| **Institution: University of Exeter** |
| **1. Context and mission** |

1.1.   With a 70% increase in our REF FTE, one new UoA, and every UoA returning more staff than in REF2014, this cycle has seen the greatest growth in research activity in the history of the University of Exeter (UoE). Our total of 1252.9 FTE (1327 headcount) in REF2021 Category A staff is 97% higher than RAE2008 (636 FTEs) and 70% more than REF2014 (736 FTEs). The scale and quality of our research has been enhanced by strategic, sustained and significant investment in our research talent and supporting capital and infrastructure. The success of these investments is evident in substantial increases in our research awards, output citations, and esteem indicators. Over the last last two REF/RAE cycles we have doubled research staff and quadrupled research income.

Geography, size and shape

1.2.   Established in 1955, the UoE comprises five campuses in Devon and Cornwall and is the only Russell Group University in the south-west peninsula of England. On 31st July 2020, UoE had approximately 23,600 undergraduate and postgraduate taught students, 1288 FTE PGRs and 2459 academic staff. Undergraduate and taught postgraduate students are part of our ecosystem of researchers, co-creating research ideas and driving research-inspired learning, evidenced in taught student co-authorship of publications and contribution to impact.

1.3.   UoE has six Colleges: Humanities; Social Sciences and International Studies; University of Exeter Business School; Engineering, Mathematics and Physical Sciences; Life and Environmental Sciences, and Medicine and Health. Our highly interdisciplinary research culture is catalysed via our five cross-College research institutes, acting as crucibles for the co-creation and co-location of inter-College research. These enable science, technology, engineering, mathematics and medicine (STEMM) and humanities and social sciences (HASS) communities to engage in research that addresses grand challenges for societal benefit. Our Research Institutes opened since 2013 comprise: [1] The Environmental Sustainability Institute (ESI) [2] the Global Systems Institute (GSI), [3] the Living Systems Institute (LSI), and [4] the Institute for Data Sciences and Artificial Intelligence (IDSAI); and this will soon extend to [5] the International Institute for Cultural Enquiry (IICE) which is in rapid development.
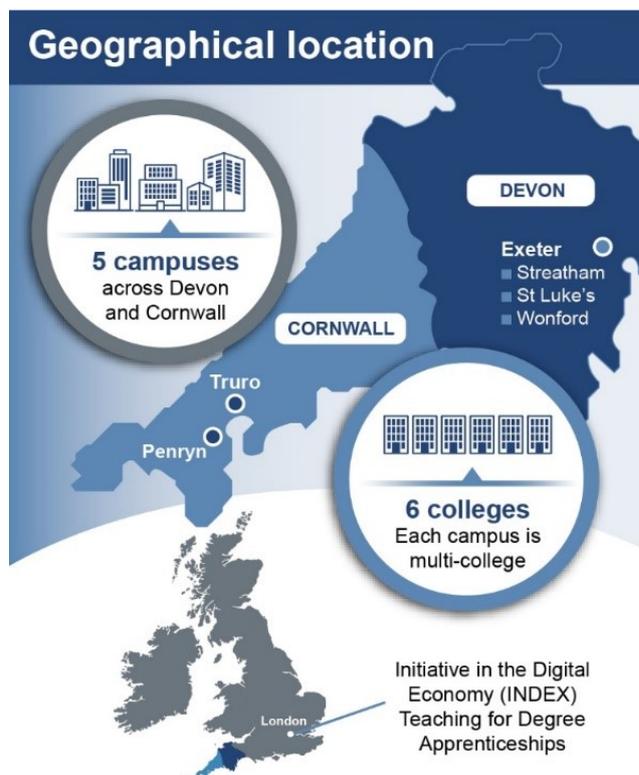
A mission of interdisciplinary research

1.4.   The University's mission "to make the exceptional happen by challenging traditional thinking and defying conventional boundaries", is founded on strong disciplines and is achieved by supporting and challenging a community of talented and creative minds to step beyond conventional thinking and work at disciplinary interfaces. Internationally-recognised excellence is the hallmark of research in both HASS and STEMM, with exceptional strength and scale in environment and sustainability, data and healthcare. Strategic investments have optimised the effectiveness of our interdisciplinary research by increasing our STEMM:HASS ratio from 36:64 in 2008, to 45:55 in 2021.

Institutional level environment template (REF5a)

Research reputation

Six Colleges and five Institutes

1.5. The success of our strategy is reflected in a quadrupling of research income since 2008 to exceed £100M per annum in research awards over the last 4 years, a 152% increase including significant successes from EU, US and global funding streams. In this REF period we are currently ranked 2nd and 3rd for NERC and AHRC awards and fellowships to HEIs, respectively. UoE ranked 1st in the number of NERC independent research fellows (2017/18 and 2018/19), hosted 55 ERC award holders in this REF period and is the most successful UK HEI in Horizon 2020's Societal Challenge 5 area, covering Climate Action, Environment, Resource Efficiency and Raw Materials. Our agility to pivot our research to address immediate societal needs is demonstrated in our response to COVID-19: we are 4th in the UK for UKRI awards and equal 1st for ESRC awards (as at 12/08/20) addressing the pandemic.

1.6. Our research leaders are active and influential contributors to knowledge. In the 2020 CWTS Leiden rankings, we are listed as 6th in the UK and 29th in the world based on the proportion of our papers in the top 10% most frequently cited and are 1st in Europe for Life and Environmental Sciences. We have 20 researchers in the ISI Clarivate Analytics listing of the top 1% most cited researchers. 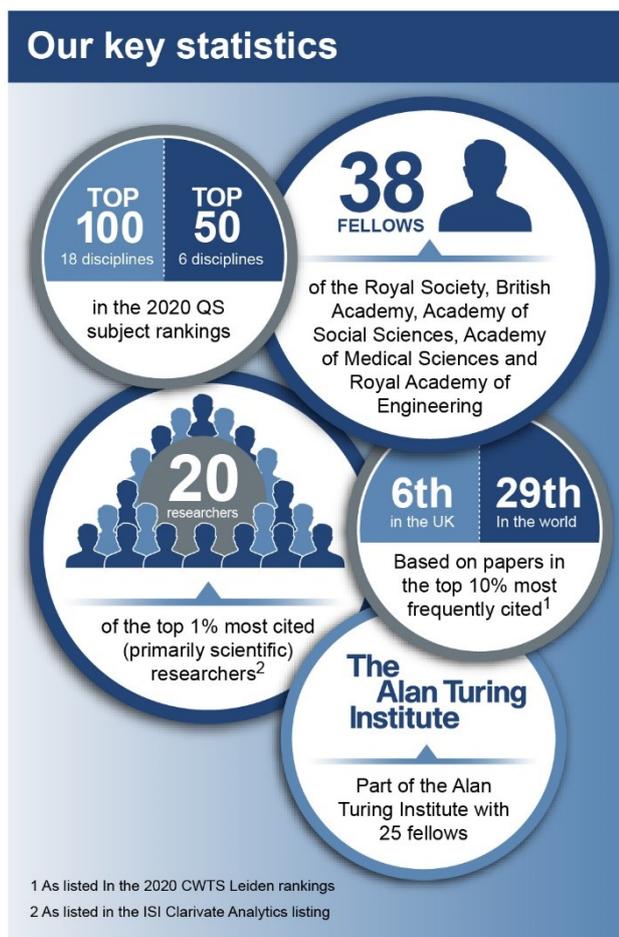The 2021 QS subject rankings listed 16 of our subjects in the world's top 100, with six in the top 50. We are 7th for Ecology in the Shanghai world rankings and 1st in Europe in the Leiden rankings for Earth Sciences. We have 38 Fellows of the Royal Society, British Academy, Academy of Social Sciences, Academy of Medical Sciences and Royal Academy of Engineering. We have 25 fellows of the national Alan Turing Institute (ATI) who apply data sciences to a wide range of environmental and healthcare challenges. During the REF cycle national honours included a knighthood (Sambles), 7 CBEs (Depledge, Elliot, Ford Hamilton, Hattersley, Kay, Webley); 3 OBEs (Ellard, Elliot-Major, Galloway, Goodwin) and 3 MBEs (Betts, Campbell, Betts).

Research partnerships

1.7. Our research communities collaboratively address major global challenges, providing innovative solutions aligned to national priorities, including the Industrial Strategy. We co-create solutions and impact through partnerships that span multiple sectors and each year support around 2000 projects with non-academic partners - with a value in 2019-20 of £72.5M. We share facilities on our campuses with major industrial research partners including Shell, Victrex, and AstraZeneca. The resulting value for our partners and their customers is significant, exemplified by our £18M research partnership with Shell Biodomain in the Shell Bioeconomy Laboratory and £10.5M UKRPIF award, with a commitment of £21M from South West Water for the Centre for Resilience in Environment Water and Waste (CREWW) – the largest commitment in a university-research facility by a UK water utility. We have fostered research collaborations with regional bodies including the Eden Project, the Royal Albert Memorial Museum (including doctoral co-supervision and joint research), and Exeter Cathedral. Our strategic relationship with the Exeter-based UK Met Office is evidenced in 20 joint posts and collaborations with a value of over £20M and the new Met Office-UoE Joint Centre for Excellence in Environmental Intelligence. This centre exploits the explosion in environmental data and rapid advancements in artificial intelligence to address global societal challenges. The Royal Devon and Exeter NHS Trust and the Royal Cornwall Hospital Trust are key

research and clinical partners for our blossoming College of Medicine and Health with many joint posts and a joint Office for Clinical Research. Other strategic partnerships include those with IBM, BMT, BT, DSTL, QinetiQ, Syngenta, JP Morgan, Babcock and CEFAS.

Our key statistics

TOP 100 18 disciplines **TOP 50** 6 disciplines in the 2020 QS subject rankings

38 FELLOWS of the Royal Society, British Academy, Academy of Social Sciences, Academy of Medical Sciences and Royal Academy of Engineering

20 researchers of the top 1% most cited (primarily scientific) researchers[2]

6th in the UK **29th** In the world Based on papers in the top 10% most frequently cited[1]

The Alan Turing Institute Part of the Alan Turing Institute with 25 fellows

1 As listed In the 2020 CWTS Leiden rankings
2 As listed in the ISI Clarivate Analytics listing

1.8. We are a member of the GW4 Alliance that brings together four UK research-intensive universities in the South West: Exeter, Bath, Bristol and Cardiff. GW4 currently operates joint DTPs across all Research Councils involving around 400 research students and has a total external grant income across its collaborative research communities and DTPs of over £123M.

1.9. UoE has cultivated strategic international partnerships with the University of Queensland (QUEX Institute) focusing on global sustainability and wellbeing issues, the Chinese University of Hong Kong (CUHK–UoE Joint Centre for Environmental Sustainability and Resilience) with co-funded PhDs and postdoctoral opportunities, and Tsinghua University, including a joint Chair focused on area studies. We are members of the Venice International University consortium and fund partnerships with Duke University and the Universities of British Columbia and Geneva. We have bilateral MoUs with funding agencies and research institutes in Colombia (Colciencias and Humboldt Institute) and Brazil (FAPESP) to develop international programmes of research, teaching and academic mobility.

Driving innovation

1.10. We are a partner in SETsquared, the enterprise partnership of Bath, Bristol, Southampton, Surrey and Exeter, which has been ranked consistently as the World's top university-based business incubator since 2015. This has supported more than 6500 companies over 16 years, creating over £8.6B of economic benefit and 10,900 jobs. SETsquared has helped us to build an Innovation Ecosystem in the Peninsula, with Exeter identified by Tech Nation as one of the top 3 cities most likely to become a leading tech hub. UoE has spun out more than 20 businesses and supported more than 100 student start-ups since 2014. More than 400 academics are actively engaged in building partnerships or supporting innovation. We are a founder of the Exeter Science Park – a 22-hectare site that supports high-tech ventures in the South West.

Leading regional economic growth

1.11. UoE is key to economic stability and growth in Devon and Cornwall and to the success of the city of Exeter, currently the 6th fastest growing city in the UK by population. Exeter has the 5th highest percentage of population with high qualifications and the lowest level of population with no qualifications in the country. One in fourteen jobs within Exeter are dependent on UoE. A 2017 economic impact study highlighted that in 2015/16 UoE generated £1.17B in economic output across the UK, supported 11,430 FTE jobs in the South West, 5,300 jobs and £540M of economic output in Exeter and £75M of economic output in Cornwall and the Isles of Scilly. Since 2016 the UoE levered regional regeneration projects worth £154M, and has taken the lead in building a network of six Research Development and Innovation Hubs (R,D&I Hubs) linked to strategic clusters. Each Hub coordinates a network of businesses, maintains a team of industrial research fellows who can solve industry problems, and manages development funds that can be accessed by clients. Over 750

regional SMEs have been supported in this way. Our leadership of initiatives such as the South West Centre of Excellence in Satellite Applications, the South West Partnership for Environmental and Economic Prosperity (SWEEP) and the Environmental Futures and Big Data Impact Lab has strengthened our relationships with the region's other R&D assets and academic research institutions such as Plymouth Marine Laboratory, Rothamstead Research and the universities of Plymouth and Falmouth.
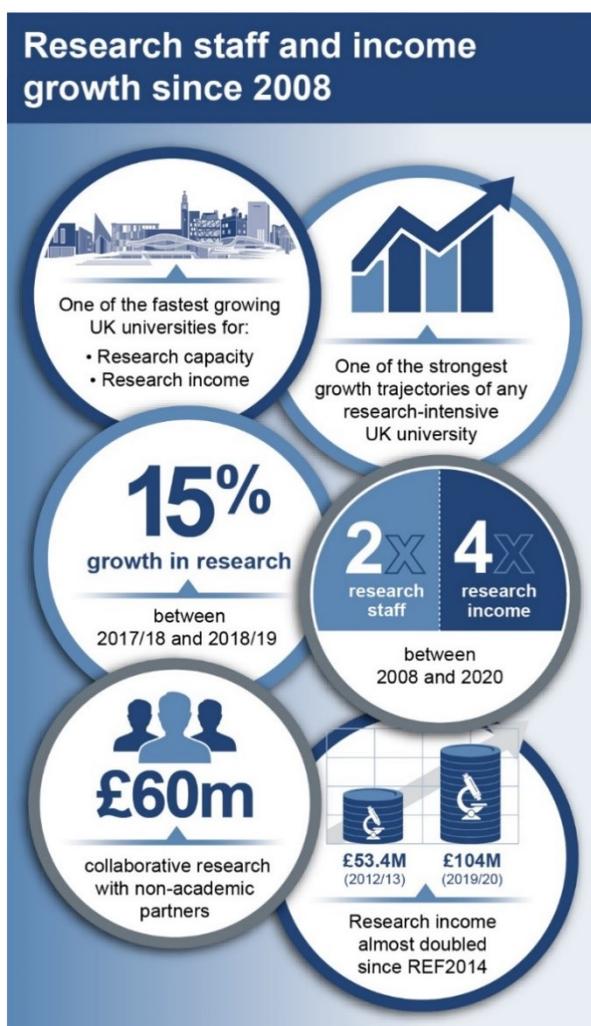
1.12.   We work closely with Local Enterprise Partnerships (LEPs) across the "Great South West" to position the region as a world leader in clean growth technologies, marine research, data and intelligence. We are focused on green economic recovery and renewal and are built firmly into regional economic and industrial plans providing a source of knowledge and intelligence for the region on green recovery. We have co-created Local Industrial Strategies with our LEPs that harness our research power and draw on our economic analysis and intelligence.

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2. Strategy

Current and future strategy

2.1   Since REF2014 our five-year Research Strategy has delivered:

- Substantially increased research volume and quality
- Major investments in STEMM and HASS
- Four new major interdisciplinary institutes
- A strong culture of Engaged Research
- A Doctoral College providing a creative and supportive environment for PGRs and ECRs.

Research staff and income growth since 2008

One of the fastest growing UK universities for:
- Research capacity
- Research income

One of the strongest growth trajectories of any research-intensive UK university

15% growth in research between 2017/18 and 2018/19

2x research staff **4x** research income between 2008 and 2020

£60m collaborative research with non-academic partners

£53.4M (2012/13) £104M (2019/20) Research income almost doubled since REF2014

Our new Research and Impact Strategy (2020-2025) enables our research community to shape fundamental research questions, address major global issues and provide sustainable solutions for society and the economy. The key pillars are:

[i] To develop people and ideas to create a vibrant **research culture** by investment in leadership skills for all career stages and; encouraging students to become active researchers and agents for change;

[ii] To enhance **collaborations and partnerships**, thereby enriching our research and ability to co-create the delivery of transformational benefits for society;

[iii] To optimise agile **operational structures**, research networks and infrastructure, and resources to realise the benefits of critical mass, enable interdisciplinary working and deliver quick responses to pressing research imperatives.

2.2 Our Research Strategy works synergistically with our Education Strategy (2019-2025) and Global Strategy (2018-2022) to create our research-education-global ecosystem and deliver research-inspired learning, partnerships and research excellence. Strategies for People (2016-2021), Equality, Diversity and Inclusion (EDI, 2019-2025), Business Engagement (2017-2022), Capital (2016-2021), Civic and Community Engagement (2018-

2020) and Regional Engagement (2020-2025) are built into this integrated approach. We are currently working consultatively with our community to develop our 2030 University Strategy. Our cross-disciplinary research strength in environment and sustainability and sector-leading Climate Emergency institutional plan guides environmentally sustainable growth. Since 2014, we have reduced our direct carbon emissions by 40% and have embedded sustainability in our 'Green Restart' plans, whilst increasing our research by 70%.

Interdisciplinarity

2.3   Interdisciplinarity is central to our strategy. Strategic appointments, the use of development funds and PhD fee-waivers all promote interdisciplinary research. Our *Research Institutes* co-locate and co-create interdisciplinary research across our Colleges, whilst virtual *Research Networks* link and mobilise researchers working across broad thematic areas (e.g. Antimicrobial Resistance Network, Dementia, Defence, Heritage and Exeter Marine Network). These networks enable researchers to work at scale across departmental, college and campus boundaries. *Research Centres* develop inter-disciplinary and cross-disciplinary partnerships, e.g. the Digital Humanities Laboratory; INDEX (Initiative in the Digital Economy at Exeter); the Exeter Centre for Circular Economy; the MRC Centre for Medical Mycology; European Centre for Environment and Human Health and the HASS-led Wellcome Centre for Cultures and Environments of Health.

2.4   Initiatives such as our *"*Ideas Rooms"*, "*Think Tanks*"* and "Discovery Rooms" bring together academics and external collaborators to develop new interdisciplinary ideas and plan larger, longer-scale projects and career development opportunities, thereby fostering a culture of long-term planning, idea sharing and mentorship.

Committed to Impact, Knowledge Exchange and Engaged Research

2.5   We have developed a strong, engaged research culture that celebrates knowledge exchange (KE), partnership and impactful research (see 1.10-1.14). Our award-winning research has had global environmental impacts (e.g. 2019 Queen's Anniversary Prize for studies on the effects of plastics pollution or shaping swathes of the world's marine protected areas). It has changed national and international policies (e.g. the "no-fault" divorce law or influencing police use of tasers), and public discourse regarding identities and communities (e.g. the "glass cliff" concept or understanding Yazidi culture), improved health outcomes, livelihoods and lifestyles (e.g. for those living with diabetes or indigenous communities in the Amazon). It has influenced organisational practices (e.g. WHO, UNDP and UNESCO), driven business growth (developing hybrid vehicles through development of new magnets in hybrid cars) and even catalysed one of the most extraordinary sporting performances of the Century, the first sub-2 hour marathon by Eliud Kipchoge.

2.6   UoE has secured 25 KE and impact fellows, ranking 10th in the UK and top in the South-West for the number of KTP projects. The success of our work in this area has resulted in a 78% increase in external partnership funding (as measured by HE-BCIS) and in £22.9M of HEIF funding between 2013/14 and 2019/20. Support for research impact development is provided by a Director of Research and a Director of Impact in each department, a team of Professional Services (PS) staff and dedicated funding for KE activities.

2.7   We lead engaged-research programmes with community groups and organisations regionally, nationally and globally. For example, "Exeter 10,000" is a cohort of 10,000 volunteers who donate samples and medical details for biomedical genetic research and who influence and shape research projects. UoE was one of eight RCUK Catalysts for Public Engagement, recruiting 14 Public Engagement with Research champions, supporting over 800 researchers. Our Public Engagement Strategic Advisory Group provides pump-priming support to encourage engagement projects, including those led by ECRs. As signatories to the Civic University Agreement, we promote new ways to engage with diverse publics including local communities in Devon and Cornwall.

Committed to Open Access, ethics, integrity and responsible metrics

2.8   We are committed to ensuring the visibility and integrity of our research outputs and 99.8% of our REF2021 submitted researchers are ORCID-registered. We established a Responsible Metrics Steering Group, became a signatory of DORA in 2020 and launched a Wellcome-Trust funded responsible metrics campaign. The University's OA policies and Open Research Exeter (ORE) repository ensure free and permanent access to research publications and data. ORE content has more than doubled since 2014 with over 5M downloads prior to July 2020 and is amongst the top 10 UK repositories for downloads. UoE academics are leading the development of Plan S. Professor Sabina Leonelli is one of the UK's two Plan S Champions and chairs our cross-College Research Data Management Roadmap; and Baraffe is a member of the UKRI OA Group.

2.9   We insist that the highest standards of scientific, scholarly and professional integrity are maintained, promoted and embedded. UoE is a signatory of the Concordat to Support Research Integrity and Researcher Development Concordat. Our framework includes policies on Research Ethics; Working with Animals; the Conduct of Research; Misconduct in Research Reporting; and Public Interest Disclosure "whistleblowing". Our Ethics Committee and 'Dual Assurance' for Research Integrity, Ethics and Governance - a governance mechanism led by the Deputy Vice-Chancellor (DVC) for Research & Impact (R&I) and an independent member of Council - provide oversight of research activities, risks and assurance. We promote research integrity through our local UK Reproducibility Network group and, within the GW4, we support a Regional Programme Manager for principles of NC3R. In 2019, we opened an Animal Free Research UK Centre of Excellence that pioneers ways to repurpose existing drugs for new indications in humanised cell culture systems.

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 3. People

Staffing strategy

3.1   Our Research and Impact and People strategies aim to attract and develop outstanding individuals and are underpinned by our commitment to EDI. ECRs are involved in the development of all policies. In 2020 we launched our "Fair Employment for All" initiative that promotes open-ended over fixed-term contracts. We have a dedicated action plan and provide resources to support the careers of technicians and the development of Research Software Engineers.

3.2   Staff numbers have grown across all six Colleges, but particularly in STEMM disciplines, leading to 489 new permanent appointments since 2014.

Academic staff reward and recognition

3.3   "Exeter Academic" is our framework for career advancement, staff training and the development of research culture. Criteria for probation and promotion include contributions in research, impact and KE and conform to DORA principles. In recognition of COVID-19, UoE is committed to ensure that effects on staff career development and promotion are mitigated, and we have introduced a new policy of no-detriment to enable extension periods of probation and necessary adjustments to research, teaching and citizenship targets.

Supporting manageable workloads

3.4   Equity in workloads is achieved through a transparent model that applies notional hours for tasks and roles. All Education & Research (E&R) staff are awarded annual research time, and research grant allocations are reflected in workload models. A minimum number of hours is provided for PGR supervision. Institute Directors are given PS support. Respecting our EDI commitment, flexible working practices include the ability to request temporary fractional contracts, flexible start and finish times, and agreed periods of home-working. The Career Break Scheme enables staff to request an extended unpaid extended period to fulfil personal obligations.

Active researcher development

3.5   E&R staff, including those with part-time or fixed-term contracts, undertake our Academic Professional Programme. Designed in accordance with the UK Professional Standards Framework and the Academic Professional (Level 7) Apprenticeship Standard, this includes guidance on teaching and learning, academic practice, career development, EDI, research integrity and professional conduct, and mental health and wellbeing.

3.6   Every staff member has an Academic Lead responsible for mentoring and guidance via the Professional Development Review process, supported by online record management. This encourages goal-setting, provides feedback on performance and identifies training needs. UoE's 'One Step Beyond' mentoring programme has supported 160 mentoring partnerships for staff and PGRs since 2018.

Our online induction tool, launched in 2019, has mandatory modules on EDI, research integrity, and data security. Continuing professional development for researchers includes an 'Essentials' training series on good practice in grant development, project management and impact development along with a `Researcher Toolkit'.

3.7   Training and support for commercialisation is provided by University experts and Entrepreneurs in Residence who are co-opted from commercial enterprises and industry and funded by the Royal Society and Royal Academy of Engineering and through SETsquared programmes. Twenty-four teams of ECRs and research students have taken advantage of the SETsquared I-CURE programme to explore commercial opportunities with a mentor through a lean start-up process.

Supporting ECRs and PGRs

3.8   We have driven the strategic development of the next generation of research talent through investment in our ECR and PGR community. We are involved in 17 Doctoral Training Entities/grants from all seven research councils and the Wellcome Trust. We rank 2nd in the UK for NERC doctoral training grants. Accredited under the European HR Excellence in Research Award, UoE has been committed to the Researcher Development Concordat since 2008. We published a 2018–20 Action Plan managed by a Steering Group of ECRs and staff. This prioritized: (a) defining and securing a minimum of ten days per year of personal development; (b) transferring researchers with 4 years or more service onto open-ended contracts and restricting fixed term contracts to limited circumstances, such as cover for study and family leave; (c) improving our mentoring and review processes; and (d) ensuring Principal Investigator training in the career development of postdoctoral researchers. We run ECR Liaison Forums and ECR Networks to share good practice, feeding into termly meetings of our Research and Impact Executive Group (RIEG) and campus ECR Liaison Forums.

3.9   Our Doctoral College (DC) delivers a high quality ECR induction, offers training and bespoke careers advice, and administers local and GW4 ECR-focused development schemes. Our dedicated development programme includes research ethics and integrity, personal effectiveness, research governance and organisation, and influence and impact. GW4 provides the annual Crucible programme, which brings together 30 competitively-selected future research leaders to explore how they can enhance their research careers and impact by working with researchers in other disciplines. Our Researcher-led Initiative award scheme enables ECRs and PGRs to devise and deliver professional development training for their peers; 44 awards have been made since 2018.

3.10   The Exeter Students' Guild employs a full-time postgraduate Sabbatical Officer and a 0.5 FTE postgraduate research Sabbatical Officer who contribute to research strategy. UoE has active PGR Liaison Forums within all Colleges, and student representation from all campuses at the Doctoral College Management Board and at meetings of RIEG.
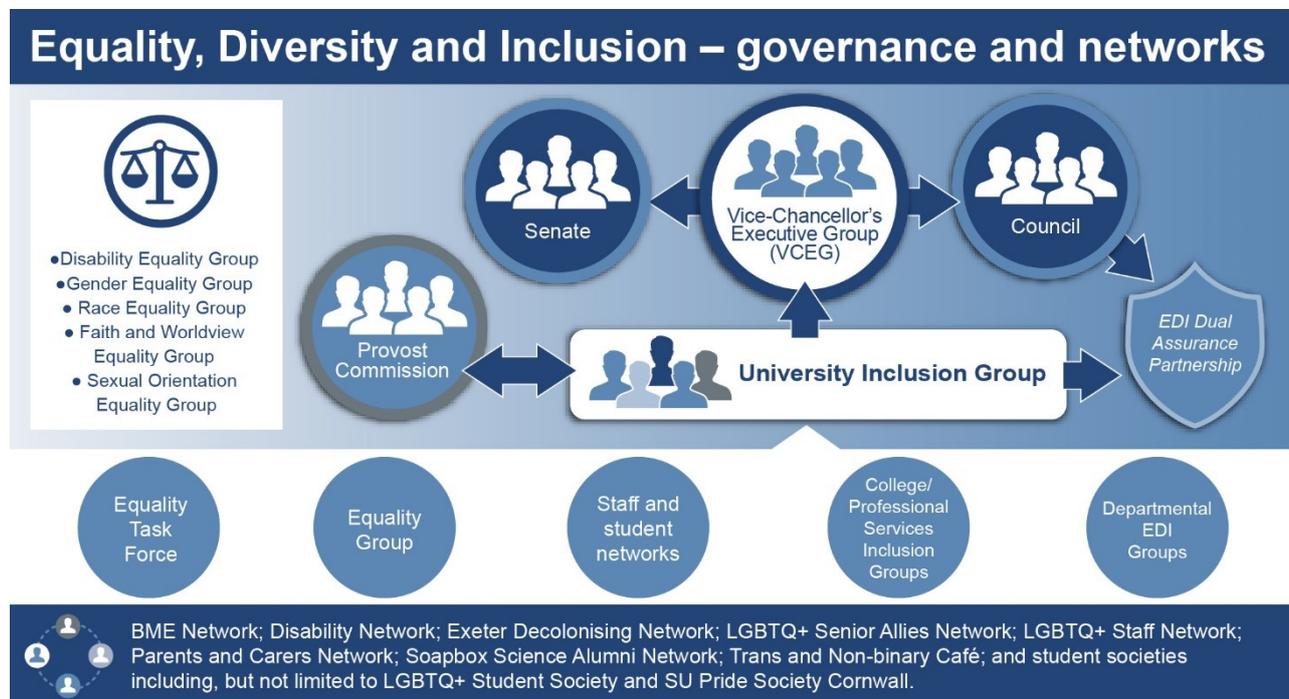
3.11   Our DC has responsibility for quality assurance, research culture and recruitment. It oversees discipline-level reviews of provision, as informed by the annual Postgraduate Research Engagement Survey, and manages the online MyPGR student monitoring system and has responsibility for developing and facilitating PGR research culture, managing the yearly PGR Showcase week and funding student-led initiatives. The DC has established paid maternity leave for all funded PGRs (from 2017-18) and changed 'periods of study' regulations to maximise completion rates (from 2019-20). The DC has also focused on enhancing PGR study spaces, in particular during the COVID-19 period.

3.12   The DC runs induction, training and development for PGRs, supervisors, pastoral tutors, and examiners much of which is now available by webinar. Additional opportunities are available through the GW4 partnership and doctoral training funders, and, for international students, INTO University of Exeter. All students have an independent Pastoral Tutor to oversee welfare issues and help manage cultural challenges. During the COVID-19 epidemic, provision was made for additional pastoral and mental health support and for on-line thesis submission and examination. All PGRs received the same financial benefits as were made available to UKRI students, regardless of funder.

3.13   We have a professional Education and Welfare Officer exclusively for PGRs. After a student-staff review of PGR wellbeing in 2018-19, all members of our student-facing professional services team undertook training in mental health recognition and first aid.

Equality, Diversity and Inclusion (EDI) in research careers

3.14   EDI is a fundamental underpinning value at our university. Our EDI 2025 vision outlines priority areas in diversity of leadership, cultural competence, tackling award gaps and formalising our commitment to Advance HE's Race Equality Charter. The University's senior leadership team, spearheaded by the Provost, has established a group to catalyse change and to engender honest and open dialogue amongst our community.

Equality, Diversity and Inclusion – governance and networks

- Disability Equality Group
- Gender Equality Group
- Race Equality Group
- Faith and Worldview Equality Group
- Sexual Orientation Equality Group

Senate · Vice-Chancellor's Executive Group (VCEG) · Council · Provost Commission · University Inclusion Group · EDI Dual Assurance Partnership

Equality Task Force · Equality Group · Staff and student networks · College/Professional Services Inclusion Groups · Departmental EDI Groups

BME Network; Disability Network; Exeter Decolonising Network; LGBTQ+ Senior Allies Network; LGBTQ+ Staff Network; Parents and Carers Network; Soapbox Science Alumni Network; Trans and Non-binary Café; and student societies including, but not limited to LGBTQ+ Student Society and SU Pride Society Cornwall.

3.15   We have a series of staff and student networks, fora and committees to advance our EDI agenda. EDI training is mandatory for all new staff is a consideration in all policies. We have robust mechanisms for addressing bullying, harassment, and discrimination, and our Speak Out Guardians facilitate anonymous reporting and complement our network of trained Dignity and Respect Advisers. UoE is a Stonewall Diversity Champion accredited for LGBTQ+ inclusivity in the workplace and has level 2 accreditation as Disability Confident. We are currently developing our application for the Race

Equality Charter. Exeter holds an institutional Athena SWAN Silver Award, with all STEMM disciplines currently holding Bronze or Silver Athena SWAN awards. Classics was one of the 17 pioneering arts and humanities departments to gain the Gender Equality Charter Mark Trial (GEM) award in 2014.

3.16   All new mothers and primary adopters are entitled to 52 weeks of maternity/adoption leave, including 26 weeks with full pay. Staff are also eligible for shared parental leave in addition to partner leave of up to 6 weeks. The University's nurseries offer care for pre-school children of staff and students in both Exeter and Penryn.

3.17   Staff wellbeing and the promotion of positive working environments is vitally important. Our institutional Wellbeing Board uses information gathered from our Employee Engagement Survey, augmented by CROS and PIRLS, (recently combined in Vitae's CEDARS survey), to monitor and to target changes in working environments. We provide access to Spectrum Life - a 24/7 service for telephone and face-to-face counselling for all staff and PGRs, and provide initiatives to support a 'Positive Work Environment'. Our Occupational Health service provides support to staff on E&R contracts including, adjustments to working patterns and teaching following periods of ill health absence.

4. Income, infrastructure and facilities

Research income growth

4.1   UoE is one of the fastest growing UK universities in research capacity and income. Since REF2014, Exeter's research income has nearly doubled, from £53.4M (2012/13) to £104M (2019/20), of which £60M a year reflects collaborative research with non-academic partners. Between 2017/18 and 2018/19 we achieved the highest level of research income growth amongst Russell Group universities.

Research governance and influence

4.2   Our research governance structure is summarised below:
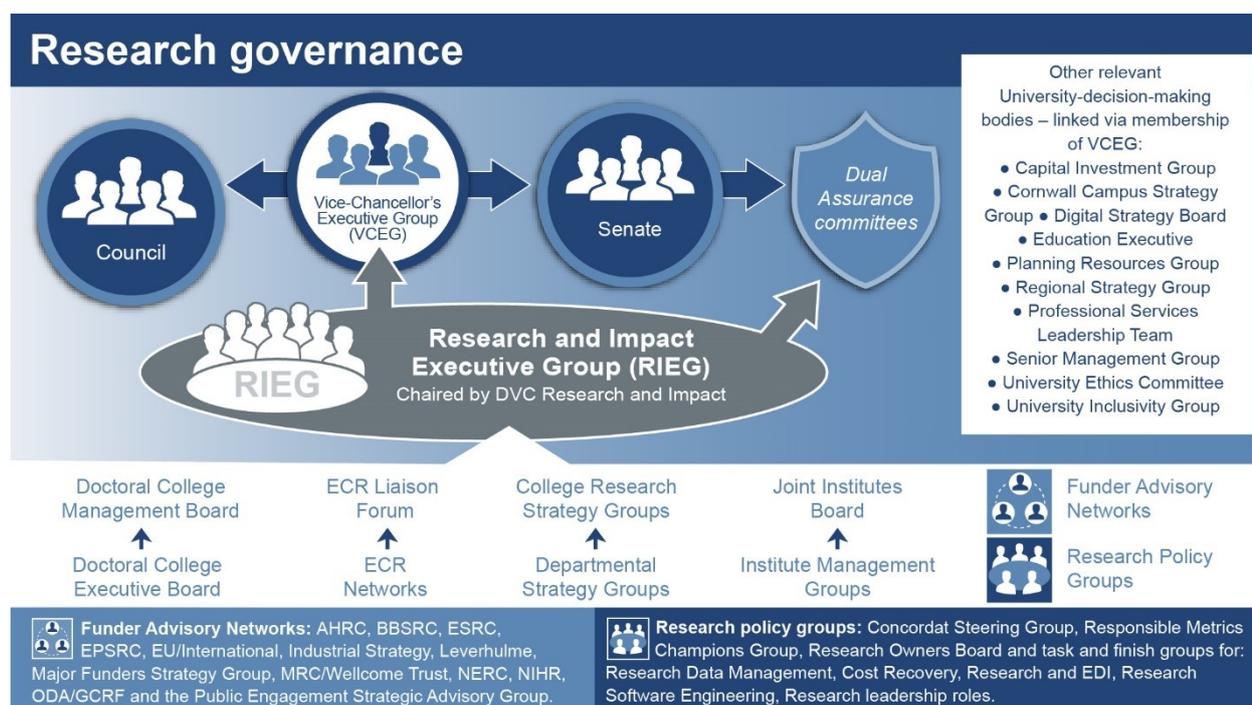
4.3   The DVC and Assistant DVC for Research and Impact, and our PS teams, work with our Colleges through six Associate Deans for Research via RIEG. RIEG coordinates an integrated R&I

strategy to deliver income targets, infrastructure and policies to support an inclusive research culture. Dedicated University Council members sit on 'Dual Assurance' committees for Research, Business and Innovation, Research Ethics and EDI, ensuring that the governing body is updated on all research issues.

4.4   Research community priorities and policies are brought together by RIEG, chaired by the DVC R&I. This shapes policies relating to EDI, research ethics, integrity, reproducibility and open research as highlighted in Section 2. An annual departmental Research Monitoring health check allows a review of research strategies and, when relevant, on-going REF preparations.

4.5   Our Director of Research Services (RS) is Chair of CRAC/Vitae, the national body for research careers, and our Director of Innovation, Impact and Business (IIB) is Chair of PraxisAuril, the national body for KE and university-business collaboration. University-wide Funder Advisory Networks involving staff serving on funding panels help us to horizon-scan, anticipate new opportunities, generate research ideas and pull together groups to take new initiatives forward.

Infrastructure for income capture, pump-priming, peer review, match funding and impact

4.6   Our PS Directorates, DC, RS, and IIB structures work closely together as a division, delivering a seamless service. PS staff manage all aspects of grant capture and project management, assisting in the development of academic and commercial partnerships, sharing of good practice, provision of advice and training, and promotion of impact development and evidence gathering.

4.7   Our online 'Research Toolkit' provides information and resources to support the full research project life-cycle. Our £2.5M investment in a new Research Management System in 2019 is enhancing horizon-scanning, grant planning, post-award support and monitoring, ethics administration, and output, outcome and impact management. All grant applicants receive internal peer-review and support in developing high-quality proposals, with peer review and quality control provided by Funder Advisory Networks.

4.8   Dedicated discipline- and sector-facing staff in IIB help to build industrial networks, support IP generation, provide consultancy, share best practice, develop commercial tenders and KTPs; and manage major regional initiatives. IIB acts as the gateway for businesses to access academic expertise, including via SETsquared Exeter. IIB specialist teams support our researchers with developing, evidencing and evaluating research impact. Our Cornwall IIB team was named the Praxis Auril KE Awards 2020 "Team of the Year".

4.9   Matched pump-priming funding and release of staff time is available to develop applications and build partnerships (e.g. through our Global Partnership Fund) Since 2016, our EU Facilitation Fund has supported 102 funding requests, leading to 70 Horizon 2020 or other EU applications, and 17 awards worth in excess of €12M to UoE.

Partnership-building infrastructure

4.10   We have been highly successful in using the strategic opportunities of our impact accelerator awards, CiC, ISSF and translational schemes (e.g. Research Council IAAs and Wellcome), combined with HEIF and other KE and impact funds (e.g. GCRF, SPF, Arts Council and AHRC Follow-on Funds) to leverage additional research awards, deliver impact and develop partnerships. Since 2014, the total value of translational funds available to Exeter researchers has exceeded £11.5M, augmented by an annual institutional investment of £0.38M.

4.11   International partnership infrastructure is provided by our Global Partnerships team, which manages key strategic associations with other leading universities. We also build international centres with global partners (e.g. in 2019, we established the WHO Collaborating Centre for Environmental Data Science for Air Quality and Climate).

4.12   Regional partnership infrastructure includes the GW4 consortium (see above) for large-scale research initiatives and doctoral training. Strategic regional project infrastructure includes: our network of RD&I Hubs; the NERC-funded South West Partnership for Environmental and Economic Prosperity (SWEEP); the Centre for Resilience in Environment, Water and Waste (CREWW) project; Spaceport Cornwall, providing a platform for developing research to connect Cornwall with the £15 billion UK space sector; Exeter's recognition as a UNESCO City of Culture for literature; and membership of the South West Federation, a consortium of South West museums, galleries and heritage sites, including the National Trust.

4.13   Philanthropic partnership infrastructure is provided by our Global Advancement directorate which completed a £60M fundraising campaign in 2019. This funding helped to establish endowed Chairs and PhD studentships; refit or upgrade laboratory and research space; and support public policy projects. A £10M gift established the Mireille Gillings Neuroimaging Centre which aims to double the number of drugs for the treatment of dementia. Philanthropic donations of more than £5M have supported our clinical trials programmes in dementia research and COVID-19 protection through BCG vaccination.

Capital infrastructure, facilities and equipment

4.14   Between 2014 and 2020, UoE and other partner organisations made capital investments across our campuses and NHS sites totaling £114.5M as part of our (2016-2026) Capital Strategy This was underpinned by a Capital fund of £479.4M of which £161M supports our research strategy to address major environmental, technological, social and economic grand challenges.

4.15   UoE's infrastructure includes a library network of 2.2M volumes across nine campus locations, including growing Special Collections, and the Bill Douglas Cinema Museum with 75,000 cinematography items. This complemented access to the NHS libraries, the Falmouth campus library, and specialist national collections in Exeter Cathedral and The Devon and Exeter Institution. UoE's 21st Century Library initiative is a three-year £1.6M investment to increase our library and archival collections.

4.16   Our £50M Living Systems Institute on the Streatham campus invested in our capacity for bioscientific investigation, including 3000 tanks for zebrafish and a new Biological Services Unit for rodent research. A further £14M investment in capital and infrastructure has relocated the MRC-Centre for Medical Mycology accommodating over 80 researchers.

4.17   The Research, Innovation, Learning and Development (RILD) building, a £27.5M investment for health education and research at the Royal Devon and Exeter Hospital site, was opened in 2014 and supports our Biobank resource. Here, a £6M award from Research England's Expanding Excellence in England (E3) initiative has enhanced diabetes research.

4.18   Our investments in data sciences were underpinned by the re-establishment of Computer Science as a department in 2015, which also contributed to the creation of IDSAI. In HASS, we have invested £0.1M in SafePod technology to enable researchers to access sensitive datasets held outside the University, £1.2M in our Digital Humanities Lab and £0.7M in space for the HASS-led interdisciplinary Wellcome Centre for Cultures and Environments of Health.

4.19   Other research infrastructure projects include the £7.2M new Vibration Simulator Building at the Exeter Science Park, supporting vibration research in the construction and medical industries, and the £5.6M Science and Engineering Research Support Facility and £12M Stella Turk building in Cornwall. The Wolfson Foundation and UoE have invested in additional controlled temperature (CTR) systems for disease research at our Penryn campus (£0.52M since 2014).

4.20   Since 2016, our internal Equipment Fund has allocated £17.8M, directly leveraging over £122M from research councils. This has included industrial projects e.g. a strategic partnership with Victrex in ALM, major regional facilities e.g. cryogenic electron microscopy and VSimulators and sequencing investments. Other examples include14 laser laboratories; and novel facilities for

imaging, materials science and mineralogy; a 3T MRI scanner, the PET-CT Gillings Neuroimaging Centre; a national flow cytometry facility; updated core sequencing and genomics facilities; and new facilities for isotope ratio mass spectrometry. We provided a new Digital Research Storage Management system (£2M) and supported a £7.1M investment in high and medium performance computing, research software engineers and data storage facilities. These investments have ensured our research base continue to access cutting-edge facilities and infrastructure.