Heriot-Watt University Innovation Fund (UIF) Proposal 2017 – 18

Dr Gillian Murray, Deputy Principal - Enterprise & Business, Mr Robert Goodfellow, Head of Enterprise & Business & Dr Alicia Greated, Director – Research & Enterprise.

Submitted: 27th January 2017 (revised March 7th 2017)

The University’s Strategic Plan (2013-2018) clearly states that we are “emphasising economic and societal benefit” in our research, place a high importance on “innovation and entrepreneurship in the creation of new enterprise” and we produce graduates who have a distinctive and strong professional orientation.

To support this ambition, the University has recruited strongly at senior level during 2016 – two Deputy Principals to drive our strategies in Enterprise, Business, Research and Innovation; A Director of Research and Enterprise; an Assistant Principal for Strategic Projects and an International Development Manager - these posts are considered the University matching contribution to the ongoing UIF grant and will ensure the successful delivery of our 2017-2020 UIF objectives.

In discussion with Scottish Funding Council and guided by the Research and Commercialisation Directors’ Group (RCDG) we have agreed that the best mechanism to work at a sector level and to deliver the national outcomes is to undertake collaborative working with Scottish University partners to analyse and identify best practices; devise and execute appropriate pilot schemes and where successful, develop/ initiate sector-wide programmes at the national level.

As Scotland’s most International University, we will lead outcome 5, Internationalisation, and will collaborate and support other organisations in areas where we have established a lead role (e.g. Entrepreneurism) and within those where we can make a significant contribution to the Scottish business landscape.

1. Demand Stimulation – HWU has a strong reputation for “Industry Relevant” research and teaching activity; is successful in developing projects with Scottish SMEs through Interface and Innovation Centres (~15 in 2016) and is placed 2nd in Scotland for KTP activity (11 active projects). Heriot Watt was also ranked first in Scotland for research impact in the last REF exercise.

As an NCUB member, HWU recognises industry partnering as key to continued success and growth; as stated within our 2016 UIF outcomes, HWU has aligned its business development resource (7 staff/ 5 academic schools) to proactively support key Scottish industry sectors to better support innovative SMEs; and to build long term, strategic partnerships through sustained dialogue.

Under Priority Actions (PA) 4 & 5 in our 2016 UIF proposal, we have, through our academic learning & development team made steady progress towards enhancing skills in early career researchers in how to “work with industry” and have upskilled key staff within Enterprise through AURIL/ PRAXIS-UNICO training. During 2017 we will work with our Enterprise Agencies (EAs), Interface, Chambers of Commerce, University partners and the Scottish KTP centres to instigate a series of industry days showcasing cross-cutting research and its application to industry partners; collaborating with our HEI partners as required (e.g. ERPEM/SUPA research pools) or research funders (RUK/ InnovateUK/EU) to demonstrate major research themes such as Robotics (e.g. European Robotics Forum, March 2017), Digital Manufacturing or Sustainability. We will lead on developing our ‘Year of Robotics’ which will align with this key priority of the newly published UK Industrial Strategy.
2. Simplification – Commercialisation

Within UIF 2016 (PA 7), HWU has actively adopted the standard template agreements to simplify contracting and reduce burden on Scottish companies. In partnership with Interface, we have taken part in, and implemented the post-project protocol activity (Outcome 8, 2016) and have aligned our business development staff to Scottish Innovation Centres (ICs), this action has placed HWU as the lead project contractor for OGIC (2016/17).

HWU success rests on a broad range of long standing, highly successful multi-sectoral alliances with UK and International business that underpin significant research and knowledge exchange (KE) activity across HWU – throughout 2017-2020 we will continue to review and develop our existing strategic partnerships and realise new Strategic Partnerships at all levels to develop a culture of demand led innovation.

To raise awareness of the benefit of working with HEIs, we will ensure our web pages, a key university/business interface, are fit for purpose and relevant in attracting new innovative partnerships and simplify industry access to wider University resources that support innovation.

A continued PA from 2016 UIF is energising www.universitytechnology.com web portal as a one-stop shop for business wishing to access Scottish University research, licensing / Easy-Access IP opportunities, expertise or facilities. As current chair, HWU will, with Interface, HEI partners and EAs review the functionality of the site implementing updates as necessary and investigate the feasibility of extending the universitytechnology web portal as a showcase for Scottish HEI research capability at a global level.

3. Simplification – Greater Innovation

Led by our newly recruited Deputy Principal of Enterprise and Business, innovation accelerated through the provision of a new HWU Discovery and Innovation Centre (the D&IC, opening January 2019). As a flagship building on the Edinburgh campus, the D&IC builds on long standing strategic alliances and partnerships with global businesses and supports multiple national UIF priorities of Demand, Commercialisation, Innovation and Entrepreneurism - it will act as a centre of economic growth and focal point for our working with Scotland’s EAs, Scottish Government, business networks, Interface and others.

Along with other Scottish HEI partners, HWU is in receipt of RCUK Impact Acceleration Account Funds (IAA) providing opportunities for collaboration with business and mobility of staff between academia and industry – during 2017 we will explore the feasibility of joint IAA programs with Scottish HEIs, Industry Leadership groups or themes (Energy/Manufacturing).

As chair of the universitytechnology.com initiative, we will continue our support for the easy-access IP scheme, offering new opportunities as appropriate and will review our IP models to support key sectors.

4. Entrepreneurialism

We will continue as active host of the highly successful CONVERGE Challenge programme on behalf of Scottish HEIs; HWU has developed itself as a lead entrepreneurial institution within Scotland and is known across the UK for spinout company formation and with four active Scottish Enterprise HGSP projects we were among first HEIs to reach stage 3 (investment phase) of the program. HWU shares success through Scottish spinout support group and welcomes the opportunity to demonstrate best practices and work with HEI partners, EAs and others to further develop entrepreneurial activity.
HWU is mindful of the Enterprise and Skills review; to support delivery of PA 1 & 2 in our 2016 UIF proposal we have recruited two new Enterprise posts to work with internal and external stakeholders to design, develop and deliver an integrated enterprise ecosystem that will embed entrepreneurship amongst its staff, students and alumni.

- Linking to our Discovery and Innovation Centre (previous section), an ecosystem of this scale will take time to develop, during 2017 we will:
  - Continue our hosting and back-office support to the CONVERGE Challenge program to ensure delivery of its targets (90 new companies, 30% incorporation rate)
  - Provide an easily accessible, fully supported “Enterprise Zone” for students and staff within its Riccarton campus that encompasses current best practices in company creation, market development and funding for growth.
  - Increase student participation in Watt Ventures competition and develop and implement inclusive enterprise training programs across our campuses that support our research and teaching activity within STEM and HASS subject areas.
  - Implement a range of “MSc with Enterprise” courses across HWU campus and continue our support to the UK enterprise fellowship schemes (RSE/ RAEng) and

- Look to develop a broad inclusive enterprise strategy for HWU through creation of a university wide enterprise network consisting of representatives of the academic schools and professional services chaired by the DP Enterprise and Business engagement.

5. Internationalisation

As stated in PA 3, 6 and 11 of our 2016 UIF proposal, our international experience builds on long standing, highly successful multi-sectoral Strategic Alliances with UK and International business, governmental and European/ international funders such as Newton Fund, Horizon2020 etc. that underpin our research activity.

HWU has strong, well developed relations with EAs and Scottish Development International (SDI) with three UK and two international campuses, Dubai and Malaysia, each providing a potential foothold for extended R&D activity, international collaboration, and the possibly to host showcase events promoting Scottish research to international audiences.

HWU is a Global University with a Global footprint; HWU will lead Internationalisation activity under UIF Priority Action 5 in collaboration with Scottish HEI partners and EAs.

To support Internationalisation, during 2017 we will;

- Liaise with Scottish Government, SFC and Royal Society of Edinburgh (RSE) to showcase Scottish HEIs partners’ enterprise and entrepreneurship at selected Innovation and Investment Hubs.
- Continue our support for the “University Technology from Scotland” initiative in partnership with SDI Aberdeen, Edinburgh and Strathclyde Universities to promote Scottish research and technology in the USA.
- Offer degree courses where our students can transfer between UK/ Dubai/ Malaysia to complete their course (the #GoGlobal teaching programme).
- In partnership with SDI, review and continue to develop our international focus on research, teaching and knowledge exchange activity in Dubai and Malaysia as gateways to innovation
• Leverage our success in the EU H2020 research program to develop extended EU networks that support key industry sectors or supply chain opportunities involving SMEs and large companies.

• Investigate the feasibility of (collaborative) R&D between Scottish Companies, Scottish HEI partners, HWU and local companies/ Universities through our international campuses.

• Leverage HWU Edinburgh Research Park as a place for inward investment to Scotland, international trade and business growth aligned to our research and teaching activity and

• Organise a networking event to sharing developed best practices for Internationalisation across the HEI network.

6. Inclusive Growth & Societal Impact

2016 marked 50 years since Heriot-Watt was awarded its Royal Charter; during that year HWU Engage, which supports, stimulates and promotes activities engaging the public with research organised a series of high profile events to mark the occasion.

With campuses in Orkney, the Scottish Borders, a leading role in Scotland Graduate Apprentice Scheme, HWU is well placed to support our rural economies and in continuation of our UIF 2016 outreach activity under PA 10, **HWU Engage will lead the societal aspects of our “Year of Robotics” and support academics through the delivery of good practice training and outreach events that will enhance HWU reputation as a “place to do business”**.

7. Equality & Diversity

We strongly believe Heriot-Watt has a deep understanding of and is committed to tackling equality and diversity issues at the highest level; with a dedicated staff role, we have demonstrated this through an increased recruitment of female professors/ senior executive roles, an increasingly diverse, international student mix and attainment of three new AthenaSWAN Bronze awards (that cover all STEM schools and ~80% of our academic staff) since 2013.

With a diverse student population and overseas campuses where equality/ gender / culture may create barriers to innovation, an area of interest is “Female Entrepreneurship”; **within 2017 UIF we will determine the feasibility of setting up a “female focussed” enterprise activity that will exist alongside our ‘open to all’ entrepreneurship activities, and share our experiences.”.**

During November 2016 we submitted for renewal of our Athena SWAN Institutional award; we will implement our action plan over the next 4 years and embed it within our UIF program across all our campuses.