**Disruptive Technologies Innovation Fund (DTIF) - Awards Under First Call (2018)**

**Projects approved for €5 to 10 million in DTIF funding over the 3 years to 2021:**

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| **Title** | **Consortium Members** | **Project Summary** | **Research Priority Area and Technologies** | **Enterprise Partner Locations** | **Maximum Award (subject to contract negotiation)** |
| A Disruptive Gene Therapy Platform, Replacing Viruses in the Treatment of Genetic Conditions | Amryt Pharma, Curran Scientific Ltd, UCD, DEBRA Ireland | This project aims to disrupt the Viral Gene Therapy Market using a new Polymer-based Delivery Platform. | Health & Wellbeing – Diagnostics & Therapeutics | Amryt – Dublin  Curran – Limerick | €8.4m |
| HOLISTICS - Holistic Human Sensing for Health, Aging and Wellness | Tyndall National Institute, DABL, PMD Solutions, De Royal, Setanta, UCC Lero, Sanmina, Design Partners, VRAI, Henkel, ADI, HRB CRF-C, UCC Insight | HOLISTICS will create for the first time in Ireland, a disruptive Smart Wearables Industry Value Chain to deliver end-to-end HealthTech solutions based on emerging human-centric intelligent sensors and their wireless communication (abbrev. WSN) to support new products. | Health & Wellbeing  ICT | DABL - Dublin  PMD Solutions- Cork  De Royal - Dublin  Sanmina Design Partners – Cork  Henkel – Dublin  VRAI – Dublin  Analog Devices – Limerick | €7.4m |
| AuriGen Solution for Persistent Atrial Fibrillation | Aurigen Medical Ltd, UCC/Tyndall, NUIG (TMD LAB) | This project will finalise the development and move to commercialisation, a cardiac implant to treat the stroke and arrhythmia risk associated with longstanding atrial fibrillation. | Health & Wellbeing – Medical Devices | Galway | €5.9m |
| ‘The Future of Colorectal Cancer Diagnosis and Treatment: Combining Tissue Responsive Probes, AI and Machine Learning to Transform Medical Care’ | RCSI, Deciphex, IBM Research, UCD | This project aims to transform the diagnosis and surgical treatment of Gastro-Intestinal (GI) diseases, specifically cancer, by allowing decision-support information to be available when needed for faster and more accurate interventions for patients. Applications will be developed in surgery and diagnostics using AI and machine learning. | Health & Wellbeing – Medical Devices, Diagnostics & Therapeutics | Dublin | €5.7m |
| Therapeutic enzymes as a treatment for sepsis cellix | Cala Medical, Curran Scientific, UL | This consortium has a disruptive technology, Cytoflow5, for the treatment of sepsis. The technology will be further expanded to disrupt areas currently dominated by monoclonal antibodies and thus disrupt the biologics area. This will result in a panel of new therapies for the treatment of diseases including sepsis, psoriasis, arthritis and Crohn’s disease. | Health & Wellbeing – Diagnostics & Therapeutics | Limerick | €5.0m |

**Projects approved for €3 to 5 million in DTIF funding over the 3 years to 2021:**

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| **Title** | **Consortium Members** | **Project Summary** | **Research Priority Areas and Technologies** | **Enterprise Partner Locations** | **Award (subject to contract negotiation)** |
| Towards safe and effective off the shelf cellular therapy for cancer | Onkimmune, Janssen, NUIG | This project will develop a disruptive, optimised, off-the-shelf Natural Killer (NK) Cell therapeutic platform for the treatment of multiple cancers. | Health & Wellbeing - Therapeutics | Onkimmune – Kildare  Janssen - Dublin | €4.3m |
| Photonics Manufacturing Pilot Line | Tyndall National Institute, Ficontec, MBRYONICS, Eblana Photonics, Sanmina Ireland, Faztech | This project will build a physical Photonic Packaging Pilot Line in Ireland designed to fill the gap that exists today, i.e. to fabricate tens to hundreds of units. The Photonic Packaging Pilot Line Hub will A) develop packaging designs tailored to fast cost-effective packaging processes and equipment and B) develop and install next generation packaging equipment (including test) with reduced cycle-times. | ICT & Manufacturing | MBryonics – Galway  Eblana Photonics – Dublin  Sanmina -Ireland – Cork  Faztech - Dublin | €4.1m |
| Microfluidic Gene Transfection Cell Analysis and Sorting Platform (GTCASP) | Cellix Ltd, TCD Physics, TCD Med, NUIG | This project will see the company deliver new cell manufacturing solutions to the pharma industry, building on excellent scientific research in gene therapy. | Health & Wellbeing – Diagnostics & Therapeutics | Dublin | €3.4m |

**Projects approved for €1 to 3 million in DTIF funding over the 3 years to 2021:**

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| **Title** | **Consortium Members** | **Project Summary** | **Research Priority Area and Technologies** | **Enterprise Partner Locations** | **Award (subject to contract negotiation)** |
| Cooperative Energy Trading System (CENTS) | International Energy Research Centre, MPower, MSemicon, Templederry Renewable Energy Supply, UCC, NUIG, DIT | CENTS (Cooperative Energy Trading System) is proposing a disruptive technology platform for the electricity sector where consumers and communities will be empowered with the necessary infrastructure to generate their own electricity, earn from the excess electricity generation, and finally, to be an integral part of decarbonizing their homes and communities for sustainable living. With CENTS a software solution for a blockchain enabled cooperative peer-to-peer energy trading platform will be provided and necessary hardware requirements and market/regulatory strategies will be proposed. | ICT  Energy, Climate Action & Sustainability | Templederry – Tipperary  MSemicon - Dublin | €3.0m |
| Nex | Davra Networks, DANALTO, INTEL, DCU | The goal of this project is to provide a reliable, verifiable and secure end-to-end remote patient monitoring system which has rich data, affordable & reliable network connectivity, machine learning and data integrity at its core. | Health & Wellbeing  ICT – Internet of Things | Davra – Dublin  Danalto – Dublin  Intel – Kildare | €3.0m |
| ARDENT II | Neurent Medical Ltd, NUIG | Neurent Medical is creating a new therapy for patients suffering from rhinitis that will give the patient immediate and long-lasting relief from their symptoms and remove the need to take daily medication to manage their condition. | Health & Wellbeing – Medical Devices | Galway | €2.8m |
| Medical Imaging Ireland | IBM Ireland, Nova Leah, UCD, DKIT, Davra Networks Ltd | Medical Imaging Ireland (MED-I) will build a platform offering enabling technologies which can host, manage, process and analyse image and text data and brings together the entire ecosystem of actors in the medical imaging domain. | Health & Wellbeing - | IBM – Dublin  Nova Leah – Dundalk  Davra - Dublin | €2.2m |
| ArtEngine 2.0: Bringing Automated, AI-Driven 3D World Creation to Market | Artomatix, Black Shamrock, WarDucks, Keywords | This project leverages Artificial Intelligence to automate the creation of 3D models and worlds,  However, the cost of 3D content creation is prohibitive for small studios and this project is an enabler for the development and adoption of AR/VR. | ICT – AI, AR/VR | Dublin | €2.0m |
| HYDRO-fish: Combining targeted nutraceuticals and traceability technology for a smarter and sustainable Irish fish aquaculture industry | NUIG, Bio-Marine Ingredients Ireland, Teagasc, Marine Institute | HYDRO-*fish* is a multi-disciplinary research programme, specifically designed to employ current technologies from other sectors to disrupt and enhance current fish farming practices. The project entails reinforcing the supply chain of Irish salmon production, in particular for organic salmon farming. | Food | Monaghan | €2.0m |
| BioHealx | Signum Surgical Ltd, Anecto Ltd | This project uses the BioHealx device (a bioabsorbable implant) to treat anal fistula and reduce surgical complexity. | Health & Wellbeing – Medical Devices | Galway | €1.9m |
| E-BAMBI - Enhanced Biocompatibility of Additively Manufactured Biomedical Implants for Improved Clinical Outcomes | SEAM Research Centre, Schivo Medical, Graph Treatments Ltd, STRYKER, DIT | This project will develop Additively Manufactured (using 3-D printing), Biocompatible, metallic components for the medical device industry. The project will focus both on the creation of implants with improved functional properties such as drug elution and also on metallic structures that can be absorbed into the human body when they have successfully completed their clinical function. | Health & Wellbeing – Medical Devices  Manufacturing & Materials – Additive Manufacturing | Schivo Medical – Waterford  Graph Treatments – Dublin  Stryker – Cork/Limerick | €1.9m |
| High throughput microfluidic drug screening platform | HookeBio Ltd, CIT, CAPPA, NUIG | The HookeBio platform is a disruptive technology that will allow pharma companies and clinicians to develop more accurate and responsive disease models for drug testing and may be expanded to testing of existing therapies on individual patient’s disease samples. | Health & Wellbeing – Diagnostics & Therapeutics | Limerick | €1.9m |
| Optimised commercial-scale cultivation of protein-rich biomass from Palmaria palmata for the generation of health enhancing plant based proteinaceous ingredients. | Allihies Seafood, Carbery, UL | This project aims to sustainably generate plant-based proteinaceous ingredients for exploitation as a source of high quality protein and contribute to meeting the growing global demand for plant-based proteinaceous ingredients for animal and human consumption. | Food | Cork | €1.8m |
| Future Software Systems Architectures | DCU & Lero, FOURTHEOREM, FINEOS | This project will leverage the internet network capability (and to some extent the Internet of Things) as a means to rapidly operationalise new software features. Central to this project will be the capacity to transform traditional slow software development organisations into rapid feature delivery firm. AI research is also a feature | ICT – IoT, AI, Digital Platforms and Applications | Fourtheorem – Cork  Fineos – Dublin | €1.6m |
| Irish Lasers for the Internet of the Future (iLife) | Pilot Photonics, DCU and TCD | This project proposes a solution to the impending “capacity crunch” problem for optical telecommunication and datacentre networks using optical frequency comb sources, a new type of laser which can replace the single mode lasers that have been used in long haul optical transport equipment for two decades. | ICT – Future Networks, IoT | Dublin | €1.6m |
| Connected Medical Device Cybersecurity Transparency | Nova Leah, DKIT | This project will see the use of Artificial Intelligence, Data Analytics and Blockchain techniques to provide a real-time platform for the two-way communication of safety-critical security information (i.e. vulnerabilities, threats) between Medical Device Manufacturers and Hospitals . | ICT – AI, Data Analytics and Blockchain  Health & Wellbeing – Medical Devices | Louth | €1.5m |
| Creating the Bionic Man: Development of a “neural training suit” to assist individuals with sensorimotor impairments. | TCD, Biomedical Research | This project aims to develop the “Swiss-Army Knife” of Neurorehabilitation, a multifunctional neuromotor training suit. The suit will integrate an array of wearable biological sensors and a multisite neuromuscular stimulation system. | Health & Wellbeing | Dublin | €1.5m |
| Irish Lasers for the Internet of the Future (iLife) | Pilot Photonics, DCU and TCD | This project proposes a solution to the impending “capacity crunch” problem for optical telecommunication and datacentre networks using optical frequency comb sources, a new type of laser which can replace the single mode lasers that have been used in long haul optical transport equipment for two decades. | ICT – Future Networks, IoT | Dublin | €1.6m |
| Beyond Food Labelling | IdentiGEN, UCD | Using massively multiplexed Next Generation Sequencing to provide a crypto-anchor for food authentication and as a substitute for costly, error prone labelling and certification systems | Food and ICT | Dublin | €1.4m |
| Advanced Environmental Decision Support System for Coastal Areas | Techworks Marine Ltd. DCU | This project will provide an advanced environmental decision support system to address issues such as coastal pollution and flooding. Such a system will provide enhanced insights to coastal industries, local authorities, government agencies and will ultimately benefit Irish society. | Energy, Climate Action & Sustainability  ICT – Data Analytics, Platforms and Content | Dublin | €1.1m |
| Smart-Cardio – A Paradigm shift in Cardiac Arrhythmia Treatment | Atrian Medical Ltd, NUIG | This project will develop a medical device for treatment of atrial fibrillation (AF) that will lead to substantially improved outcomes over current treatments. In addition, it will alter how arrhythmia treatment services are provided to patients – throughput in hospitals and clinics will be dramatically increased and per patient costs will be reduced. | Health & Wellbeing – Medical Devices | Galway | €1.1m |
| DEFINE-AM – Disruptive Finishing using Electrochemical machining for Additive Manufacturing | Blueacre Technology, TCD | The DEFINE-AM project consortium aims to develop an innovative Computer Numerical Controlled (CNC) Hybrid Laser-Jet Electrochemical Machine tool with 5-axis of motion that addresses the challenges of post-processing 3D-printed metallic parts i.e. parts produced by the Laser Metal Deposition (LMD) additive manufacturing technique. | Manufacturing & Materials – Advance and Additive Manufacturing | Louth | €1.0m |
| Blockchain in the Technology Product Supply Chain | Exertis Supply Chain Services, Sonalake, UCD (CeADAR) | This project aims to implement a Production blockchain to transform the Technology Product supply chain. | ICT - Blockchain | Dublin | €1.0m |