Institution: <u>The Open University</u> (OU)

1. Context and mission

1.1 Mission:

The Open University's mission is to be "open to people, places, methods and ideas". Since our foundation in 1969, we have provided educational opportunity to all who wish to realise their ambitions and fulfil their potential; research excellence is core to this mission and is complemented by pedagogic scholarship.

1.2 Size and Structure:

We are a UK-wide university operating across all four nations, not aligned currently with any specific mission group of universities. We are the largest Higher Education Institution (HEI) in the UK, with a headcount of 175,718 students (2019/2020). Our main campus is in Milton Keynes (MK); we have national centres in <u>Belfast</u>, <u>Cardiff</u> and <u>Edinburgh</u> and offices in Dublin, Manchester and Nottingham. We employ ~ 8700 staff: 1100 central and regional/national academics, 3500 professional and support staff and 4100 Associate Lecturers (ALs).

Central academics are mostly employed in MK where our research facilities are located. Around 25% of our academic staff are regional/national academics (also known as Staff Tutors) based either at home or at one of our centres. They are focused primarily on teaching and the management of ALs and generally do not meet our REF Code of Practice threshold for 'significant responsibility for research'. Our ALs support our teaching; research does not form part of their contract. We are including ~ 60% of our academic staff in our REF 2021 submission, based on their meeting criteria within our Code of Practice.

We have four Faculties: Arts and Social Sciences (FASS), Business and Law (FBLB; FBLL), Science, Technology, Engineering and Mathematics (STEM) and Wellbeing, Education and Language Studies (WELS). The Faculties are subdivided into Schools. We have 900 post-graduate research students (PGRS); around 700 are based at the OU, the others are at <u>Affiliated Research Centres</u>.

1.3 Institutional Research Focus:

All subject areas conduct research, a breadth shown by submission of 21 UOAs across all four main panels; an increase from 18 in REF2014, when we were ranked in the top third of UK universities that produced world-leading innovative research and enterprise (<u>THE Power Score</u>). Our researchers work collaboratively across disciplines and as well as publishing in academic journals, they include findings in our curriculum and free courses, disseminated through our open learning platforms (e.g. more than 9.4M visits to <u>OpenLearn</u> in 2019) and through our unique and longstanding partnership with the BBC (see Section 2.2).

During the current REF period we invested £7.1M in five strategic research areas (<u>SRAs</u>) which encourage interdisciplinary collaborations across Faculties and beyond the University (see Section 4.1). They have leveraged £39.1M in income since 2015/2016. Faculty-based research groups sit alongside the SRAs enabling cross-fertilisation of ideas across disciplinary boundaries.

1.4 Local economic and demographic context¹:

Our centres in Northern Ireland, Scotland and Wales are recipients of research and innovation funding from the devolved governments and work closely with them to address their key objectives, with the economic benefit of the funding being received in the relevant nation. A recent report by London Economics put our impact on the UK economy as £2.77 billion in 2018-19. Research activity contributed £72M, whilst the economic contribution associated with direct, indirect and induced impact from the OU's expenditure was estimated at £983M. Compared to our operational costs of ~ £450M in 2018-19, the economic contribution of our activities

¹ Statistics taken from: <u>https://www.nomisweb.co.uk/reports/Imp/la/1946157283/printable.aspx</u> (accessed 08/01/2021)

Institutional level environment template (REF5a)

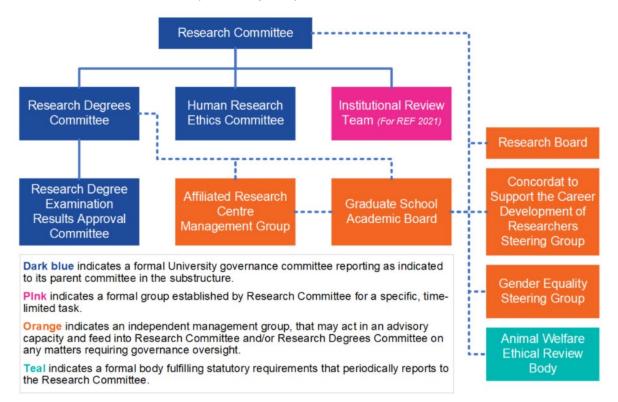


corresponds to a benefit-to-cost ratio of 6.2:1. This is higher than the average benefit-to-cost ratio amongst <u>Russell Group Universities (~5.5:1)</u>.

Locally, we are one of MK's largest employers. Most of the main industries are micro and smallmedium-sized enterprises (SMEs) in the retail, services, education, science and technical sectors. MK sits at an important economic and strategic crossroads, central to the <u>Oxford-to-</u> <u>Cambridge Arc</u> (a government-backed infrastructure initiative to develop the region, part of the South East Midlands Local Enterprise Project; <u>SEMLEP</u>).

2. Strategy

The figure illustrates the governance of research at the OU. Our Research Committee (RC), which meets quarterly, is chaired by the Pro-Vice Chancellor for Research, Enterprise and Scholarship and reports directly to Senate. It is responsible for strategy and policy relating to research, the delivery of impact from research and research degrees and higher doctorates in accordance with the University's strategic objectives.



2.1 Research Strategy:

Our vision for <u>OU Research</u> is outlined in our Research and Enterprise Plan 2018-23. We are distinctive among UK universities in combining a mission to widen access to higher education with research excellence. Our vision is to use our sustainable research and Knowledge Exchange (KE) activities to inform our curriculum, inspire staff and students and influence policy. Strategic goals include:

- Building our capacity in distinctive <u>engaged</u>, <u>open</u> research through increased and widened public and stakeholder engagement with OU research. We describe our research as <u>engaged</u> because we seek to influence the world beyond academia. It is <u>open</u> because our aim is for our research processes to be transparent and collaborative, resulting in accessible knowledge, freely shared for social benefit.
 - → For example, our <u>OpenLearn</u> website (a platform of free learning resources that we use to engage the public with our research) had 12.4M visitors between January and October 2020, a 170% rise compared to 2019, demonstrating the impact of our research and pedagogy on online learning activities during the COVID-19 crisis.



- Developing our large-scale, external research collaborations and doctoral training partnerships.
 - → For example, the number of doctoral training partnerships has increased from 3 in 2014 to 9 in 2020; we also host 7 EU-funded International Training Networks. An example is our AHRC-funded <u>OU-Oxford-Cambridge (OOC) Doctoral Training Partnership</u> that has led to collaborations with a wide range of non-HEI partners including British Telecom (BT), the National Trust and UK Anti-Doping Agency.
- Maximising the synergies between our research, curriculum and teaching.
 - → One example is our <u>TESSA</u> (Teacher Education in Sub-Saharan Africa) initiative, which was built on our teaching expertise and has enabled further research on distance education pedagogies in Africa (e.g. <u>OpenStem Africa</u>).
- Increasing the sustainability of OU research by increasing external and internal investment in facilitating excellent research, e.g., by attracting new income streams, appointing future research leaders and investing in research infrastructure.
 - → For example, we created five interdisciplinary strategic research areas (<u>SRAs</u>) which have leveraged £39M in income from the initial investment of £7M in 2015/2016.

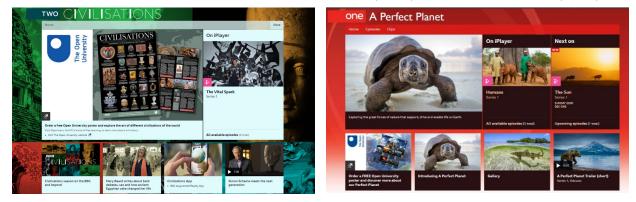
<u>Future Strategic Goals</u>: A new institutional strategy is being developed for 2022/2023 and beyond. Engaged research will continue to be prioritised, with a sustained emphasis placed on maximising the impacts of our research to benefit a wide range of stakeholders.

2.2 Enabling and Facilitating Impact:

Following re-organisation of University structures in 2015, we streamlined central Research and Enterprise support to form a greatly strengthened Research, Enterprise and Scholarship Unit (RES) to make us more responsive to large external funding calls (particularly those which require interdisciplinary or multi-institutional teams). As part of the re-organisation, a University-wide increased emphasis was placed on nurturing, rewarding and celebrating impact and Knowledge Exchange excellence.

The global reach of our research is ensured through our unique partnership with the BBC. Programmes are commissioned jointly by the OU and the BBC; we are the only university which co-funds and co-creates BBC content. Recent examples include <u>Blue Planet Live</u> (BBC1), <u>Hospital</u> (BBC2), <u>Why Slavery?</u> (BBC World) and <u>Thinking Allowed</u> and <u>More or Less</u> (Radio 4). To illustrate our reach, <u>Blue Planet II</u> has been viewed over 900 million times. Our programmes are accompanied by high-quality, free open educational resources that we provide to learners worldwide.

Recent examples of BBC-OU productions: Civilisations (2018) and A Perfect Planet (2021)



We employ channels such as <u>The Conversation</u> to communicate complex research findings to a broader audience; articles by OU academics have been accessed over 6 million times in the REF period.



2.3 Institutional Approach to Creating an Open Research Environment:

<u>Open Access (OA) Policy</u>: Our <u>Open Access Policy</u> is that "all research outputs must be deposited in Open Research Online (<u>ORO</u>) upon acceptance for publication or as soon as possible thereafter and no later than three months after the date of acceptance". ORO was established in 2008 and currently has over 45,000 items. As part of our OA Policy, all Research Degree students are required to upload an electronic copy of their thesis.

Making a major contribution to global open access, the <u>CORE</u> service is an international repository of almost 200 million publications. It was developed by our Knowledge Media Institute (KMi) with the aim of aggregating all open access research outputs from repositories and journals worldwide, making them publicly available. CORE is now a joint service run by the OU and <u>Jisc</u>; it is also an Impact Case within UOA11.

Complementary with ORO is our data repository, Open Research Data Online (<u>ORDO</u>), enabling researchers to share and publish their data and obtain a digital object identifier. We have a <u>Research Data Management Service</u> which ensures best practice and implements the OU's <u>Research Data Management Policy</u>, which is that "*research data are open and accessible to other researchers, as soon as appropriate and verifiable, subject to the application of appropriate safeguards relating to the sensitivity of the data and legal and commercial requirements"*.

Engagement with Regional and National Research Priorities:

As a Four Nations university we are unique in our ability to interact directly with the devolved national governments, advising on research priorities and strategies for their achievement. This has facilitated our relations with regional businesses and allowed us to build a variety of collaborations. For example, in England, we are a major partner in the consortium of 9 universities in the Oxford-to-Cambridge Arc. Our contribution builds on an investment of £8M (plus matched funding from HEFCE) in 2014-2017 to help pilot <u>Smart City</u> technologies in Milton Keynes. In <u>Wales</u>, we are aligned with the <u>Research and Innovation: Vision for Wales</u> strategy delivering and supporting citizen-engaged and applied research and sharing across communities. In <u>Northern Ireland</u>, we are a member of <u>Connected</u>, the Department for the Economy's Knowledge Transfer Programme and a member of Matric NI which focuses on innovation opportunities. In <u>Scotland</u>, we are members of Universities Scotland Research & Commercialisation Directors Group, collaborating in research and innovation with Scotland's 19 HEIs. For example, we are working with the Scotch Whisky Research Institute and IBM Research UK Ltd to develop a quick, reliable, low-cost screening test that can be used to detect counterfeit whisky (an ICS for UOA9).

We are able to operate across the Four Nations, e.g., our <u>Centre for Policing Research and</u> <u>Learning</u> partners with 20 Police Forces across the UK to create and use knowledge through both research and education to improve policing for the public good (an ICS for UOA20).

2.4 Institutional Support:

<u>Interdisciplinary Research</u>: is supported through affiliation to a research group (or groups), including our multidisciplinary SRAs, allowing academics to explore synergies of their own research with that of others.

<u>Research Integrity</u>: We support the principles of the <u>Concordat to Support Research Integrity</u>. All researchers receive a research integrity and ethics briefing at induction. Regular training sessions on good research practice are open to all internal stakeholders through central training programmes (see Section 3.2). The supervisors' role to guide PGRS in research integrity and ethics is set out in the <u>Code of Practice for Supervisors and Research Students</u> (see Section 3.4).

Our Human Research Ethics Committee (<u>HREC</u>) provides advice on and regulates protocol development and risk assessment for projects. Our Animal Welfare Ethics Review Board (<u>AWERB</u>) oversees the ethical issues of all work on animals and a Student Research Project Panel oversees the use of (undergraduate) student data for research purposes. OU academics have internationally-recognised expertise in research ethics and led development of the set of



key principles which now forms the basis for the <u>UKRIO/ARMA Research Ethics Support and</u> <u>Review</u> framework.

<u>Research Collaborations</u>: Staff are encouraged to build networks with industry, cultural institutions and social enterprises to foster relationships that lead to new research initiatives and develop applications for 'real world' problems. We work with governmental and non-governmental organisations, HEIs, businesses and charities, across five continents, attracting funding for research posts, PGRS and/or equipment. Building such collaborations is supported and facilitated by RES, together with targeted research funding and specific workload time allocation. Specific examples are given in UOA Environment Statements.

<u>Engagement with the wider community through research</u>: Our research into innovative digital teaching methods led us to found <u>FutureLearn</u> (FL) in 2013, the first non-US-based platform for Massive Open Online Courses. In 2019 we received £50M investment from <u>SEEK</u> who now have a 50% share in FL. This was the largest EdTech investment in Europe, from a major multinational company, demonstrating FL's impact. FL was developed in parallel with the <u>OpenSTEMLabs</u>, a learning environment in which research-level equipment enables scientific experiments to be carried out online. This supports access to our research findings, allowing engagement with a broad international community. We continue to invest in research into new digital technologies for teaching, ensuring that we are exceptionally placed to provide research-led teaching to, e.g., students in secure environments and overseas students.

3. People

3.1. Staffing Strategy and Staff Development:

We have a culture that seeks to embed engaged research and impact goals into academic working practices. This is an important part of our academic contract and is supported through training and development.

We encourage all our academics (full-time, part-time and/or fixed-term) and facilitate their career development through consideration of their ambitions and needs. Our University-wide Academic Professional Development (APD) Programme is available to all academic staff, with a specific strand dedicated to Early Career Researcher (ECR) development. Faculties complement the APD with their own, more targeted development programmes.

<u>Study Leave</u>: Full-time central academic staff are allocated 44 days study leave annually for research and scholarship, which can be taken in one block or throughout the year. This is in addition to the 20% of working time provided for research. Regional academic staff are allocated 22 days of study leave; those who are research-active may apply for an additional 22 days. Fixed Term Contract (FTC) academic staff who have had more than two years' continuous service are also eligible for 44 days study leave. Staff working part-time have *pro rata* study leave allocations. Study leave and research time represents an annual institutional investment of some £30M.

<u>Flexible and Remote Working</u>: A range of flexible working arrangements, including compressed or staggered hours, home working, part-time working and job sharing, is available to staff, enabling greater participation and inclusivity of our staff base and a more satisfactory work-life balance; particular care has been taken during COVID-19 to provide technologies and training for staff to stay connected.

<u>Recruitment and Progression</u>: Staff involved in recruitment (of staff and PGRS) must complete a *Recruitment, Selection and Interviewing* training module which explains how to embed Equality, Diversity & Inclusion (EDI) in the recruitment process. Staff are required to refresh their training every five years (see also Section 3.5).

Staff members have an annual Career Development and Staff Appraisal (CDSA) meeting with their line manager. It reflects past performance, future objectives and identifies development and training needs aligned with individual and institutional strategies and is an opportunity to discuss promotion.

Institutional level environment template (REF5a)



Our promotion system to Senior Lecturer and Professor recognises separate routes based on combinations of Research, Teaching and KE. We have increased the number of women professors: from 34% in 2014/15 to 40% in 2019/20. We have a higher proportion of women professors than seen nationally (2018/19; latest figures available): in STEM subjects the figures are 27% at the OU (20% nationally); in non-STEM areas, we have 42.5% (32.5% nationally).

<u>Support for Staff with Equality-Related Circumstances</u>: To encourage and foster diversity, we have two strands of support for staff with equality-related circumstances. Career progression (at all levels) is supported by an individual circumstances procedure that is used as part of promotion submissions. The Academic Staff Promotions Committee, which includes two specialists in EDI, monitors the staff promotions' process to ensure that the individual circumstances procedure is effective.

More informally, we have a series of self-managing staff network groups that provide opportunities for staff to share collective understanding of equality issues (e.g., BAME, disability, gender and neurodiversity), any positive and negative experiences and to evolve strategies in response.

<u>Staff Wellbeing</u>: Our Employee Assistance Programme is free and confidential, offering expert information, advice, coaching, counselling and support on a wide range of issues. Programmes are available to all staff and PGRS and their immediate family members. As a further measure of support for staff during the COVID-19 crisis, we introduced pandemic contingency leave (on full pay) for those with caring responsibilities.

3.2 Implementation of the <u>Concordat to Support the Career Development of Researchers</u> (<u>"Concordat"</u>): The OU, a signatory to the Concordat, ensures that researchers have full access to the development, training and promotion opportunities that are offered to all staff (as above). We received a <u>European Commission HR Excellence in Research Award</u> in 2013, and successfully retained it in 2019. The award recognises the University's commitment to researcher career development and acknowledges alignment with the principles of the European Charter for Researchers and Code of Conduct for their Recruitment.

3.3 Early Career Researchers (ECRs):

The Concordat and our continuing professional development programme for academics and researchers is informed by the <u>Vitae Researcher Development Framework</u>. This ensures that all the opportunities and benefits outlined in Section 3.1 are available to ECRs. On appointment, an ECR is assigned a mentor to advise and assist as they integrate with their colleagues. Particular care is taken that teaching duties are light for the first years, gradually increasing as confidence and competence grows. We actively develop the careers of our ECRs by engaging them in key academic teams, e.g., in our Impact Case Studies teams.

3.4 Post-Graduate Research Students (PGRS):

In 2019, we achieved outstanding ratings for overall PGRS satisfaction in the National Postgraduate Researcher Experience Survey (<u>PRES</u>), ranked <u>fifth out of 103 HEIs</u>. The OU was in the highest quartile for progression, first for overall satisfaction among Black and Minority Ethnic (BAME) PGRS, first for supervision and professional development in the Physical Sciences and first for research skills and research culture in the Biological Sciences, whilst History and Philosophical Studies scored 100% for overall satisfaction and supervision.

We have over 900 PGRS studying for a doctoral degree (PhD or Professional Doctorate). Our PGRS are drawn from across the globe: we provide competitive studentships and fee waivers that enable recruitment of students from developing countries. We promote and encourage the diversity of our students, in terms of geography, career stage and subject area. Around 700 PGRS are based in the UK, with ~ 50% studying part-time. Our encouragement and support of part-time study has enabled us to widen participation in the PGRS opportunities we offer, such that around half of our part-time PGRS are studying for professional doctorates with many of the remainder working in industry.

Students are enrolled in the Graduate School (GS), the hub of PGRS administration, support and training, launched in October 2016.

Institutional level environment template (REF5a)



<u>Training and Supervision</u>: The GS provides <u>research methods and skills training</u> benchmarked against Research Council expectations and aligning with the Vitae Framework. Each Faculty also provides PGRS training programmes specific to their disciplines. The GS organises training and networking events for supervisors, to ensure that examples of supervisory best practice are shared. Face-to-face training sessions are usually streamed to a moderated online room and recorded for later access.

The GS provides research career development including internships, in addition to coordinating and supporting community building activities, communication, training and wellbeing of students via the Graduate School Network. The GS hosts a PGRS Induction Conference, annual workshops for continuing students and PG Research Poster competition, plus social events and opportunities to take part in national initiatives.

PGRS have at least two expert academic supervisors; further academic oversight is provided by discipline- or Faculty-based PGR tutors. PGRS are also allocated a third-party monitor for pastoral care.

Evidence for the quality of our training and supervision comes from our current portfolio of 15 funded training networks including 9 UKRI-funded Doctoral Training Partnerships. We also have 7 EU-funded International Training Networks (ITN) plus a COFUND grant and partnerships with other universities to provide enhanced opportunities for training, e.g., the South-Eastern Physics Network (<u>SEPNET</u>).

The GS also works with external research institutes from around the world to certify them as <u>Affiliated Research Centres</u> (ARCs); this allows them to provide doctoral training supported by the OU; around 300 of our PGRS are based at ARCs.

3.5 Equality, Diversity and Inclusion (EDI):

The mission of the OU is an explicit statement of our <u>commitment to EDI</u> at every level in the University. In 2020, we appointed to a new role of Dean of EDI to reinforce this responsibility; she will Chair the EDI Steering Group that manages implementation of the OU's Equality Scheme. The objectives include requirements to improve representation of staff with protected characteristics in senior roles and to improve line managers' capability to recruit, manage and develop diverse teams. We run special activities around (inter)national events such as Black History Month and Mental Health and Wellbeing week.

We are also a signatory of the <u>San Francisco Declaration on Research Assessment (DORA)</u> in a move towards openness and equity in research assessment and career advancement in higher education.

<u>EDI in Recruitment</u>: Before any staff member can become involved in a recruitment process (including recruitment of PGRS), they must complete two on-line training modules: *Equality Essentials* and *Understanding Unconscious Bias*. Recruitment and career progression frameworks were reviewed in 2019 and recommendations are being implemented to mitigate unconscious bias in relation to protected characteristics.

<u>Strategies, Activities and Collaborations to support EDI</u>: The OU recognises that it must actively work to promote positive activities and actions. The 10 Athena SWAN (AS) principles have been integrated into our <u>EDI strategies</u>, with the aim of embedding the AS ethos across the entire institution. The OU gained its first institutional AS Bronze award in April 2013 and renewed its Bronze in 2016. Of our six STEM schools, three hold AS Bronze and two hold AS Silver; the remaining school has a submission for AS Bronze in progress. The aim is for all OU schools to have gained an AS award by 2025 and for the OU to hold an institutional Silver award. The OU is a Member of Advance HE's <u>Race Equality Charter</u> and is currently working towards gaining a Bronze award. The OU achieved a <u>Bronze Status in the Disability Standard</u> in 2019, one of only two UK universities to be awarded this status.

<u>Equality and Diversity in the REF2021 Submission</u>: As part of the submission preparation process, all decision-making groups were constituted with appropriate representation across protected characteristics and all members of these groups received EDI training. Our Gender Equality Steering Group provided input to and approved our Code of Practice.



We carried out an Equality Impact Analysis (EIA) as part of our Mock REF exercise. We examined whether there was any bias in representation of staff in the potential submitted cohort compared to the wider OU academic community, specifically regarding protected characteristics. Results showed that variances between the two populations were low, indicating that the diversity of our staff will be well-represented in the REF2021 submission.

Our outputs were selected on quality, but where the quality of several outputs was equal, then EDI was considered. The final OU REF2021 EIA, along with the outcomes of any actions taken to prevent discrimination and advance equality, will be published after submission. The output submission will be analysed to determine whether it was representative of the submitted population.

4. Income, infrastructure and facilities

4.1 Institutional strategies and supporting activities for generating research income:

<u>Research Sustainability</u> is a core priority of our Research and Enterprise plan (Section 2.1), to be achieved by meeting goals for increasing income and growing our academic and student base. To achieve sustained growth, academics are supported by both faculty-based and central teams who deliver a suite of services including training, networking facilitation and expert review of funding, as well as costing and pricing of proposals. Founding of the Graduate School (Section 3.4) was a key part of the plan. We also established five Strategic Research Areas (SRAs), with an initial investment of £7.1M, to form centralised cores around which research and enterprise activities can grow:

<u>Citizenship and Governance</u> (C&G) aims to rethink the changing relationships between governance, institutions and citizens. Governing contemporary societies is more complex now than perhaps ever before. Successful **c**ross-sectoral collaborations include Tate Modern, the European Commission, the BBC and the British Council, as well as the health agencies Brook, Tavistock and Relate.

<u>Health and Well-Being</u> was established to address local, national and international health challenges within the context of an ageing demographic and has a focus on evidence-based interventions to reduce the disease burden, prevent ill health and promote wellbeing. Staff specialise in participative and inclusive research methods with marginalised and vulnerable communities. Collaborators include Public Health England, Hospice UK, Together for Short Lives, Marie Stopes International and British Pregnancy Advisory Service.

International Development and Inclusive Innovation (IDII) apply cutting-edge methodologies and theories in working with poor and marginalised people, involving them in developing their own solutions, for a fairer, more sustainable world. IDII takes the view that top-down initiatives – which redistribute resources in response to market outcomes – cannot on their own hope to tackle global inequity and poverty. We have worked with 40 governmental and non-governmental organisations worldwide, in the UK (FCDO, Treasury, NHS), EU, UN (including WHO and UNICEF), Africa, South America and China.

<u>Space and Exploration</u>: We are a world leader in space science working closely with the UK Space Agency, the European Space Agency and other partners around the world to develop instrumentation and concepts for breakthrough space science missions. The cutting-edge technology developed to unlock the secrets of the universe is also applied to practical challenges here on Earth, including cancer testing; food security; monitoring the presence and accumulation of plastics in the world's oceans and developing an early-warning system to manage chemical, biological, radiological and nuclear accidents.

<u>Technology Enhanced Learning</u> (OpenTEL) OpenTEL brings together our expertise in the research of Technology Enhanced Learning (TEL) – an area the COVID-19 pandemic has shown to be of strategic importance. We support the <u>nQuire</u> citizen science platform developed at the OU with the BBC. Projects on the platform have been in collaboration with the BBC (Tomorrows' World, Spring Watch), The Young Foundation, The Royal Meteorological Society



and Brain Yawn UK. Funders include UKRI, the European Commission, the British Council and the Hewlett Foundation.

These five flagships of multi-disciplinary and cross-sectoral research address global challenges to enhance our social justice mission through engaged research. They have provided fertile environments for Research Fellows, Post-Doctoral Research Associates (PDRAs) and PGRS, building towards a fresh generation of ECRs. All the SRAs have active business programmes for developing large-scale bids and exploitation of funding opportunities. Particular emphasis has been on expansion in the number of collaborations with external partners (in professional practice, industry, business, the charity sector and governmental and non-governmental agencies), leading to diversification in income streams. Each SRA has its own distinctive imprint but the research boundaries are porous. This has allowed and encouraged synergies between the SRAs when developing new initiatives and attracting funding (e.g., an E3 grant in 2020 of £6.7M from Research England to expand our capabilities to address the scientific, governance and ethical challenges associated with astrobiology brought together staff from three SRAs: C&G, IDII and Space & Exploration).

4.2 Infrastructure and facilities supporting research and enabling impact:

Much of our research infrastructure is based in Milton Keynes. Our library is tailored to facilitate remote working to accommodate staff and PGRS not based on campus. We have one of the richest online collections in the UK including a world-class collection of over 275,000 subscribed academic journals, 540 online databases, 590,000 e-books and a vast selection of newspapers, images, video and sound, with 24-hour remote helpdesk support and extensive online training facilities. Our outstanding collection of online primary sources, including, for example, comprehensive archives of British newspapers and important interdisciplinary resources not widely held elsewhere (e.g., <u>Slavery, abolition and social justice</u>), is essential digital infrastructure underpinning our research.

We have invested in specialist instrumentation in our purpose-built science and engineering laboratories to support our research and enhance its impact. One example is our suite of planetary analogue facilities, including (i) different-sized chambers in which the environments of the Moon, Mars, Europa and asteroids can be simulated; (ii) a Light Gas Gun that is operational at all angles and can shoot into different materials for investigation of impact processes and (iii) a 'Mars Yard' for instrumentation testing. The laboratories have enabled our involvement in recent and forthcoming high-profile space missions. The facility is unique in Europe and attracts overseas researchers interested in collaboration.

The OU's gas chromatography-mass spectrometry (GC-MS) laboratories are an example of how our facilities support research and enable impact. Originally developed for analysis of extraterrestrial materials, spin-out of the technology led to the design and build of a miniaturised system for the highly successful Rosetta mission to a comet. Continued design of the next generation of GC-MS systems brought the miniaturised instrumentation back in-house for development of applications in the defence, pharmaceutical and food sectors (the basis of two ICS in UOA9).

4.3 Equality, Diversity and Inclusion (EDI):

Our Research Committee has responsibility for ensuring that EDI matters are applied in the consideration, approval and monitoring of strategies, plans and policies related to research and enterprise, including acquisition of research funds and access to infrastructure and facilities. The Committee receives an annual report from the Gender Equality Steering Group covering a range of equality data related to research activity and staff at the OU. Where issues or trends in inequality are identified, these are escalated for further investigation and action. Research Committee reports annually to the institutional EDI Steering Group which is accountable to the Vice Chancellor's Executive for ensuring that the institutional response to EDI matters is coordinated and managed effectively.