



University
of Dundee

University Innovation Fund (UIF) 2018 - 2019

Research and Innovation Services
Update October 2018

University of Dundee

University Innovation Fund (UIF)

AY 2018 - 2019

**Update on activity and progress originally reported in May 2018,
revised to include additional funding awarded in July 2018**

Continuation of UIF activity for the period 2018-2020

Submitted October 2018

University Innovation Fund

In October 2017 the University of Dundee (UoD) launched its five year '**Strategy to 2022**', at the heart of which is the core purpose to "**transform lives, locally and globally, through the creation, sharing and application of knowledge**". The University's strengths align well to the ambition of the University Innovation Fund (UIF) which is to incentivise universities to exploit their research to improve Scotland's economy.

Our strategy is built on working in partnership with external stakeholders to collaboratively engage on problems of high societal importance and impact, our collective energy is focused on four interdisciplinary themes:

- Understanding and improving health and wellbeing
- Life-enhancing creativity and design
- Innovating technological solutions to tomorrow's problems
- Promoting social change to enhance diversity, justice and socio-economic prosperity

The purpose of this paper is to give an account of UoD's continued commitment to the priority outcomes in the UIF and report on progress for the period 2017 – 2018. This builds on the three-year plan submitted in 2017 and demonstrates clear achievements and highlights future activity as presented in the original plan.

The Research and Commercialisation Directors' Group (RCDG), developed under the aegis of Universities Scotland (US) provides a forum for collaboration across the Scottish HEI partners, enhancing our Research and Knowledge Exchange activities. This involves regular planning meetings and coordination through US' appointed UIF Manager to cluster multiple activities in pursuit of the seven Outcomes. UoD supports this development and will be integral to the delivery of activity to meet the agreed outcomes.

The following sections highlight developments and areas for further support. Whilst UoD is not scheduled to the lead on any single outcome, dedicated resource has been allocated to ensure effective participation and implementation at a local level across all seven outcome areas of the UIF.

Following the announcement of additional funding in July 2018 by SFC, we have identified how this funding will be employed to meet both our and Scottish Government's priorities in this area. We highlight these additions below in *italics*.

Outcome 1 (Demand Stimulation)

The University has a strong track record of repeat business with industry and partnering through a range of flexible models from SME's to multi-nationals and across a range of funding packages including EU funding.

The University is developing tailored Engagement Strategies across the Academic Schools, to support the increase in industry and public sector engagement. In parallel the University is increasing the staffing and outward facing activities of our 'Technology Transfer Office' (TTO) to

stimulate demand and raise the awareness of opportunities for collaboration and engagement expertise and consultancy. The TTO staff guides and supports academia/industry collaboration across a wide range of funding sources and regularly refers and introduces projects to follow on funding through the relevant agencies. The UKRI Industrial Strategy Challenge Fund (ISCF) will be a key focus for UoD and collaboratively across the HEI Sector, aligning local, regional and national academia capabilities with Industry needs.

Additional funding:

Company creation, development and support will be a key feature with additional expertise sought to maximise high growth and impact spin outs, with a particular focus on the Tay Cities Deal (TCD).

The University will build capacity by recruiting an ISCF Opportunity Manager for a 12-month period. The aim is to invest in projects and personnel to tap into ISCF opportunities and improve intelligence and strategic positioning of UoD playing to institutional strengths (spanning science to creative industries).

The University will seek greater connectivity across multiple sectors (scientific to creative industries); advisory framework and technical tool kit, e.g., supporting spin-outs; maximising the benefits from the final Tay City Deal settlement. This will be underpinned by identifying expertise to maximise spin outs and initiatives with high growth potential.

Progress

- This area continues to be a strategic priority for the University and an Objective Setting Annual Review (OSAR) system is embedded across the University. The TTO teams training and development needs are identified and reviewed with training plans implemented as appropriate. The central University Organisational Personal Development team (OPD) offers a wide range of internal and external development programmes that respond to the training needs of academic, research and professional services staff.
- Institutional collaboration is important and the sharing of best practice is integral to the operations of the TTO at Dundee. Recent examples including sharing of knowledge and intelligence around Global challenges Research Fund (GCRF) and the Industrial Strategy with dedicated websites and internal communication channels.
- Public Engagement is a key activity of the University, with a recently created PE forum, championed by the Vice Principal for Research and KE has been established to work across academic schools and professional services. This forum aims to identify synergies, share best practice and exchange knowledge internally and externally. PE training and development is now integrated into the University professional development suite of development programmes. Our School of Life Sciences recognized as a Beacon of Excellence for PE was recently awarded the prestigious Gold watermark for bringing science to the wider community, awarded by the National Co-ordinating Centre for Public Engagement (NCCPE). – *this activity meets outcomes 1 and 6.*
- The TTO is committed to increasing demand across various sectors and has identified the need for specialist resource with a realignment of personnel to be more outward facing and engaging across the business community. Capacity is being increased in external Business facing roles, with a key aim of increasing industrial engagement translational research and commercialisation activity and proactively engaging with UKRI and in particular the Industrial Strategy. – *this activity meets outcomes 1, 2 and 3.*

- Interdisciplinarity is central to the research and KE development of the University. A programme of events and seminars under the auspices of Dundee Interdisciplinary and Innovation Forum (DIIF) supports the academic community to work across research boundaries, engage with Industry and external stakeholder and respond to major challenges.
– *this activity meets outcomes 1 and 3.*
- The TTO has supported the delivery of a research and innovation training programme to support early career researchers in the following:
 - *Preparing a proposal*
 - *Writing grant applications*
 - *Navigating the funding landscape*
 - *Maximising Impact.*

Outcome 2 (Simplification/Commercialisation)

The University is fully engaged with collaborative initiatives between Scottish HEIs to simplify business access and engagement with Universities and remains centrally committed

Additional funding:

The Universities Scotland RCDG recognises the need for collaboration and this is a priority focus for UoD. To identify synergies across the sector an ISCF Coordinator working at the national level, seeking to shape policy and helping prospecting of opportunities and consortia building with contributing HEIs, is being strongly supported This role will liaise and engage with industry events, knowledge transfer networks with other HEIs to maximise partnership opportunities.

The University aims to increased commercial activity leading to increased IP income (licenses & shares); new Continuing Professional Development (CPD) and continuing education initiatives led from the University of Dundee School of Business (UDSB); raised revenue generation from facilities; increased contract research in areas such as drug discovery, photonics, materials science and clinical trials.

Progress

- UoD continues to play a central role in the development and review of a series of institution contract templates for use across the University sector and external industry stakeholders. This is a very good example of cross Institutional collaboration, sharing knowledge, ideas and best practice to the benefit of the wider Scottish University sector.
- UoD participated in the RCDG collaboration to create a public document to support ease of understanding and transparency on common principles adopted by Scottish HEIs to encourage and facilitate company formation.
- UoD continues to be at the heart of the Bio Dundee initiative bringing industry and academia together with a common purpose of support, training and network building The University is a key partner, supporting, sponsoring and actively participating in the annual conference and partnering event including attracting speakers from international companies. The University is key in supporting the attraction of inward investment through the City Council and Scottish

Enterprise (SE) and this includes one new inward investment company in 2017/18 located in the University's incubation facilities.

- UoD continues to work in partnership with Interface and utilize and support UT.com to identify potential partners and continue to add value and offer opportunities for collaboration. These resources are managed by a dedicated TTO Marketing Communications Manager, appointed to support the continued commitment in this area.

UoD has continued to implement and build on its own established good practice around the engagement of business and industry. A flexible and business-like approach to collaboration and deal structuring has led to many positive outcomes with social and economic impact and an exceptional Commercialisation income return to the University of >£10m over the last 3 years.

Outcome 3 (Simplification/Greater Innovation)

UoD continues to play an active role in the RCDG working group identifying best practice innovation and sharing Dundee's extensive sector experience and models to drive innovation particularly across Biomedical and in Design-led approaches, collaboratively devising new models for implementation in conjunction with the Enterprise Agencies (EAs) and Interface.

Additional funding:

*Establishment of a new **Research & Innovation Competition Fund** to promote engagement with industry events, knowledge transfer networks with other HEIs will be implemented. The fund will also bolster existing initiatives e.g. contributing to Drug Discovery Unit (DDU) to enhance its MRC-funded industrial interactions activities, e.g., Proximity to Discovery Awards.*

This will increase the University profile, create stimulation of new business and make it easier for industry to access and engage with the University research and innovation portfolio.

Progress

- Design is a key strength for the University and the Creative Industries Hub is a strategic initiative funded by AHRC and led by Abertay in partnership with the University of Dundee
- Developing ways of sharing this practice and learning on the design-led approach with the EAs and Interface and other HEIs continues to be a pivotal opportunity which will lead to new collaborations and opportunities for collaborations with industry and the private sector
- The University is maximizing the potential to embed a biomedical cluster working across industry, the NHS and academia (FE and HE), through the Tay Cities Deal. Development plans are in place to grow the biomedical activity in Tayside, Scotland and international markets. Economic growth including jobs, technology spin outs and inward investment are identified outputs. – *this activity meets outcomes 1,2,3 and 4.*

Outcome 4 (Entrepreneurialism)

UoD continues to be committed to embedding Enterprise and Entrepreneurial thinking within education and in its quest for entrepreneurial excellence.

The Centre for Enterprise (CoE) is now one year in operation and works in partnership with the accelerator Elevator and University Tech Transfer Office. This partnership model has been successfully received and interest in the composition of the CoE model attracted positive attention at the 2018 Enterprise Educators Conference.

Internal collaboration is key to ensure that the best possible entrepreneurial activities and support are promoted and embedded.

Additional funding:

An investment fund to support the creation of a project team (backfilling staff as necessary) to leverage Graduate Apprenticeships and boosting entrepreneurship, enterprise and employability across all student groups (UG to RPG) will be implemented.

The University aims to increase uptake of staff and student places within the Centre for Entrepreneurialism and expansion of CPD and continuing education through UDSB – increasing business and management skills across all UG, TPG and RPG programmes.

Progress

The CoE has had an extremely successful year of operation supporting student innovation activities and new company formation including the inception of Platinum Informatics a spin out company providing state of the art software solutions for the management, visualisation and analysis of large and complex data sets in a wide range of laboratory and industrial environments.

Key measures of success include:

- 60 events and seminars engaging entrepreneurs, students and young talent
- 110 students embarked on the Enterprise Challenge programme
- Masterclass programme attracted over 300 students and young entrepreneurs
- Venture competition applicants increased by 28% to 52 submissions
- Early engagement in entrepreneurial learning is recognised as a critical factor in the innovation process and a series of new undergraduate teaching modules have been embedded into the curriculum to foster creativity and support innovation, subjects covered include Life Sciences, Business and Engineering.
- The University continues to collaborate with RCDG partners in the Scottish wide funding opportunity, Converge Challenge and Dundee was successful in the main category with Professor Angus Lamond's, Platinum Informatics spin out company.

Dundee will continue to engage the RCDG working Group to identify and share best practice and devise sector wide collaborative programmes for the future. – *this activity meets 1,2,3 and 4.*

Examples of simplified and pragmatic business support for Enterprise

Star Dundee

Star Dundee is an aerospace engineering spin out company from UoD. This year the company has moved to an Employee Ownership structure. The University facilitated this development through release of equity and engaging with the redevelopment of legal agreements in a flexible and pragmatic manner. The company is now growing through the new management structure and building on its international exports, reputation and collaborations.

Exscientia

Exscientia is an Artificial Intelligence Drug Discovery spin out company from UoD which has grown organically for five years. The University has applied a flexible and pragmatic approach to facilitate the company's development and assist in the creation of additional share pools to assist in the recruitment of very senior and experienced management. The company has recently secured investment of €15M and has secured deals with major pharmaceutical partners of over £250M. The work of Exscientia has led to several therapeutics being advanced into the clinic.

IOmet

A novel commercial and collaboration arrangement between the University of Dundee and IOmet, a Scottish SME and part funded by SFC Horizon Fund led to the development of an IP portfolio in the field of cancer immunology. A flexible approach and rapid response by the University with respect restructuring of the deal and agreements to facilitate a sale of the assets, ultimately resulted in the acquisition of IOmet by Merck Sharp and Dohme (MSD), an international Pharmaceutical company, at a reported value of £280M whilst retaining the company in Scotland and has the potential to deliver novel leading cancer therapeutics, originating from the Scottish research base.

Outcome 5 (International)

The University has an international outlook for research and teaching and collaborates and cooperates with industry, government and academia on a global scale. The University is effectively a global company with extensive networks and has established, successful working relationships with Scottish Development International (SDI) and has participated in and contributed to inward and outward missions led by SDI for the past two decades.

Integration of internationalisation, research and knowledge exchange continues to be a University priority. This is evident in the operational activity across teaching and research.

Additional funding:

The University will establish an internal International Innovation Fund, dedicated for staff and students fostering international collaboration, e.g., exchange programmes and visits to international partners exploring new models combining research, education and business, this will build on Dundee's growing connectedness e.g. UNESCO network.

Increased internationalisation in research, educational and business networking will continue to be a key focus. This will include a new joint education and research institutes; collaborating with Scottish Government and SDI and help shape the development of the Translational Research Centre and Science Park at Haining.

Progress

- A number of collaborative International missions have taken place, including a Scottish-wide mission led by SDI to China. A Joint Education Institute in China is being developed to offer a range of University of Dundee degrees at undergraduate and postgraduate levels. Negotiations with a with a range of Chinese Higher Education Institutions is underway and approval is now being sought by the Chinese Ministry of Education, the outcome is expected in September 2018. – *this activity meets outcomes 1,3,4 and 5.*
- In 2017 the University through the TTO joined the UT Scotland initiative with RCDG partners, Aberdeen, Edinburgh, Heriot Watt, Glasgow and Strathclyde. This initiative supported the promotion of a Scottish University research and innovation expertise in the United States. The strength of collective rather than individual University promotion was demonstrated through a Healthcare mission to Boston in October 2017. SDI also engaged and supported the mission and the use of the Global Scot networks was particularly valuable. The first joint outcome of the mission was a recent visit to Scotland by Takeda to meet researchers across the Scottish Institutions, hosted by the University of Edinburgh. Scottish HEI partners are exploring ways to share networks and contacts from other inwards and outward missions. - *this activity meets outcome 1,2 and 3.*
- Global Challenges is a priority area of engagement and a robust strategy is now in place to proactively respond to the research funding available from UKRI through the GCRF initiative. A range of innovative interventions designed will simultaneously encourage and be implemented and facilitated by the funding provided by SFC for GCRF related activity. A dedicated Research Development Manager will be appointed to lead and implement this plan, an indication of the importance the University places in this area. – *this activity meets outcomes 1,3 and 5.*
- UoD is committed to the “Team Scotland” concept and will ensure where appropriate that activities are connected across the sector.

Outcome 6 (Inclusive Growth and Social Impact)

The University is major employer in the City of Dundee and region supporting over 8000 jobs and has always embraced the ‘Town and Gown’ ethos. The social and economic impact of the University is currently contributing to a significant transformation of the region. The University was key to winning UNESCO City of Design status and in bringing the V&A at Dundee to the City which accompanied by the waterfront redevelopments provide a springboard for future growth.

Additional funding:

To promote and integrate regional collaboration and development a dedicated resource will be assigned to maximise leverage in to the next round of ‘Strength in Places’ Development Fund (SIP). The University aims to develop a major SIP proposal (Tayside) building on the concept of “Brighter-Lives-By-Design” reflecting the pre-eminent profile of health and well-being research combined with

strength in design and the digital innovations. Our intention is to build collaborative advantage through partnership with key educational and health service providers in the region.

The University aims to leverage international interest in V&A and UNESCO City of Design status. Build on major AHRC investments including the 'Design in Action' Hub and new Creative Industries Cluster award 'InGAME: Innovation for Games and Media' linking creative industries with arts and humanities led research to support regional growth.

Progress

- The Tay Cities Deal is central to this outcome and UoD has two strong bids as part of proposed investment portfolio. **Growing the Biomedical Cluster** (GBMC), and **Just Tech**, a forensic science innovation vehicle, posit a combined investment of just under £100M. GBMC nurtures the best innovation from the Dundee Biomedical research and drug discovery strengths and exploits our unique environment for medical technologies development at the interface with the NHS and industry, matched with significant growth in new skills pathways. Just Tech enhances our high-profile reputation in forensic science research to create a new economic cluster for the Tay cities Region. Both projects will deliver economic growth in the form of significant job creation, enhanced health outcomes, increased training and skills development to feed the talent pipeline in the Region. Both projects have been positively received and the outcome is expected in June 2018. – *this activity meets outcomes 1,2, 3, 5 and 6.*
- Decommissioning is another area of the City Deals development and collaboration with the Oil and Gas industry an area for economic opportunity. The development of an R&D network is being considered with business development in progress. The University recently brought together over 150 stakeholders from Industry and Academia, working in partnership with St. Andrews University, Abertay and the James Hutton Institute to explore collaboration opportunities in the Decommissioning space. Working with Dundee City Council and Enterprise Agencies to realise the ambition has been integral to identifying the opportunities and potential regional and national outputs. A key outcome is the creation of a research and development hub representing various HEIs and Industry to work in partnership to meet the Industry needs in Decom.
- The UKRI investment in Strength in Places aligns with the Universities priority to engage, support and where appropriate lead innovation to maximize regional economic growth, including job creation, skills and talent opportunities and leading-edge innovation and company formation. Areas currently being explored include, Creative Industries, Biomedical and Geotechnical Engineering.

Outcome 7 (equality and diversity) (Current and On-Going)

This outcome remains integrated in to the ethos of how we operate at the University of Dundee.

Additional funding:

The University has a rigorous and progressive values led approach to equality and diversity and this will remain at the heart of all developments and activities as we work towards delivering the UIF National outcomes.

Progress

- Administration resource in this area has grown and a robust training and development programme is in place with all TTO personnel trained in the areas of E&D.
- The E&D Team regularly visit Academic Schools and Directorates and increased awareness and knowledge is evident as E&D is part of the toolkit for research and innovation activity.
- Impact Assessments are carried out on a regular basis, reviewing existing and new policies and frameworks to ensure equality and diversity are considered, early and by design.
- The University has embedded staff and student wellbeing at the heart of our Transforming Lives strategy and a series of new policies to ensure implementation and compliance.
- The University is an active member of the outcome groups training on Equality and Diversity and will continue to engage and participate and share best practice to further support E&D.

All initiatives meeting the needs of the Equality and Diversity outcomes are embedded in the activities that reach across the University Investment Fund (UIF) outcomes.



University
of Dundee

University of Dundee
Nethergate,
Dundee
DD1 4HN

t: +44 (0)1382 383000
e: dundee.ac.uk