

University Innovation Fund – AY2018-19

This paper updates the University of Glasgow's activity plan for AY2018-19 towards delivery of National Outcomes, with particular reference to use of the UIF uplift announced for AY2018-19. Our Knowledge Exchange and Innovation Strategy focuses upon strengthening and developing robust and fruitful relationships with external stakeholders – increasing our levels of influence in local, national and international arenas; as well as working with industry and business by growing student and staff commitment to entrepreneurship, innovation and public engagement. As in previous years, the University will match-fund and utilise the Platform Grant of £250k to continue its resourcing of dedicated staff and activities situated both centrally within the Research and Innovation Services Directorate (R&I) and embedded within the University's Colleges.

During the last 12 months there has been a step-change in the University's intent and activity aimed at contributing to the economic development of Glasgow, led by the recent appointment of a Vice-Principal for Corporate Engagement and Innovation. We have entered into a Memorandum of Understanding with Glasgow City Council and Scottish Enterprise, working in partnership with businesses and other major public and cultural institutions, to create an Innovation District in the west of Glasgow to boost the local economy. The Innovation District includes significant areas of deprivation within the city (e.g. Govan), and builds on a concentration of university, NHS, cultural and civic assets in the area. It is fuelled by our £1 billion campus development plans which include a localised innovation zone at the major development on the site of the former Western Infirmary. This complements the existing University-run Clinical Innovation Zone in the Queen Elizabeth University Hospital, dedicated to providing a supportive environment for health-related businesses. Realising the Innovation District and the opportunities it presents for business engagement and entrepreneurship will be at the heart of our strategic expansion plans for the next several years.

We intend to use the announced increase in UIF during AY 2018/19 primarily to pursue three linked objectives aligned with our Knowledge Exchange and Innovation Strategy and the Outcome Agreement: the Innovation District, business engagement, and entrepreneurship.

The concept and potential of the Innovation District is currently being developed with a widening group of partners. This will be enhanced through a concerted campaign of engagement funded through the UIF, including marketing and events aimed at business, government agencies and the wider community. It will continue through the lifetime of the campus development. Through this campaign, we intend to ensure that as wide a group of stakeholders as possible are aligned with the Innovation Zone and are partners in meeting a common set of objectives, both through their own activities and through joint action to secure external resources. To assist this goal, we will use UIF uplift to commission an economic assessment of the value of the Innovation District to the economy of the City of Glasgow and its surrounding region, providing the evidence base needed to underpin applications to public sector sources such as the UKRI Strength in Places Fund or the UK Shared Prosperity Fund. This evidence base will complement Science and Innovation Audits showing Glasgow's existing strengths in precision medicine and emerging technologies.

Business engagement is a key requirement of the Innovation District development. We have already identified and engaged with regional innovative business clusters in precision medicine, quantum and nano-engineering and creative and cultural industries which align with our research strengths. Support for these clusters and corporate partnering to encourage more businesses to collaborate and ultimately co-locate with the University will grow the Innovation District and the impact of Glasgow's research. Therefore, we plan to use the UIF uplift particularly to assist initiatives and proposals aimed at partnering businesses with our research, teaching and economic development projects. We will focus on, but not be restricted to, the innovation business clusters identified.

We have two expressions of interest to the July 2018 Strength in Places Fund call in partnership with the regional precision medicine and quantum technologies industry clusters. Both involved significant capital investment in Govan. Should either progress to the next stage, the UIF uplift will be used in support of a full application. We will also use UIF to conduct a health technology assessment of precision medicine in several major clinical applications, and for initial design costs of a Govan-based Quantum Technology Innovation

Centre. Both quantum technologies and precision medicine are priority areas in Wave 2 of the Industrial Strategy Challenge Fund where we expect to respond to funding calls during the year.

Our building programme and Smart Campus project also generates opportunities for business engagement with major corporates. For example, we are currently exploring a partnership with Siemens in Buildings Technologies, using Siemens open platform Internet of Things (IoT) operating system Mindsphere. If agreed, the UIF will co-fund a Mindsphere Lounge at the University where corporate and academic staff and students will develop IoT applications for smart buildings and neighbourhoods. Mindsphere partnerships focused on Industry 4.0 and Energy exist at the Universities of Sheffield and Newcastle. Over the next twelve months we intend to enter into a small number of strategically-important relationships with corporate partners to build innovation and connectivity into our campus environment.

Knowledge Transfer Partnerships (KTPs) are a well-established route to developing substantive business partnerships which are currently under-used at Glasgow. The UIF uplift will provide resource to visit businesses and generate interest in the KTP product, and we intend to pilot the use of external consultants for this purpose. We aim to have a portfolio of ten live KTP projects within two years.

Our third objective is to use the Innovation District as a focus for entrepreneurship within the University student and staff community and in "spin-in" external companies. Glasgow has a successful entrepreneurship culture in the student body with over 30 student companies formed in 2017-18. We intend to use the UIF uplift to redevelop space on campus for student companies to locate, to support a new role of Student Entrepreneur in Residence, and to provide a student fund for training, travel and proof of concept studies. We will also supplement the budget for protecting intellectual property and expand our model of using external technology advisors to progress IP-based projects arising from academic research. To encourage young companies to engage with university research, we will explore the provision of interim incubation space from our existing estate while the planned Innovation Zone is in development. This will help address the shortage of attractive incubation space within the Innovation District area.

The Innovation District, alongside our identified primary industrial innovation clusters, aligns well with UK Government funding opportunities. In partnership with other stakeholders in the Innovation District, we will be submitting applications as calls emerge to the Industrial Strategy Challenge Fund and the Strength in Places Fund and will engage with the Shared Prosperity Fund as information becomes available. Where appropriate, we will use the UIF to match-fund proposals for translational research and economic development to leverage the Scottish Government investment. While the number, size and success of these proposals in 2018-19 depend on how funding is distributed, they are likely to amount to several tens of millions of pounds.

We will also work in partnership with other universities across Scotland, using the Universities Scotland network and existing collaboration mechanisms, to create more ambitious and higher quality proposals for UK Government funding and to promote Scotland to international businesses. The Research Commercialisation Directors Group (RCDG) leads UIF cross-university collaborative activity. Glasgow will continue to lead the strand of RCDG activity "Demand stimulation: multi-national companies" within the Internationalisation collaboration theme by organising Scotland-wide pitching workshops to selected large corporations with the objective of securing inward investment. We will contribute to the other themes of Innovation, Entrepreneurship and Investment, and Inclusive Growth and in particular will support mechanisms for improving information dissemination and responses to the Industrial Strategy Challenge Fund across all Scottish universities.

1	Outcome (Demand Stimulation): working with Scotland's enterprise agencies, Scottish Government, business networks, Interface, and others, Scottish HEIs will have helped to increase the demand and
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	<p>quality of engagement from businesses and the public sector for university services.</p>
	<p>The University will build on its AY2017-18 activities to increase demand and quality of engagement with business and public sector. Key activities will comprise:</p> <ul style="list-style-type: none"> • Conduct a focused campaign to inform and engage stakeholders with the Innovation District and identify opportunities to deliver aligned projects, and use the major redevelopment of the Western Infirmary as a catalyst to stimulate business and cultural engagement; • Deepen our external relationships and drive dialogue through seminars and outreach events on innovation needs within public and industry sectors to inform initiatives and best practice; • Commission an economic assessment of the Innovation District to provide an evidence base for future funding proposals; • Build on the significant infrastructure investment adjacent to SMS-IC and at the QEUH, including the new 22,000 sq ft Clinical Innovation Zone for industry, to further engage with business and drive economic development for Scotland around precision medicine; • Develop our plans to relocate the James Watt Nanomanufacturing Centre to Govan and use the site as a nucleus of industry engagement in nano and quantum engineering; • Working in partnership with Glasgow Life in the context of the Kelvin Hall development, develop plans for a new Cultural Quarter in the city's West End and build further engagement with the cultural and creative industry sector; • Partner with other Scottish Universities to stimulate demand from businesses for research expertise and to develop collaborative proposals for translational research projects; • Build on our skills development opportunities for staff undertaking industry engagement with tailored programmes for different discipline mixes, where possible in collaboration with other Scottish Universities; • Continue to strengthen our engagement with the Scottish Innovation Centres, Interface and Innovate UK funding programs, including KTPS, to proactively build collaborative activity through projects and service provision with organisations based in Scotland, the UK and internationally.

<p>2</p>	<p>Outcome (Simplification/Commercialisation): in partnership with the Enterprise Agencies (EAs) and Interface, Scottish HEIs as a sector will have demonstrably simplified business access to the knowledge and expertise in Scottish universities.</p>
	<p>The University will build on its AY2017-18 activities to further simplify business access to the knowledge and expertise at Glasgow as well as the sector in Scotland. Key activities in the University of Glasgow will comprise:</p> <ul style="list-style-type: none"> • Work with RCDG to develop a common approach to the requirements of the KE Concordat (to be published April 2019) in the Scottish context; • Where not already in place, implement the use of Customer Relationship Management systems and processes to help Colleges coordinate their activities with key external partners; • Work with Interface to increase the number of enquiries from Scottish SMEs sent to Glasgow and continue to introduce College Business Development Managers to Interface staff so they can showcase Glasgow's range of expertise and services to help steer relevant enquiries to best contacts; • Building on a fivefold increase in Innovate UK awards since 2014, we now propose to trial the use of external consultants to generate leads for Knowledge Transfer Partnerships and increase Glasgow's portfolio, with a target of ten live projects within two years.

<p>3</p>	<p>Outcome (Simplification/Greater Innovation): in partnership with the EAs and Interface, Scottish HEIs will, at a national level, have made strategic use of their sectoral knowledge to promote greater innovation in the economy (including beyond non-STEM).</p>
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<p>The University will build on its AY2017-18 activities to further develop areas of strategic sectoral strength to promote greater innovation in the economy. Key activities will comprise:</p> <ul style="list-style-type: none"> • Continue to develop industry R&D collaborations via the £29m Quantum Technologies Hub 'QuantIC' (includes Strathclyde, Heriot-Watt, Edinburgh) and utilise the SFC supported Innovation space to develop and transfer innovations in this field into Scottish SME's; • Grow company engagement with the £55M James Watt Nano-fabrication Centre through the University's wholly owned subsidiary Kelvin Nanotechnologies Ltd which now employs a team of 15 to support service delivery; • Build on our leadership of the Science and Innovation Audit in Precision Medicine in Scotland and our ambitions to grow the existing medical industry innovation cluster, bringing health-focused companies to Glasgow; • Undertake health technology assessments of key clinical areas where precision medicine is likely to provide significant patient benefit, and disseminate the results of the assessments to ensure industry uptake; • Continue to work with Glasgow City Region City Deal to realise the potential of the new £32M Imaging Centre of Excellence (ICE) at the QEUH, adjacent to SMS-IC and promote the use of the UK's only 7T MRI scanner in a clinical setting as a national asset, driving economic growth around precision medicine; • Utilise our expertise in Urban Big Data analytics, Smart City solutions and Internet of Things (IoT) along with the development of the new Campus as a test-bed for IoT technology solutions to drive industry engagement and innovation, and engage with major corporates developing IoT applications; • Progress our MoU with Scottish Enterprise and the City of Glasgow to secure wider support for the Innovation Zone on the University campus and more broadly the Innovation District • Extend our programme of activities to stimulate thinking and debate on policy issues using Policy Scotland and the Centre for Cultural Policy Research (CCPR) to co-ordinate events, blogs and a published set of working papers; • Work with other HEIs and other sectoral partners to shape current and future calls to the ISCF aligned with Scotland's priorities and strengths; • In partnership with industry and other HEIs where appropriate, engage with the funding streams generated through ISCF to maximise funding for our research priorities.

<p>4 Outcome (Entrepreneurialism): Scottish HEIs as a sector will have made a significant and positive change in the way entrepreneurial opportunities are promoted and delivered to students, HEI staff, and businesses.</p>
<p>The University will build on its AY2017-18 activities to further enhance entrepreneurship amongst students and staff, promote entrepreneurial opportunities to business, and develop an environment that supports entrepreneurial companies in Glasgow. We will:</p> <ul style="list-style-type: none"> • Provide a travel and proof of concept fund for students seeking to start their own companies; • Sponsor a student/graduate Entrepreneur in Residence role; • Expand the space available on campus for student businesses to base themselves in; • Continue to build on existing areas of collaboration with other Scottish universities in supporting student entrepreneurship, e.g. Converge Challenge, Enterprise Campus; • Continue to promote undergraduate, postgraduate and graduate engagement with enterprise fellowships (e.g. RSE and RAEng Enterprise Fellowships) and competitions e.g. Converge Challenge; Santander Universities Entrepreneurship Awards, Pitch@Palace; • Secure and deploy grants to de-risk and/or bridge innovation arising from University research to the stage where existing business are prepared to engage in co-development/licensing or to an investor-ready stage. Such grants include Research Council Impact Accelerator Accounts, MRC Confidence in Concept and Pathways to Development and the University's own Grants for

	<p>Knowledge Exchange programme.</p> <ul style="list-style-type: none"> • Continue to support the creation of high growth spin-out venture opportunities through our partnership with IP Group plc, relationship with Epidarex Capital and through a program of increased engagement with other venture capital/angel groups; • Increase the number of new innovations disclosed from grant funded research programs through pro-active audit of selected research groups to identify potential opportunities, coupled with engagement of relevant sector experts to assist with development of opportunities and an enhanced IP budget to allow more disclosures to be pursued; • Recognition for staff participation in entrepreneurial activity in annual performance and development reviews has been embedded and we will work with HR and academic leaders to monitor change in behaviour; • Improve the internal and external awareness of our innovation and entrepreneurship through increased PR and media activity in national press as well as relevant trade publications; • Strengthen our Colleges' engagement with entrepreneurial Glasgow Alumni to increase their involvement in seminar programs for students and staff as well as involvement as business mentors, investors and commercial champions for specific opportunities.
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<p>5</p>	<p>Outcome (International): in partnership with Scottish Development International, Connected Scotland and others, Scottish HEIs will have pooled their knowledge and networks, and shared good practice to promote and engage Scotland internationally (operating under Scotland's International Framework).</p>
	<p>The University is committed to growing its international presence, particularly at its transnational locations in Singapore and China. We will build on our AY2018-19 activities to:</p> <ul style="list-style-type: none"> • Continue to provide support for staff to grow grant funded research collaborations with overseas partners e.g. EU H2020 Programs, NIH/other funding schemes; • Build upon our previous positive experience of co-investment and working with SDI in Singapore to explore further opportunities to leverage our strategic partnerships in China, Hong Kong, North America and Australia; • Continue to attract international companies to relocate in Glasgow/Scotland, particularly leveraging the facilities of the Clinical Innovation Zone at the QEUH and working with InvestGlasgow, SE and SDI, to attract further companies in 2018/19; • Build networks and engagement with Scottish HEIs and international organisations to secure grants from the Global Challenges Research Fund (where Glasgow has the highest level of awards in Scotland and one of the highest in the UK). Thematic areas include food security, inclusive education, health, migration, renewable energies and clean air, water and sanitation; • Support and utilize the Scottish Government Innovation and Investment Hubs to promote and develop relationships outside of Scotland.

<p>6</p>	<p>Outcome (Inclusive Growth and Social Impact): Building on current and good practice Scottish HEIs will have scaled up their support of the Scottish Government's ambitions for inclusive growth.</p>
	<p>The University will continue to support Scottish Governments ambitions for inclusive growth:</p> <ul style="list-style-type: none"> • Ensure student entrepreneurship support is available to all on a fair basis e.g. we will continue to seek to increase the number of overseas students holding Tier 1 Visas to enable them to develop their entrepreneurial ideas; • Develop mechanisms for co-ordinating the University's portfolio of health, education, social inclusion, equality poverty reduction and immigration research and map our capability onto the Scottish Policy framework for inclusive growth; • Deepen our partnership with Glasgow Life, Glasgow Centre for Population Health, City of Glasgow, Glasgow Chamber of Commerce and the Scottish Refugee Council to identify new initiatives to

	<p>tackle social and economic inequalities in the region and explore how these can be implemented across Scotland, for example through the University's Glasgow Refugee, Asylum and Migration Network;</p> <ul style="list-style-type: none">• Respond to the themes of SG's inclusive growth strategy by continuing to pioneer and lead the sector, in Scotland and the UK through our focus on the importance of widening access.
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7	<p>Outcome (equality and diversity): Building on current and good practice HEIs will have ensured positive promotion of equality and diversity in staff and all who are affected by deployment of the UIF.</p>
	<p>The University will continue to ensure positive promotion of equality and diversity (E&D) through the following activities:</p> <ul style="list-style-type: none">• Promote E&D in the protected characteristics of staff, students, alumni and invited guests engaged in UIF related activities e.g. Public Engagement, Entrepreneurship;• Promote and encourage female entrepreneurship and provide specific events and networking;• Promote E&D online internationalisation resources to staff to ensure they are adequately prepared for overseas business;• Continue to work towards submission in 2021 for institutional Silver Athena Swan status;• Continue to ensure that all staff complete mandatory online training in E&D essentials;• Maintain the internal promotion of the University E&D policy to staff. This policy covers all 9 protected characteristics as well as refugee and asylum seeker status.