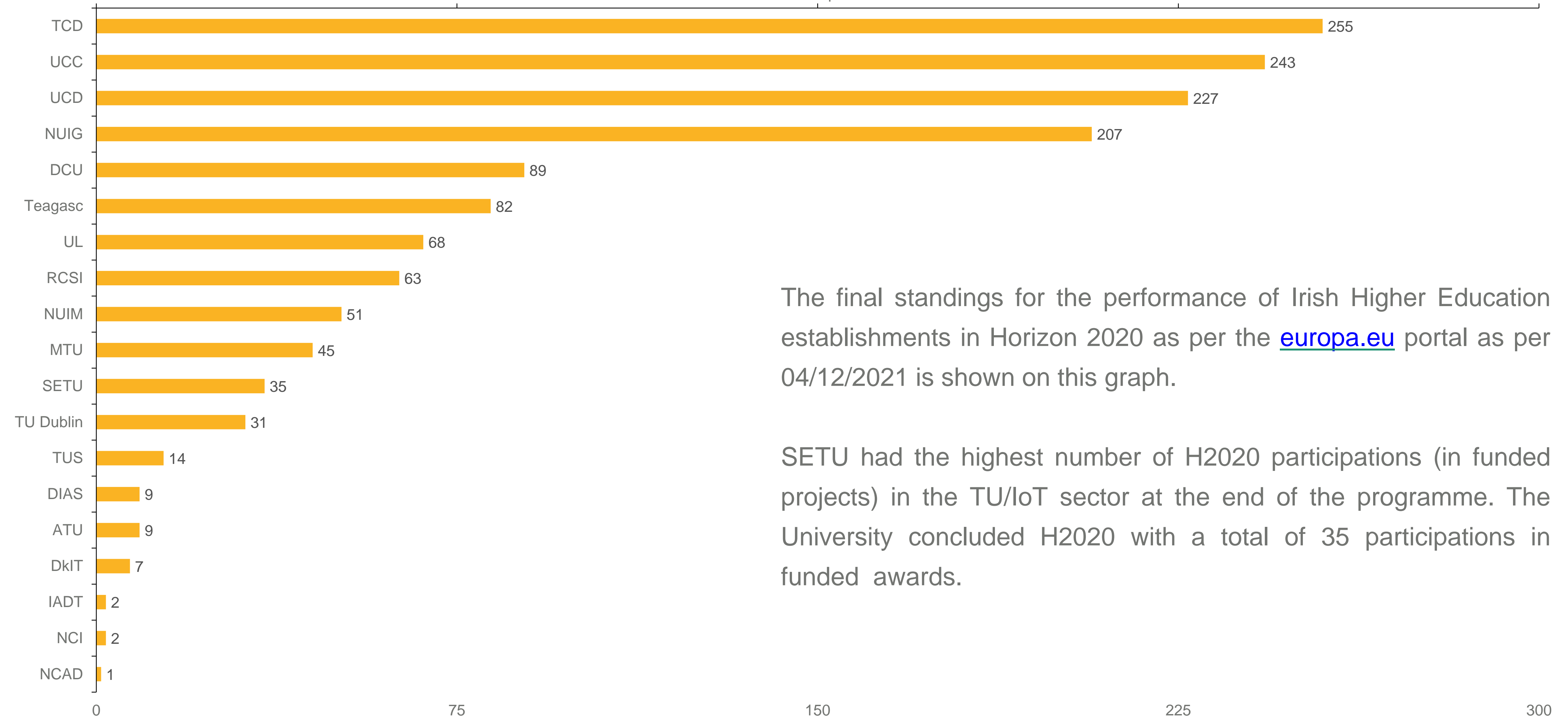
The final standings for the performance of Irish Higher Education establishments in Horizon 2020 as per the europea.eu portal as per 04/12/2021 is shown on this graph.

SETU was the highest performing organisation in the TU/IoT sector at the end of the programme. The Institute concluded funding pursuits in H2020 with a total of €18.350m in funding awards.

HORIZON 2020 Successes

SETU within the Sector

19



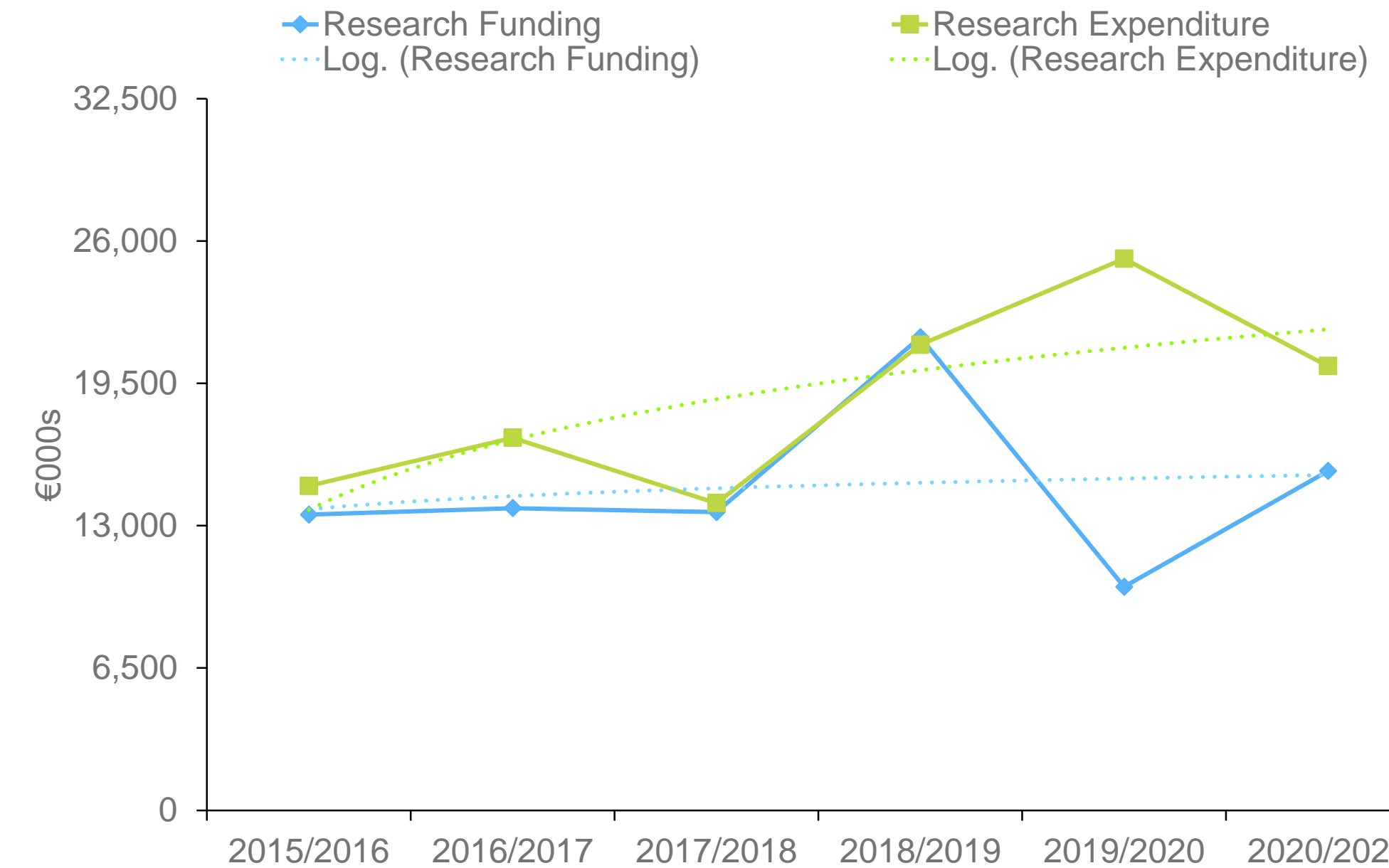
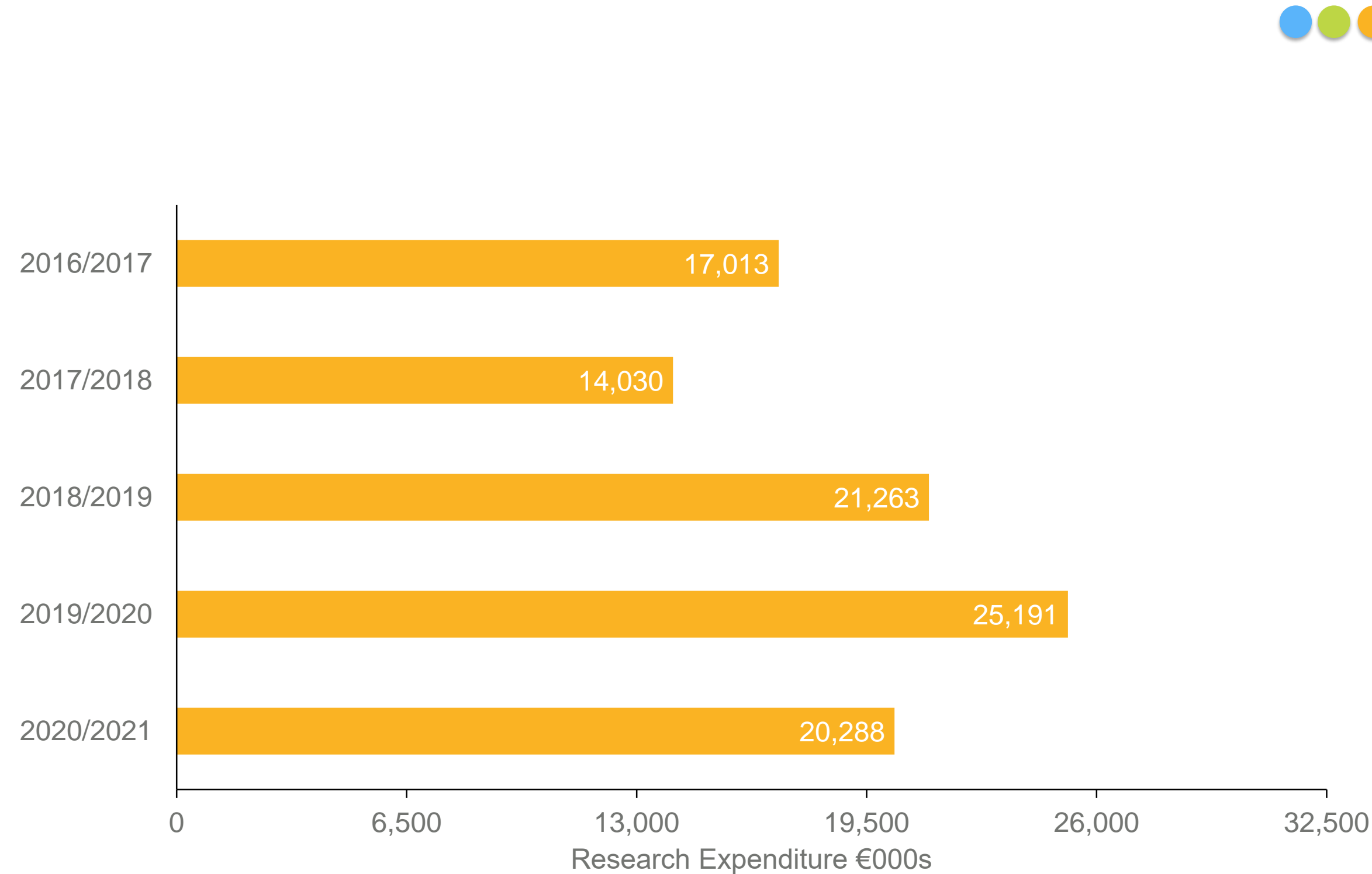
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SETU had the highest number of H2020 participations (in funded projects) in the TU/loT sector at the end of the programme. The University concluded H2020 with a total of 35 participations in funded awards.

RESEARCH EXPENDITURE

5-YEAR COMPARISON Waterford Research Expenditure

21



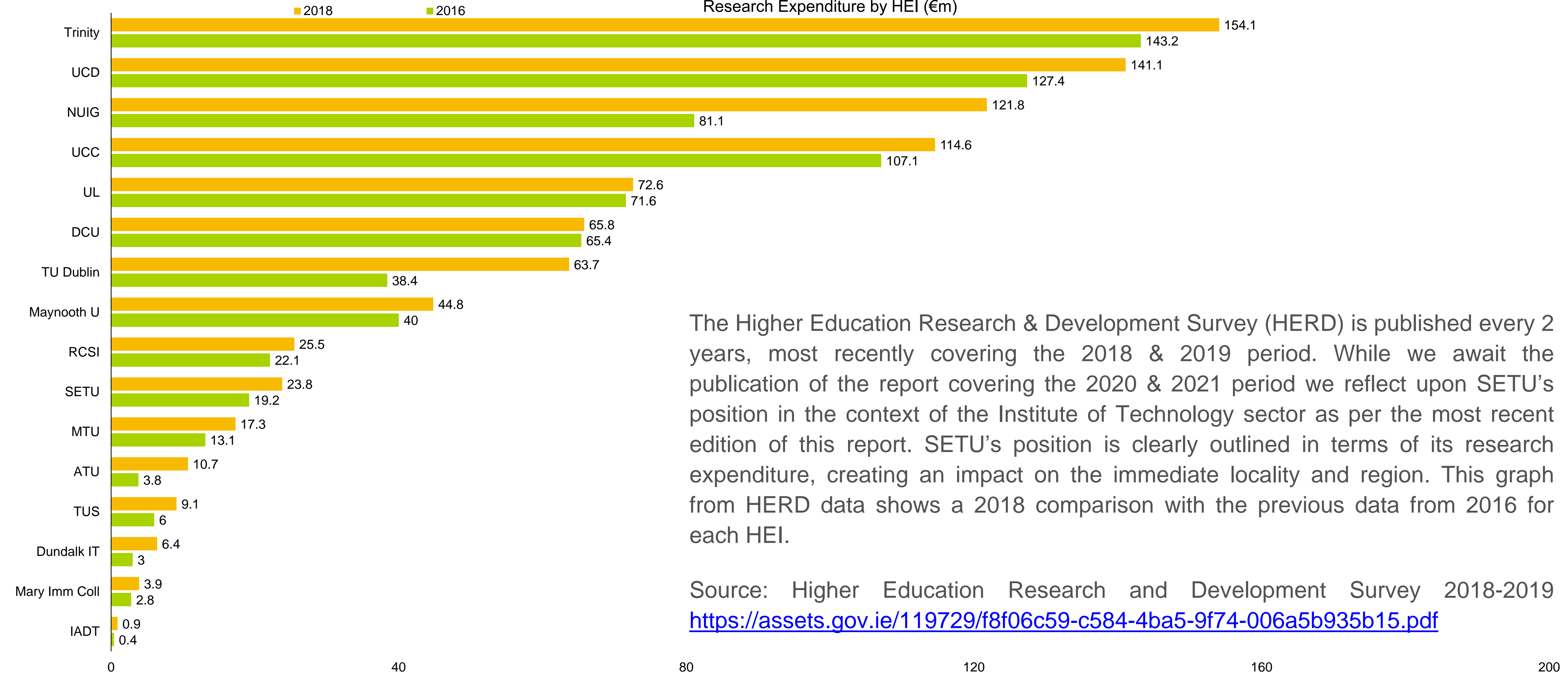
The 5-year comparison of research expenditure exhibits a significant growth over the period. Examining expenditure vs research funding received in the same period indicates that average spending has risen greatly in the past 3 years; largely reflecting the funding successes of each year. Research expenditure figures are exclusive of capital expenditure but are also dependent on the Institute's position within a project. Coordinating positions may involve 'payments to partners' that can significantly increase expenditure as the Institute is responsible for distributing partner funds.

HERD Survey Standing SETU within the Sector

22



Research Expenditure by HEI (€m)



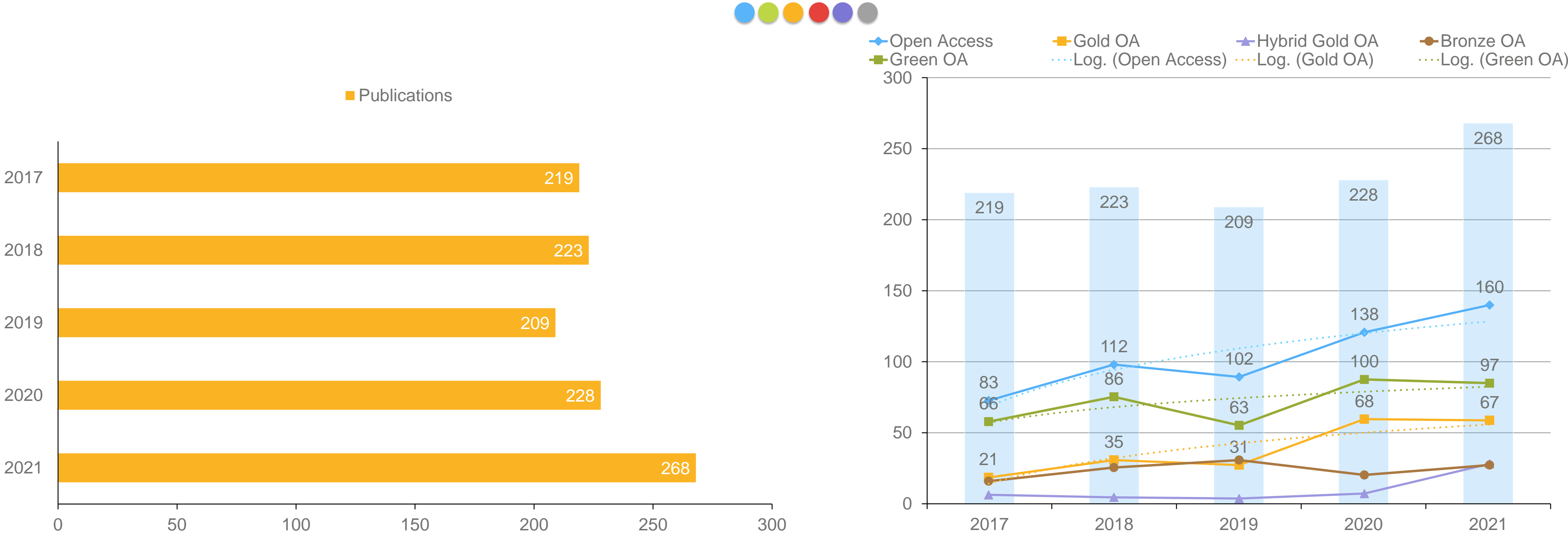
The Higher Education Research & Development Survey (HERD) is published every 2 years, most recently covering the 2018 & 2019 period. While we await the publication of the report covering the 2020 & 2021 period we reflect upon SETU's position in the context of the Institute of Technology sector as per the most recent edition of this report. SETU's position is clearly outlined in terms of its research expenditure, creating an impact on the immediate locality and region. This graph from HERD data shows a 2018 comparison with the previous data from 2016 for each HEI.

Source: Higher Education Research and Development Survey 2018-2019
<https://assets.gov.ie/119729/f8f06c59-c584-4ba5-9f74-006a5b935b15.pdf>

RESEARCH IMPACT

5-YEAR COMPARISON

SETU Research Impact by Publication Count

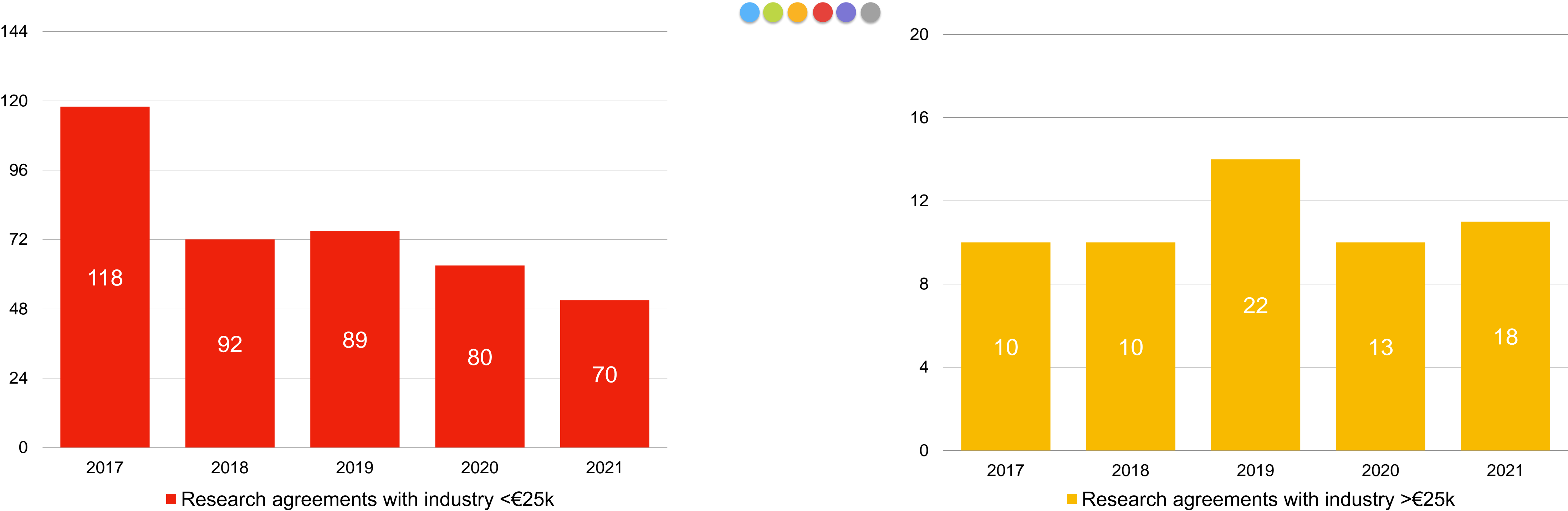


The 5-year comparison of research impact by publication count is shown above. While the performance is relatively consistent in recent years there was 15% growth noted in 2021. Encouraging data is observed with respect to Open Access publications from SETU-affiliated authors. Particularly within both Gold Open Access and Green Open Access. In 2021, the Institute published 60% of its publications via Open Access, in line with the ambition to embrace Open Science (Research).

Note: These publication statistics have been gathered from SciVal on 20/5/2022 using Scopus data up to 11/5/2022. An Open Access document in SciVal/Scopus can be tagged with more than one OA status as an article can be available in different OA versions (such as Gold and Green).

5-YEAR COMPARISON

SETU Research Impact by Technology Transfer Metrics

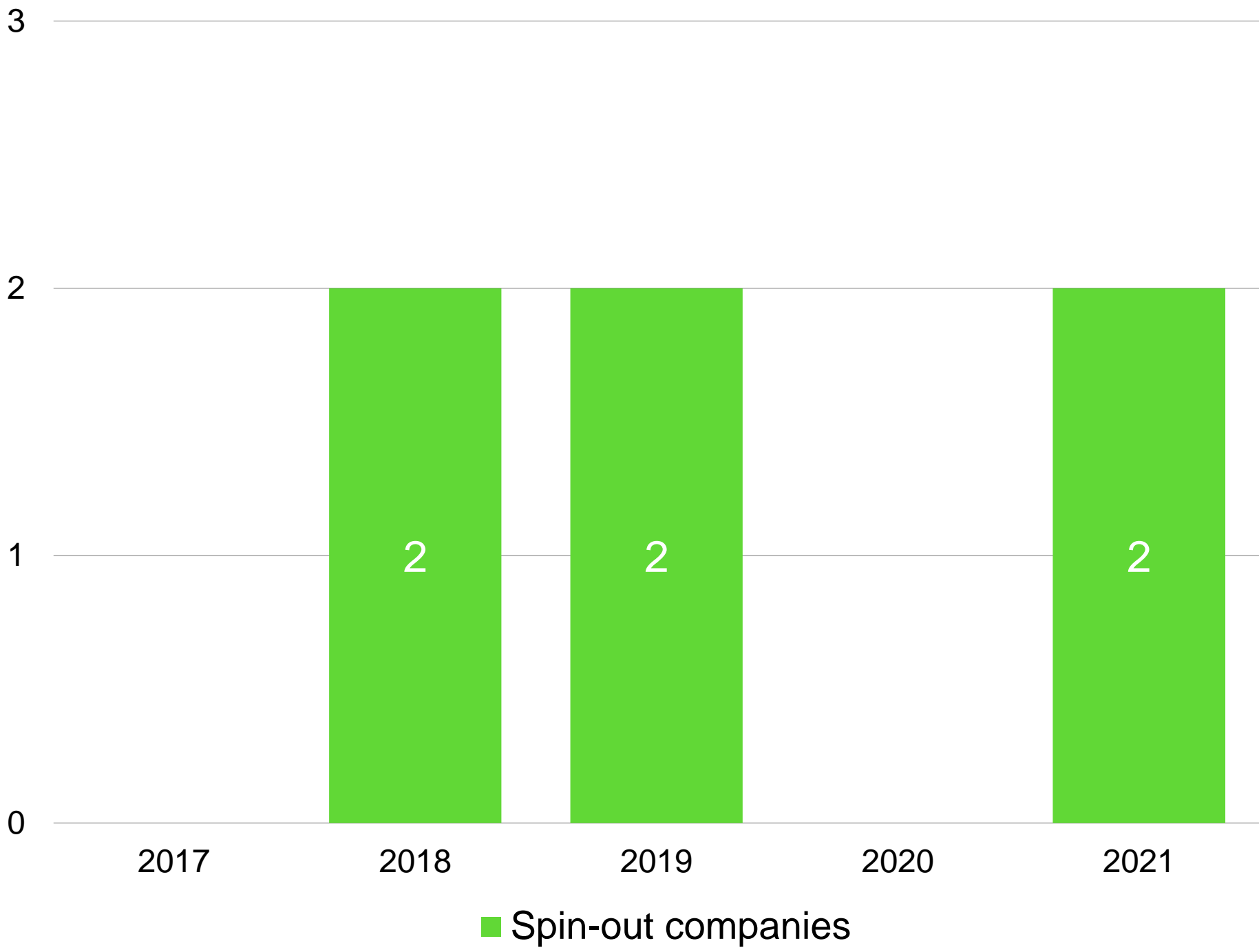
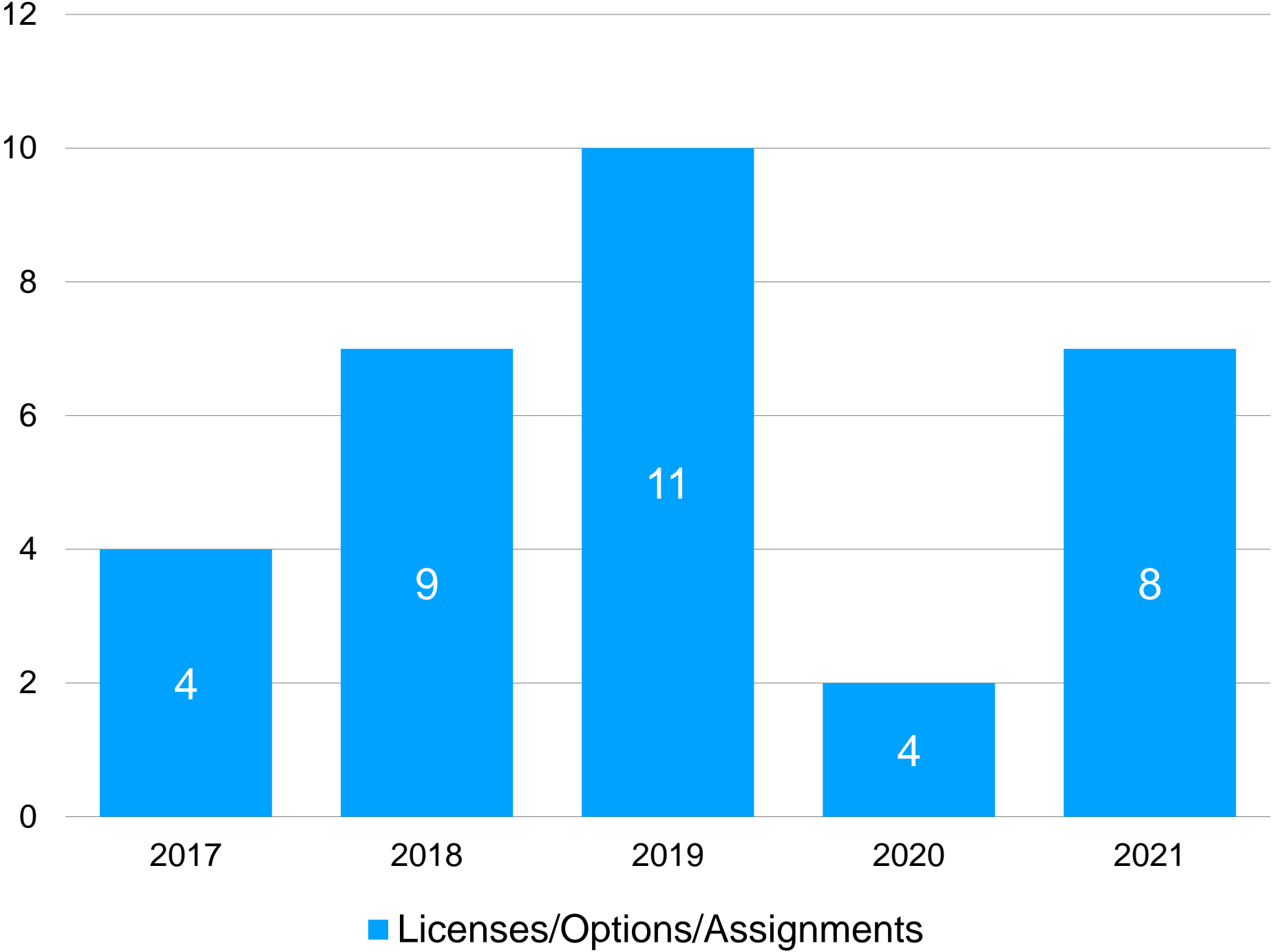


Technology Transfer is very important to the Institute as a way of measuring the impact of its research. As part of the Technology Transfer Consortium involving WIT, Maynooth University, IT Carlow, and Athlone Institute of Technology our metrics are validated each year by Knowledge Transfer Ireland (KTI) and published in their annual reports.

Research Agreements, cover R&D contracts between the Institute and other companies within Ireland, usually within the region. They reflect both the success of the Institute in helping SMEs and also the continued confidence expressed by SMEs in the quality, expertise, and ability of WIT to meet their needs. The pandemic has impacted upon agreements with respect to Innovation Vouchers and projects with smaller SMEs.

5-YEAR COMPARISON

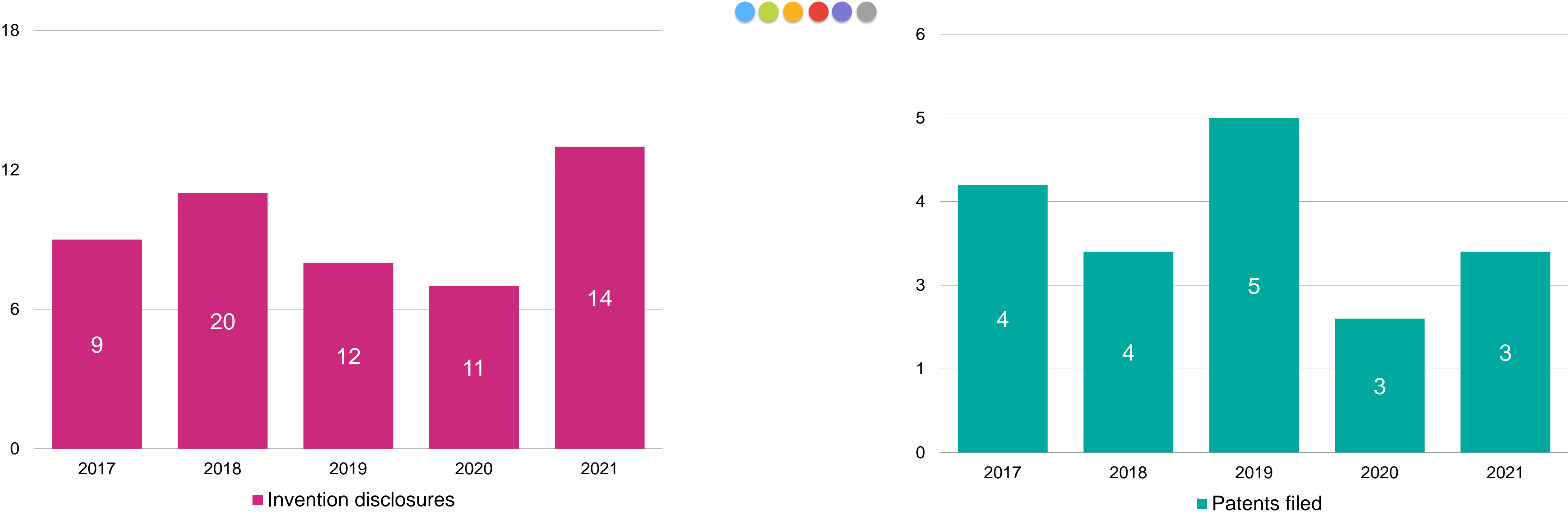
SETU Research Impact by Technology Transfer Metrics



In addition to contract R&D carried out by way of Research Agreements between WIT and SMEs, the Institute also enjoys success through the commercialisation of IP through mechanisms such as licensing and spin-out company activity. In line with the Knowledge Transfer Ireland targets for the Technology Transfer Consortium, the Institute has successfully met and exceeded its targets over the lifetime of the consortium. These spin-out companies create employment in the region and licenses provide existing companies with the business advantage they need, through IP that they do not have the in-house expertise to develop.

5-YEAR COMPARISON

SETU Research Impact by Technology Transfer Metrics

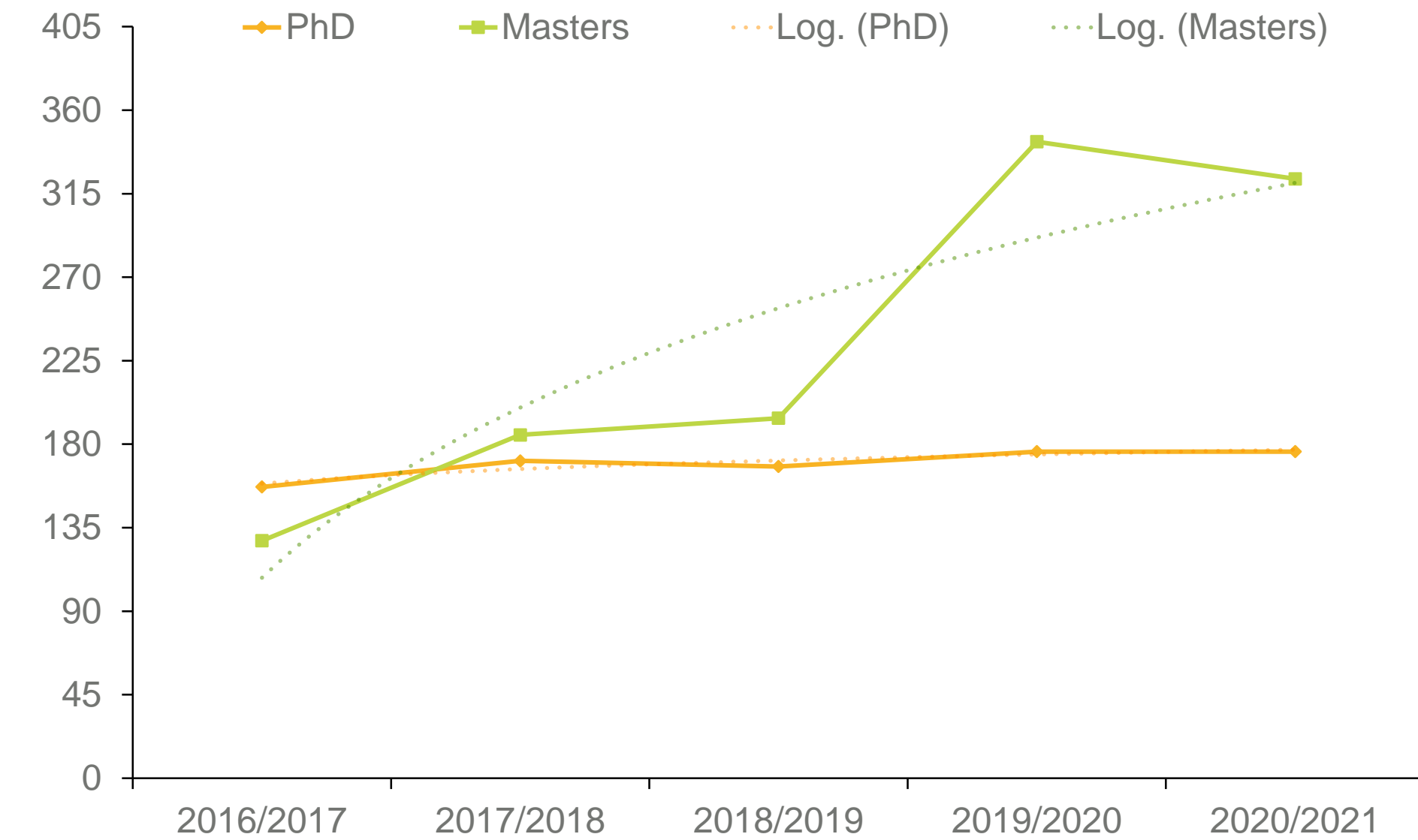
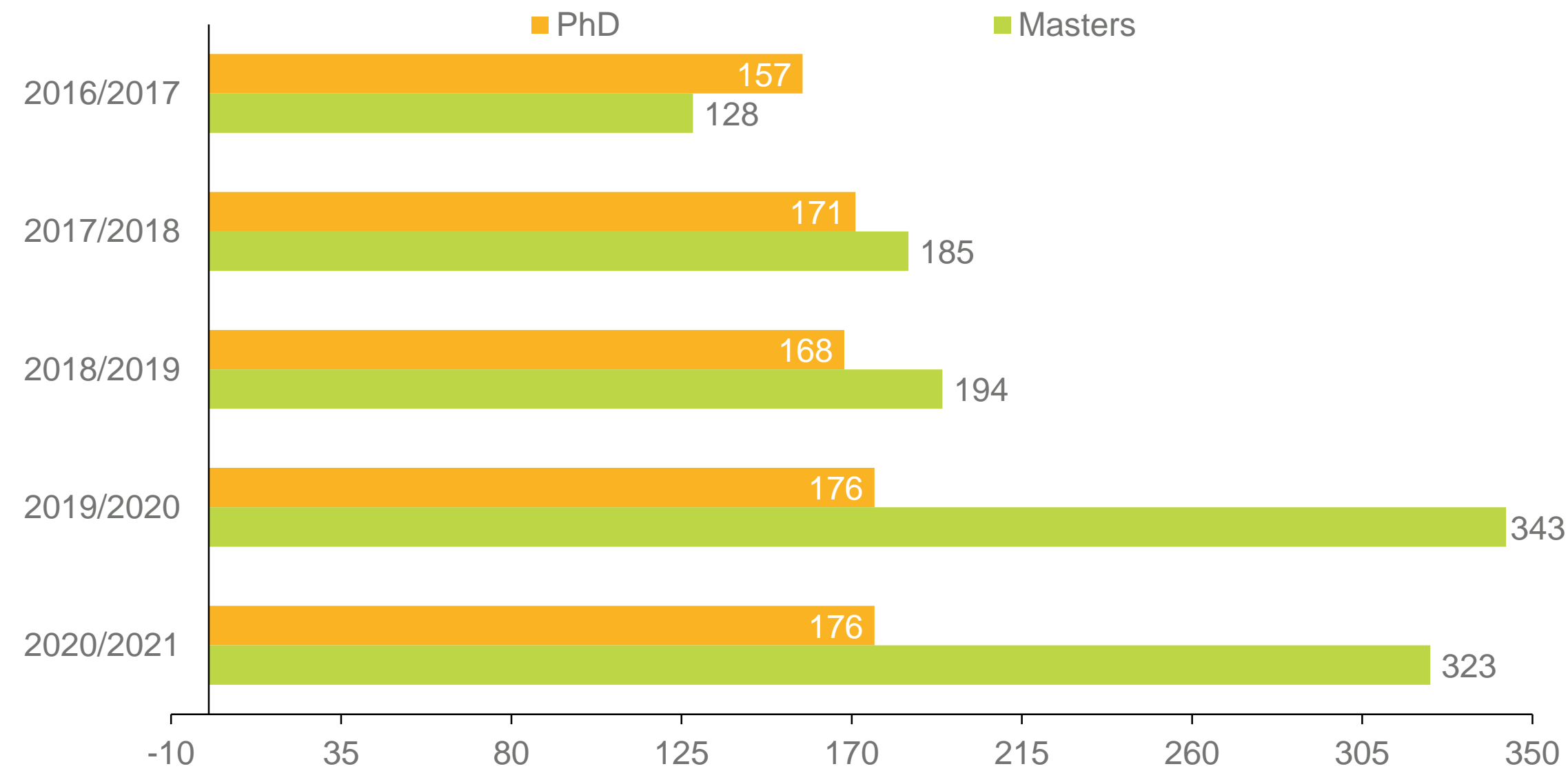


The final, key set of metrics with respect to Technology Transfer for the Institute are those of IP generation and protection. Invention Disclosures and Patents, illustrated above, are a measure of the cutting-edge and unique knowledge creation taking place within the Institute on an annual basis.

RESEARCH POSTGRADUATES

5-YEAR COMPARISON SETU Research Postgraduate Students

29



Source of Data: HEA.ie (Overall Trends in Enrolments A - <https://hea.ie/statistics/data-for-download-and-visualisations/key-facts-figures-2020-2021/>)

Successful first year of Co-fund programme



2016/2017 saw the first running of the WIT Co-fund PhD Scholarship programme, whereby 5 co-funded PhD scholarships were supported by commercial partners. In 2018/2019, a total of 12 scholarships were co-funded to a combined value of €444k, and in 2019/2020 a further 6 scholarships were funded (5 PhD, 1 MSc) to a combined value of €203.5k, and in 2020/2021 an additional 7 scholarships was funded to a combined value of €264k, providing students with an excellent opportunity to be mentored by industry experts and to tailor their research toward real world problems. Some of our Co-Fund partners are shown below.

