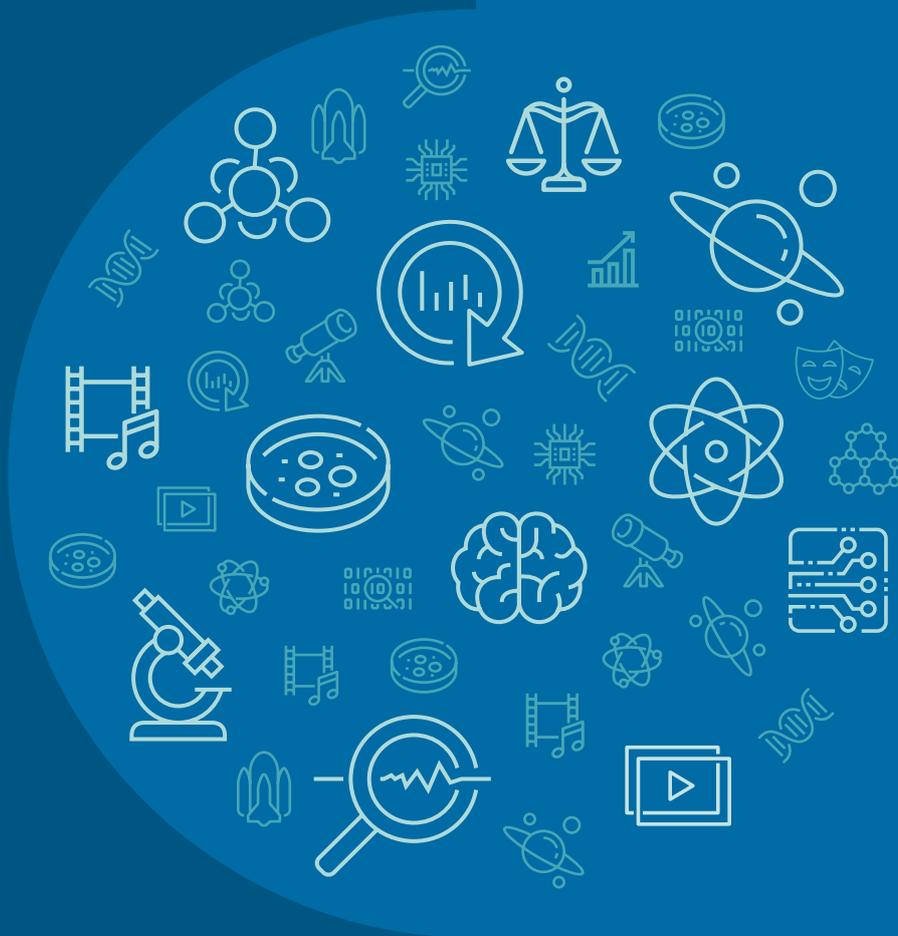


# RESEARCH AND INNOVATION *Strategy*

2019 - 2022



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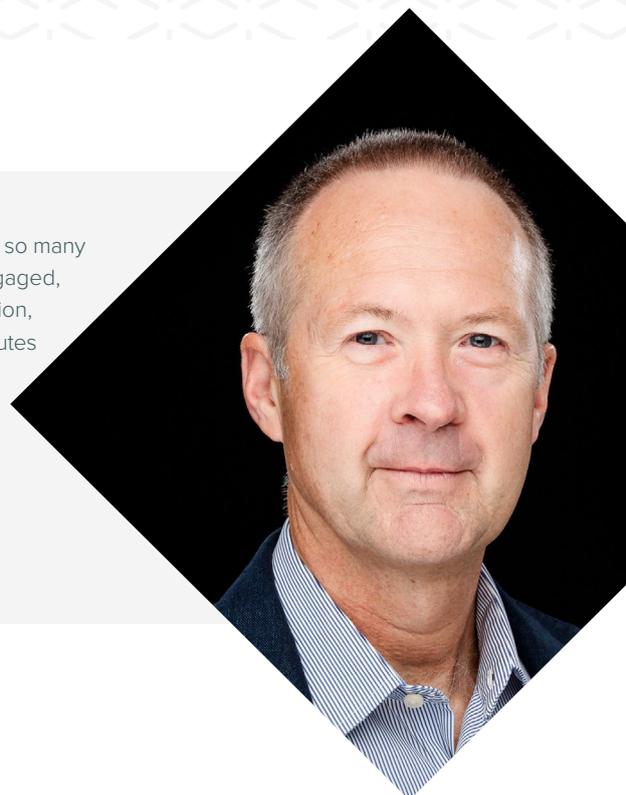
# *Strategic goals*

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I joined the University of Surrey in early 2018 and since then have enjoyed meeting so many of our staff, students, and supporters. I have been delighted to experience an engaged, high-calibre University community living its values of respect, ambition, collaboration, integrity and excellence – open to change, and eager to make a difference – attributes Surrey is known for and ones that will stand us in good stead for a bright future.

***When President Kennedy visited NASA in 1962, the first person he met was a cleaner. He asked the cleaner “What are you doing?” The cleaner replied: “I’m helping put a man on the moon”. An underpinning goal of this strategy is to support that unity of purpose in relation to research and innovation at the University of Surrey.***



1

## Vice-Provost

RESEARCH AND INNOVATION'S

# foreword

The University published its Corporate Strategy, 'The Surrey Advantage' 2017-2022, in late 2017, which included strategic priorities in research, and in impact and innovation. Over a year on, the present strategy reinforces and updates the [Corporate Strategy](#), and expands upon its themes, goals and targets – also linking to the [Global](#), [Education](#), [Human Resources](#) and Advancement strategies. Here, for the first time, we bring together Research Strategy and Innovation Strategy into an integrated framework, recognising that one flows seamlessly from the other, and by Innovation, we imply broadly all societal benefit that accrues from our research – not only its monetisation, as important as that is.

As the Vice-Chancellor aptly noted in his Foreword to the Corporate Strategy, we live in times of great change and uncertainty, wherein challenge and complexity, somewhat incongruously, are juxtaposed with opportunity. This circumstance certainly holds true for research and innovation, with uncertainty over funding streams, where some are growing and some shrinking; government reinforcement of the importance of the relevance of our research and its place in a vibrant economy; and the strong expectation that universities and business work ever closer together for the benefit of the nation. Thus, whilst the strategic goals expressed herein are clear, how we get there is intended to be adaptive and open to change, reflecting our pragmatism and agility.

During the genesis of this blueprint for our future in research and innovation, many colleagues, students, supporters and alumni have been consulted, and we thank them for their engagement, enthusiasm and loyalty. What has been captured herein provides an exciting accompaniment to 'The Surrey Advantage' – one which recognises the critical place of research and innovation in the modern university, with its important societal contributions to the generation of knowledge, the advanced training of researchers and the generation of wealth and wellbeing for our communities. This strategy, which recognises the intrinsic connectedness of research and innovation, will see Surrey accelerate its journey towards being a truly great global University.



## 2

# OUR VISION, *mission* and *values*

### Our vision

The University of Surrey will be a leading global university. We will be renowned for the outstanding quality and impact of our graduates and research, as well as our collective contributions to society. We will build on our distinctive heritage of practice-based learning and excellent student experience, and embrace our future by focusing on digital transformation.

The University of Surrey conducts its business by the following values:

#### RESPECT

##### *We include everyone*

Through valuing equality and diversity in people, cultures and ideas, we build a vibrant and caring environment that supports people based on humanity, compassion and fairness.

### Our mission

The University of Surrey provides excellent education, and advances and disseminates knowledge.

The University transforms lives and shapes the world for a better future by partnering with students, governments, businesses, alumni and local communities.

The University makes social and economic impact through research and innovation, and provides solutions to global challenges.

#### AMBITION

##### *We set stretching goals*

Through working to make the most of our potential and by taking advantage of opportunities, we add value for our students, staff, partners and for society as a whole.

#### COLLABORATION

##### *We work in partnership*

Through supporting staff and students to work closely together across disciplines, with businesses and with industry, we benefit society.

### Our values

Our organisation is built on a core set of values. These define us as ambitious, but not at any cost. They tell us to be focused on our mission while encouraging creativity, respecting our people, and enabling them to realise their full potential. Our values underpin a strong culture of excellence, diversity, resilience and collaboration, which require us to be agile to change, and ready to adapt where and when we should.

#### INTEGRITY

##### *We always aim to do the right thing*

Through a commitment to honesty, decency and transparency, we uphold the highest ethical standards and professionalism.

#### EXCELLENCE

##### *We strive to be the best we can be*

Through a focus on quality, we always seek to improve everything we do.



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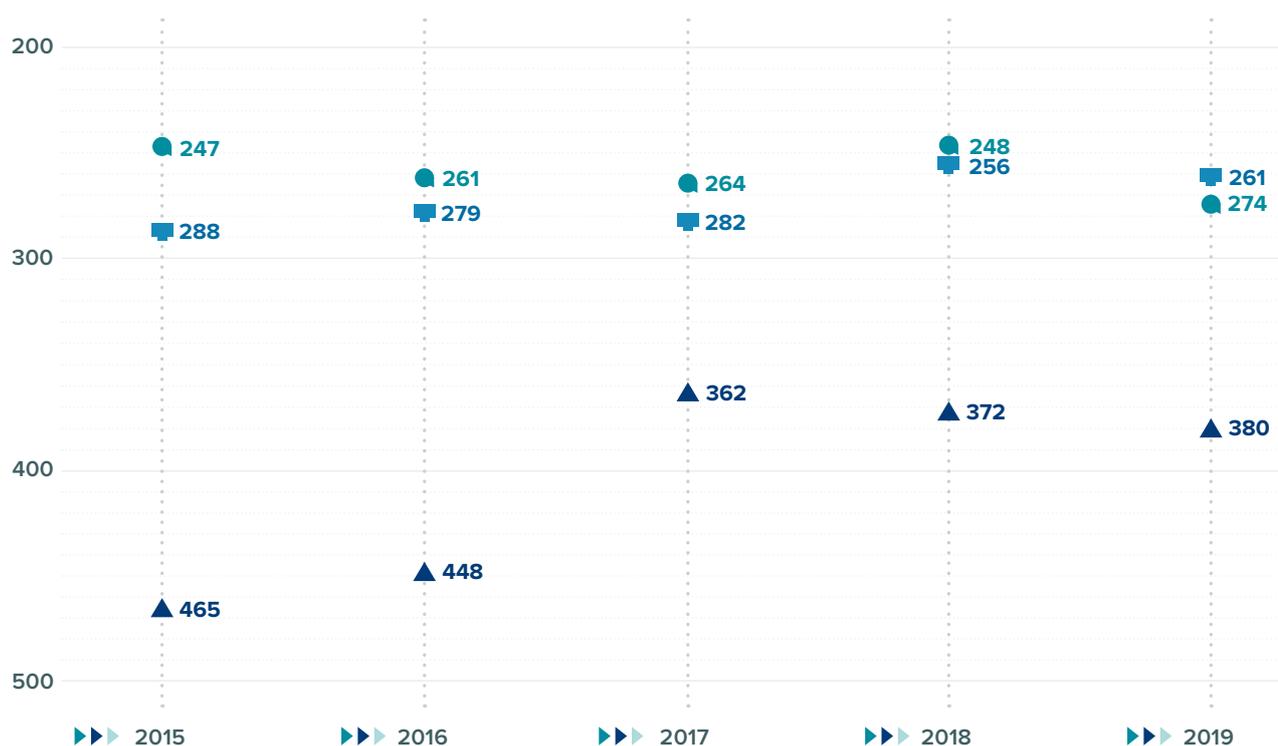
# Surrey in numbers

## ► Surrey research and innovation in numbers

In terms of overall performance in research and innovation, our size and shape can be summarised in numbers with the following charts.

The following information is based on five-year data where appropriate.

### International rankings: ARWU, QS, THE

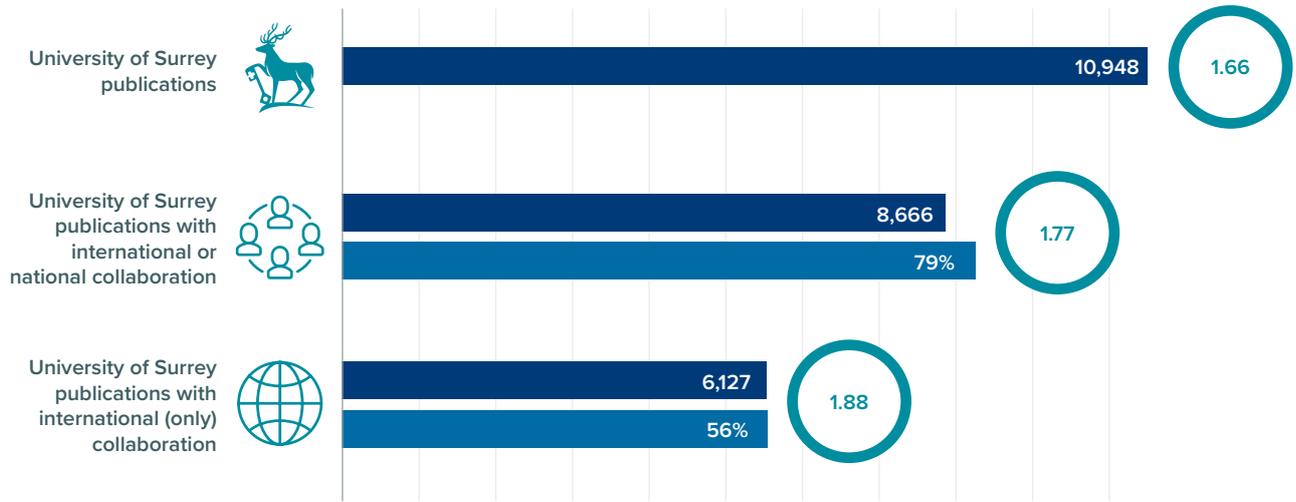


▲ Academic Ranking of World Universities (ARWU)

● QS World University Rankings

■ Times Higher Education (THE) World Rankings

## Publications



■ Number of publications ■ % of publications ○ FWCI (Field-weighted citation impact)

Data from Scival, date range 2015 - 2019

## Researcher demographics

	Women		Men	
	Total FTE	% of FTE	Total FTE	% of FTE
<b>Academic, teaching and research</b>				
United Kingdom	127	37%	215	63%
EU	58	36%	101	64%
International	31	31%	70	69%
<b>Research only</b>				
United Kingdom	60	44%	76	56%
EU	22	33%	45	67%
International	32	25%	98	75%
<b>Geographical demographics</b>				
United Kingdom	187	39%	291	61%
EU	80	35%	146	65%
International	63	27%	168	73%

Grand total

**935**  
Total FTE

**330**  
Total FTE



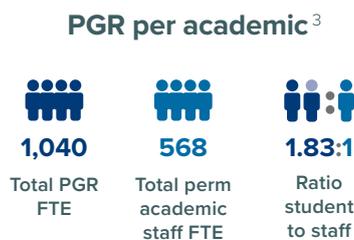
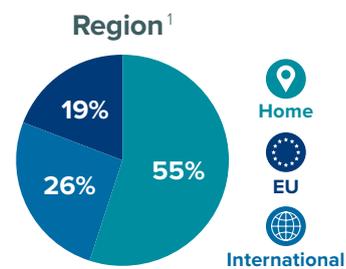
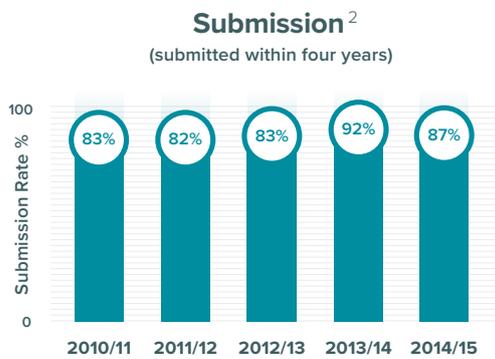
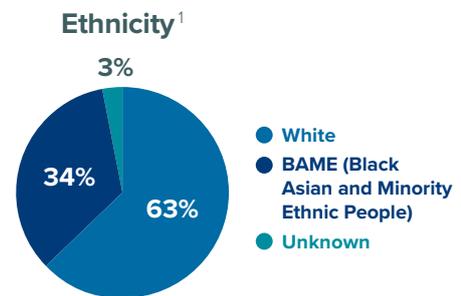
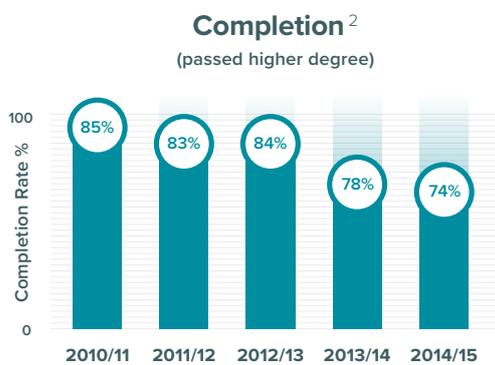
**35%**  
% of FTE

**605**  
Total FTE



**65%**  
% of FTE

## Postgraduate researcher (PGR) landscape



### AdvanceHE Postgraduate Research Experience Survey 2019

25<sup>th</sup>



Experience

1. Source: PGR Live, correct as at Feb 2020

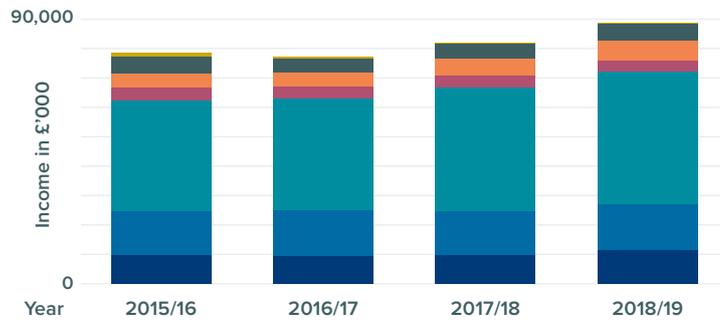
2. Source: R62, correct as at Feb 2020

3. Source: H20, correct as at Feb 2020

## Research and innovation income

### Overall research and innovation income

including Surrey Research Park (SRP) property income

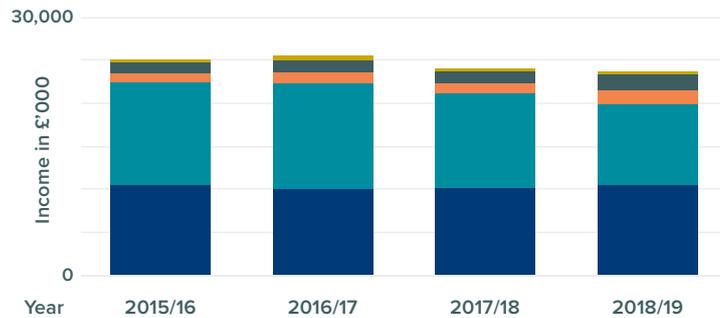


		2015/16	2016/17	2017/18	2018/19
Research		38,946	40,313	42,729	46,600
Quality related research funding		14,587	14,940	14,715	15,065
Studentships		5,226	4,736	5,280	7,426
PGR tuition fees		3,430	2,731	2,967	2,585
Innovation <sup>1</sup>		5,047	5,467	5,871	6,176
SRP		10,469	10,071	10,487	11,024
Other		1,143	511	372	187
<b>Total</b>		<b>78,848</b>	<b>78,769</b>	<b>82,421</b>	<b>89,063</b>

1. Includes HEIF income

### Industry funded research and innovation income

including Surrey Research Park (SRP) property income

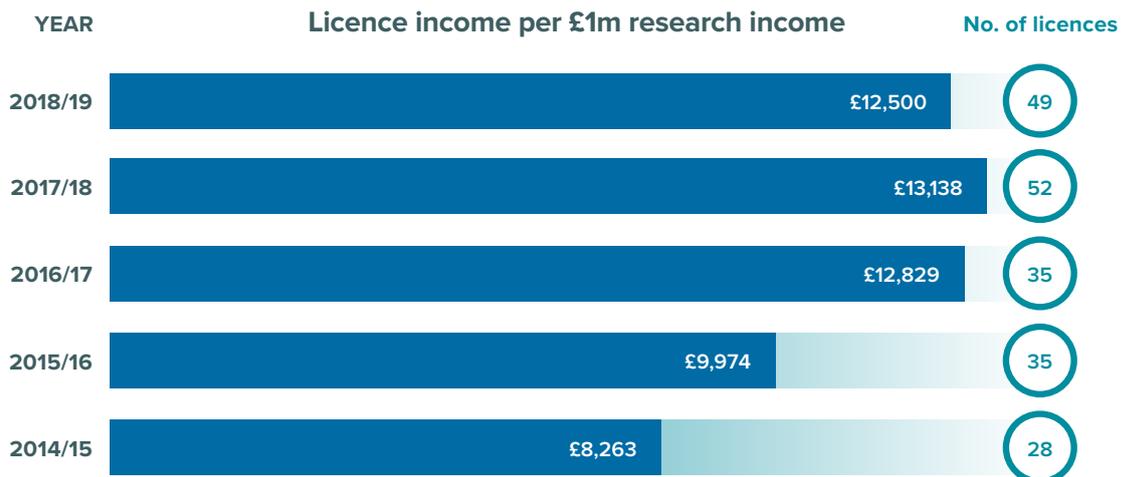
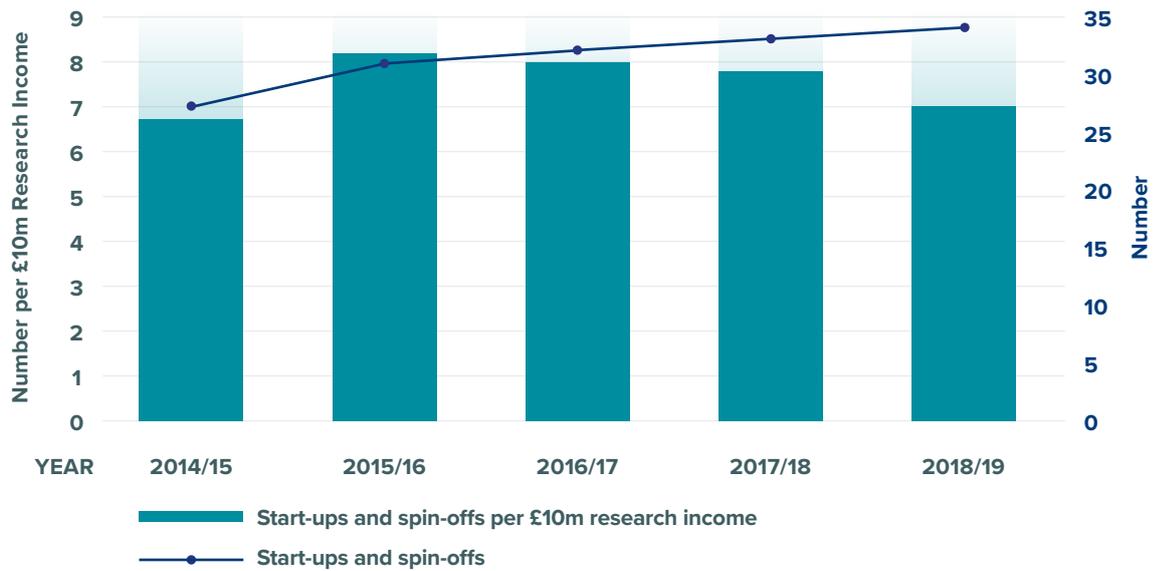


		2015/16	2016/17	2017/18	2018/19
Research		11,985	12,167	10,105	8,670
Studentships		1,304	1,271	1,463	1,668
Innovation		964	1,235	1,115	1,540
SRP		10,469	10,071	10,487	11,024
Other		365	435	289	135
<b>Total</b>		<b>25,087</b>	<b>25,179</b>	<b>23,459</b>	<b>23,037</b>

Note: these figures are also included in the overall chart

## Innovation performance

Start-ups and spin-offs per £10m research income

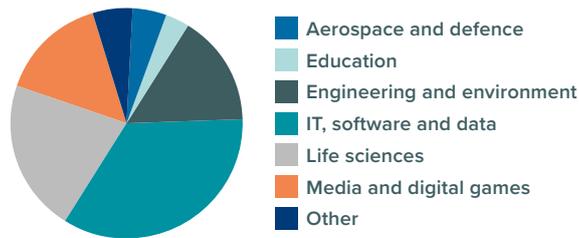


## Surrey Research Park and incubation 2020

The Park hosts incubators, SETsquared Surrey in the Surrey Technology Centre and Rocketdesk.

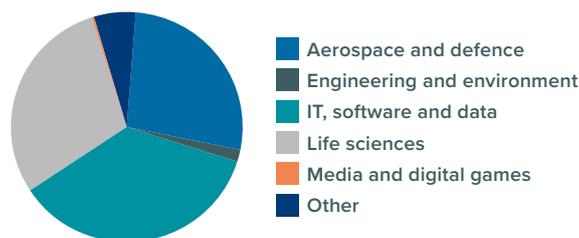


### Number of companies by sector



34% of companies are within IT, software and data  
21% in life sciences  
16% in engineering and environment

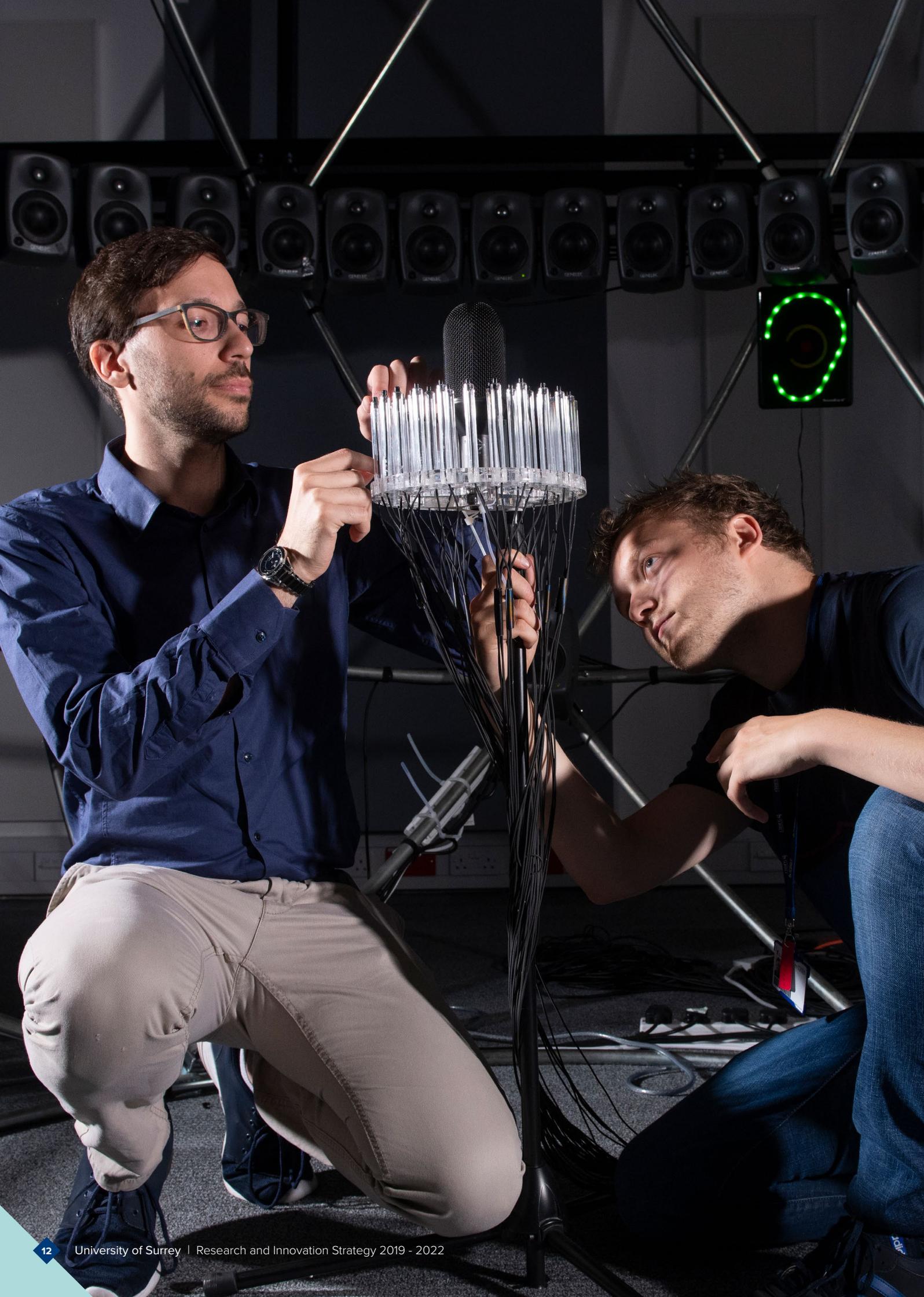
### Value of interactions by sector



36% of monetary value is within IT, software and data  
29% in life sciences  
27% in aerospace and defence

**£1.2bn**  
Turnover of all companies on the Park

**4,500**  
Employees of all companies on the Park



# Research and innovation

## STRATEGIC GOALS

### ► Our ambition

Our ambition is to become a leading global university performing impactful research and innovation, graduating excellent researchers, and achieving outcomes which make important contributions to society.

The University of Surrey will have achieved its ambitions in research and innovation when we have become:

- A global leader in higher education research and innovation and a destination of choice for researchers, including postgraduate research students, in the UK and internationally;
- A leading research institution with talented staff and students committed to research and innovation excellence and to benefitting the economy, society and the environment;
- A preferred partner for government, business, industry and other universities in creating knowledge, technological solutions, digital transformation and policy innovation;
- An engaged and connected university which is the intellectual home for alumni, supporters, and the local community.

### ► Achieving our ambition – research and innovation strategic goals

To achieve our ambition, we recognise the need to nurture and grow our talented and dedicated pool of researchers whose practice is founded on a values-based culture of excellence. We need academics who can conduct research at the leading edge, who are forward-thinking, who provide an exceptional experience for our research students and partners, and who value and generate innovation outcomes. They are the agents for the 'Surrey Advantage', culminating in the premium that each and every student or partner gains by choosing us as the place to undertake postgraduate research or to collaborate.

Our researchers practise their excellence within the milieu of our defining traits:

- Our broad spectrum of technological and social sciences, arts and humanities, and their uncommonly strong linkages forged in an integrated campus culture of cooperation;
- Our long history of pragmatic research driven by strong relations with industry, exemplified by our Surrey Research Park;
- Our impressively European and international staff and student composition; and
- Our proximity to, yet separation from, London.

We seek to leverage this 'Surrey Advantage' to achieve four overarching strategic goals.



“

Cutting-edge facilities and infrastructure are elements of the ‘Surrey Advantage’, critical for supporting excellence in research and innovation.

”

## The growth imperative – research scale and excellence

Our growth depends, to a considerable degree, on the scale of research concentration and power we can bring to bear in a field, on a topic or a problem. A key element of excellence at scale is connectivity and the creation of strategic partnerships with people, organisations and industry locally, nationally, and globally. To sustain excellence at scale, we need to grow in our number of research concentrations and overall in the size of our research portfolio, including our research income. We shall do this through a combination of recruiting new talent, strongly supporting existing talent, and nurturing the next generation of postgraduate, postdoctoral and early-career researchers, in all cases recognising the need to diversify our talent pool. In so doing, we will contribute a major part of the ‘Surrey Advantage’ through enhancing the quality and reputation of our research. As part of a virtuous circle, our success as a knowledge leader gives rise to long-lasting prestige and brand power. Our reputation, in turn, allows us to attract the best people and more high-calibre students to study here, which, in turn, sustains funding to the institution.

### *Overarching strategic goal one: Research scale and excellence*

*We will enhance our research excellence and grow our overall scale through higher concentration of activity.*

## Cutting-edge facilities and infrastructure

Our facilities and infrastructure are elements of the ‘Surrey Advantage’, critical for supporting excellence in research and innovation. Such facilities may provide unique opportunities to perform research or to act as a magnet for leading and early-career researchers. They provide a point of disciplinary intersection to foster one of our values: collaboration, and produce superior interdisciplinary research. We seek to add to our existing infrastructural elements of distinction. We aim to extract more value by organising our existing infrastructure better, especially by increasing access through up-skilling our postgraduate and early-career researchers. We also recognise that research infrastructure is more than equipment and facilities, and extends to the digital environment, information resources and research and innovation processes, such as management of grants and contracts. We seek to enhance all infrastructural elements of our research and innovation ecosystem and make them researcher-centric – we will implement a one-stop shop of professional research services for our researchers.

### *Overarching strategic goal two: Research infrastructure*

*We will increase the number of our distinctive research infrastructural elements, improve how we make use of existing infrastructure, and make research support services more researcher-centric.*

## ▶ Postgraduate, postdoctoral and early-career researchers

These researchers lie at the heart of our University's research and innovation ecosystem. We highly value their contribution to the research effort and to the intellectual and overall culture of the University. We seek to instil our values into their experience as emerging researchers and research leaders, and seek to ensure the 'Surrey Advantage' prepares them for a lifelong career in research, innovation and beyond. As our research activity has grown over the last five years, our postgraduate research population has not kept pace, and we seek to address this by attracting the best doctoral students to Surrey from around the world, to substantially grow our postgraduate student numbers.

The recently established Doctoral College forms a hub for University research and innovation training, with the ambition to provide development programmes tailored to Surrey students and staff at all stages of their researcher career journeys; inclusive of taught students aspiring to postgraduate research education, postgraduate researchers, early-career researchers, supervisors and our postgraduate and early-career researcher alumni. The Doctoral College will continue to strengthen its role in creating and supporting this community of research scholars. Key to future success will be the extent to which we add value to this community in enhancing their experience at Surrey and in preparing them for the next phase of their careers, so that they are able to take advantage of the full range of opportunities available to them. We aspire to be known as a place of choice to commence a research career, because we not only support our researchers for today, but also prepare them for success tomorrow.

### *Overarching strategic goal three: Postgraduate, postdoctoral, and early-career researcher scale and experience*

*We will grow our postgraduate, postdoctoral, and early-career researcher community, as well as support and enrich their experience and preparation for future careers through the Doctoral College.*

## ▶ Innovation

Innovation describes the ways in which we derive value and benefit for society from our research endeavour, in the broadest sense. This includes: impact; knowledge transfer; public engagement; training in, and practice of, enterprise and entrepreneurship; business, government, community and third-sector partnerships; and commercialisation of University-generated IP. To best convert research into societal benefit requires a whole-of-institution alignment of culture and practice: to ensure our students and researchers measure their own success through the extent to which they contribute to innovation; that they understand the process of innovation and are provided with the motivation, tools, guidance, policies and time to engage in it; and that the University is extensively and closely connected to the business, government, third sector and other end-user communities that motivate, take up and further evolve our research outcomes.

We will maximise our societal impact through the three pillars of: **collaborating and convening** – extending our partners, networks and value-add, through enhanced community leadership that more clearly recognises and champions our value proposition; **commercialising** – through our renewed approach to intellectual property ownership, enterprise creation, and enabling of translational activities; and **culture** – by creating a more motivated, mobilised and vibrant innovation community that values real-world application and has the agility, attributes and attitude to deliver it.

### *Overarching strategic goal four: Innovation ecosystem*

*We will contribute greater economic, environmental, health and social benefit to society through enhancing our impact and innovation.*

## Measuring success

Our top-level measures of success will be:

**Five years:** Reach a top 20 position in Research Excellence Framework (REF) 2021 and for national research income for all areas in which we are research active; reach a top five position in our cluster in the forthcoming Knowledge Exchange Framework (KEF); and be in the top 200 in international league tables such as QS, THE or ARWU.

**Ten years:** Reach a top 15 position in appropriate national league tables; be in the top 100 position in global league tables such as QS, THE or ARWU.

### A supportive and open research and innovation culture

In striving to achieve these measures of success, we also recognise our responsibilities to our own staff as well as to our wider community and these responsibilities are embodied in our policies and working practices.

Ensuring the health and safety of those who work for and with us is an absolute priority met largely through compliance with the relevant Health and Safety Legislation. In particular, we will prioritise induction, as well as postgraduate, postdoctoral and early-career researcher training to enhance our health and safety culture.

Centred on our Doctoral College, we will strongly support our researchers at all career stages, including

embracing the evolving guidance provided by the [Concordat to Support the Career Development of Researchers](#). We are committed to providing researchers with a clear understanding of all doctoral career options and to ensuring their time at Surrey provides them with the experience and skills necessary to take advantage of the wide variety of opportunities available to them in the future.

In line with the EC Horizon 2020 principles on [Responsible Research and Innovation](#), we recognise the importance of dialogue and reflection in deciding the research we conduct, and in how it is conducted and used. We encourage researchers to build deliberative dialogue into the development of their research ideas and to consult widely to ensure that



both the potential positive and negative consequences of the research are explored.

We recognise the need to conduct our research transparently and accountably, to comply with the [Concordat to Support Research Integrity](#) and to embrace the guidance provided by organisations such as the UK funding bodies through the [RCUK \(now UKRI\) Policy and Guidelines on Governance of Good Research Conduct](#), the [UK Research Integrity Office](#) and [The Prevent Duty Guidance for Higher Education England and Wales](#).

Our research and innovation support service guides researchers through the full research life cycle, from due diligence around our funding and collaborative partners, to keeping researchers abreast of compliance, regulations and governance frameworks. Our future plans include adopting periodic reviews of our ethics and integrity processes and governance structures. We will provide better training and support for our staff so that they are clear on their roles and responsibilities. When we fall short of our high standards of research integrity, we will be clear, open and transparent in dealing with and reporting on issues of research misconduct. Overall, we will continue to develop researcher-facing processes that simplify doing research and encourage best practice in research integrity.

We believe that openness is at the heart of a strong scholarly research culture, as a mechanism to increase reproducibility, to lower barriers to accessing knowledge, and to build upon each other's work. At Surrey, in accordance with the [Concordat on Open Research Data](#), we will continue to promote and support open and immediate access to publications, research data, and other research outputs. We also believe strongly in the responsible use of research metrics, and support this through a suite of policies, services and best practice operationalised by a dedicated [Open Research](#) team, and guided by [The UK Forum for Responsible Research Metrics](#).

Our open research aspirations extend beyond access, to how we do research and to how we disseminate our findings. We will adopt open platforms and services, participate in open, collaborative projects, and engage with the public to achieve the ultimate objective of advancing knowledge and creating innovation for the benefit of all.

[For further information on the detailed objectives of our Research and Innovation Strategy](#)

In achieving these measures of success, we recognise our responsibilities to our own staff as well as to our wider community. These responsibilities are embodied in our policies and working practices.



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