Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
THINK CYBER SECURITY LTD	Reimagining Security Awareness Training	£24,017	£16,812
Northumbria University		£15,983	£15,983

Cybersecurity is as much about people as it is about technology, with industry figures indicating that up to 90% of cyber-attacks start with a human user. Security Awareness (measures by which IT users are familiarised with cybersecurity risks) is therefore increasingly a cornerstone of enterprise security programmes. This trend is also driven by organisations' need to comply with relevant standards and regulations (e.g. ISO27001, EU NIS Directive) that include the need for security training.

The core problem that our proposed project addresses is the difficulty that enterprises face motivating staff to complete Security Awareness training and hence to comply with policy.

Our project seeks to do this via a human-centred research and design project to explore opportunities and innovate based on the needs and behaviours of both the staff who are the target audience of such training, and on the requirements of enterprise practitioners who are responsible for delivering the training to staff. Our project calls these objectives _RETHINK_ (staff engagement) and _REFRAME_ (practitioner engagement) respectively. Our aim is to generate new ideas for more effective and desirable (digital) products in this space.

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
EPIPHANY IDEAS LIMITED	Digital Overload	£21,479	£15,035
METTLE STUDIO LTD.		£17,526	£12,268

Smartphones have become an integral part of life and this is especially true for young people. Since 2012, ownership among under 34's in the UK has risen from 60% to 95% in 2018, with 80% of under 16's reporting they get their first smartphone between the age of 9-12\. While the benefits of the digital revolution are wide-ranging, a growing body of evidence indicates the 'always-on' culture it encourages, can have a negative impact on our health and well-being.

Reduced levels of sleep, mental health problems and smartphone addiction are just some of the issues that can arise due to digital overload. A 2018 study among 11-15 year-olds found 43% agree they spend too much time on their smartphone, with a similar number reporting parents don't monitor usage. 30% also said usage negatively impacts on their sleep.

With this in mind, our project aims to co-create with 11-15 year-olds, a proposition for a digital application that promotes self-regulation, with an initial focus on increasing levels of sleep. Ultimately we are aiming to co-create something which employs the very technology young people use so much, to encourage healthy levels of sleep at a stage when young people need it.

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
PANGDAHAI LIMITED	New Medical Service	£35,995	£25,196

New services aimed to help doctors and patients

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
THE USER EXPERIENCE AGENCY LTD	Healthcare Patient-Centric Panel	£39,586	£27,710

Healthcare companies know that they can no longer make major decisions without considering the views of patients, carers and healthcare professionals (HCPs) and that patients are going to become even more important in the future. Patient-centricity has become a buzzword in the industry but few organisations have the time and budget to effectively invest in research.

The key objective of this project is to identify a digital solution that can enable the NHS and healthcare companies to get quick, cost effective input from patients, carers and HCPs to help effectively drive decision making.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
KAKOU TECHNOLOGIES LIMITED	Human Centric Design of Creative Arts/Biomedical Devices	£38,800	£27,160

Technology has cemented its place with the world of music making, with latest developments often integrated seamlessly into studio set-ups, instruments and live performances.

Musicians, producers and listeners alike readily absorb advances in the sector to exploit the benefits of state of the art music making products.

Mainstream products, whilst rich in functionality, are often not designed with disabled accessibility in mind, something that can render some examples unusable to many musicians.

Alternatively, assistive music technologies are often limited in their scope for expressive musical performance and lack many of the features that are found in more mainstream products. In addition, they can often present extra barriers to participation as their operation and upkeep requires substantial technical know-how.

The social model of disability says that disability is caused by the way society is organised, rather than by a person's impairment or difference.

The social model looks at ways of removing barriers that restrict life choices for disabled people. When barriers are removed, disabled people can be independent and equal in society, with choice and control over their own lives.

In 2017, a successful pilot project was run that brought together engineers and musicians to research and develop participant-led inclusive technologies for collaborative music making.

This project aims to further develop those new technologies, with the aim of levelling the playing field in performance and composition for all musicians - disabled, those with degenerative disorders and the non-disabled.

Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
TRIOPSIS LIMITED	Designing new international applications for a proven 'visual-first' technology platform	£37,093	£25,965

This three-month duration customer-centric design project will seek to prototype new products for non-UK markets, leveraging existing technology and knowhow developments made by Triopsis in the UK market.

We will explore markets outside the UK to locate markets and applications where a platform with these features can be developed into applications which add considerable value to customers in asset-intensive environments. Although we have a robust group of case studies from the utilities market, we will not set out only to look for utility industry applications outside the UK.

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
CAUSEWAY EDUCATION LTD	User experience research for the OSCAR HE application platform	£28,691	£20,084

Causeway Education is a charity and a registered company which helps students at state schools improve their educational transitions. These transitions include the journey from school or college to higher education.

To do this, we use an online platform called OSCAR. It helps students explore their subjects, discover the options available to them, and write their personal statements for applications to higher education.

Since OSCAR was first designed, the way we use it in our programmes has changed significantly. It is now used in a much more self-guided way by students and teachers. This means we need to redesign the site to make it easier for people to use independently.

If successful, we will use funding from Innovate UK to run a research project to understand better how students and teachers want the platform to look and work. We will use the results of this research to redesign the platform, but any money we are granted will only be used to conduct research into the most effective design for us to use.

We will run two sets of consultations with teachers and students who use OSCAR. The first set of consultations will examine the barriers to people using OSCAR in an effective way. This will include us observing users on the platform, and also talking to them about their impressions of the platform through group discussions.

We will then use the information we have gained to produce several design options to overcome the barriers they have raised. The second round of consultations will allow students and teachers to feed back on the design solutions we have produced, to help use decide which one is most appropriate and useful to the people who use the platform. This will allow us to make sure the choice we make when redesigning the way the platform looks and is structured will actually overcome the barriers people face in using it.

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
MEETWO EDUCATION LIMITED	Can human centred design transform the way that young people access information about mental health?	£39,994	£27,996

Suicide is a leading cause of death in young people (NCISH, 2017) and 75% of adult mental health difficulties manifest by the age of 18 (Murphy & Fonagy, 2012). The provision of effective affordable support is critical because the cost of health, education and social services for children in the UK with an emotional or behavioural disorder is already £1.5 billion per annum (Snell et al., 2013). Smartphones present a unique opportunity to deliver targeted emotional support because 96% of (6 million) UK teenagers already own a mobile device (Statista 2017, ONS, 2018).

MeeTwo is a multi-award winning app that helps anxious teenagers talk about difficult things. Informed by the latest psychological research, MeeTwo is a safe place where teenagers can anonymously ask awkward or personal questions and get support from other young people. MeeTwo has been featured by [The Times][0], [The Guardian][1] and [Forbes][2]. In 2017 MeeTwo was recognised as one of the 100 most important innovations in education in the world by the prestigious HundrED.org. MeeTwo will represent British social enterprise at EXPO2020\.

Currently, MeeTwo also features a prototype support directory and system for presenting educational resources and health information. However, by observing the way that our young users interact with these features we believe that we can do better.

Just as we have transformed the provision of safe peer support our vision is to transform the way that teenagers access information about mental health and related services.

We plan to use human centred design to uncover three main points for children aged 13 - 18 living in London.

1\. How teenagers expect and try to discover information and support around difficult mental health issues. Including: What makes young people trust or distrust a message or information? How does a teenager identify whether information is relevant to them?

2\. How teenagers in general discover information about things they are interested in. What styles of media are most engaging and how can large amounts of detailed information best be organised to facilitate engagement and understanding.

3\. What different language styles and approaches are most effective at reaching and informing teenagers. Does age or gender matter?

Our approach is innovative precisely because we will use a human centred design approach to understand how young people choose to access information and look beyond the traditional methods of broadcasting information in order to identify creative solutions.

[0]: https://www.thetimes.co.uk/article/finally-an-app-for-teens-their-parents-will-want-them-to-get-96t28p397

[1]: https://www.theguardian.com/education/2018/jan/09/anxious-about-exams-app-meetwo-mental-health-support

[2]: https://www.forbes.com/sites/alisoncoleman/2018/02/13/how-two-social-entrepreneurs-are-providing-safe-peer-support-for-teenage-angst/#7d15cadc6da7

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
BOOST INNOVATIONS LIMITED	Improving shape, comfort and well-being for women who have had a partial mastectomy or breast tissue removal.	£13,242	£9,269

1 in 8 women are expected to receive a breast cancer diagnosis in their lifetime, but not all these will diagnoses will result in full breast removal surgery. With increasing success in the treatment of breast cancer, full breast removal is a last resort. We feel that little is understood about the impact on identity and wellbeing that partial breast removal has. This project will work with women who have had partial breast removal. Design-thinking and human-centred design will inform the structure of activities in workshops and remote packs. Rather than leading participants in a direction or following a set line of argument, interactions with participants, and the prototype breast forms or services that are developed from this, will be iterative, in a cycle of learning and adaptation. The intention is to use a process of co-design -- involving the end user in the design of the product or service and returning to them for feedback at various stages in the design cycle -- ensuring that voices are heard and reflected, and user needs are at the heart of the product that is created.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
AKA MEDIA LIMITED	kate@alsoknownas.co	£37,106	£25,974

In today's information ecosystem, threats to the lives of people who deliver the news are constantly evolving. Despite the obvious risks of reporting from wars, disasters, remote or inhospitable locations, many journalists, including camera crews and support staff, go into the field without adequate safety knowledge and life saving skills.

In the past 15 years, more than 450 journalists have been killed while working in hostile environments. Newsrooms and insurers spend millions of pounds per year on training, safety and security measures that fail to equip journalists with the ability and confidence to act in high stress situations.

Virtual, mixed and augmented reality technologies are transforming the way education and training is conducted with the ability to immerse participants in high pressure scenarios that are impossible to replicate in the classroom or with hands-on courses. This so called 'extended reality' (XR) combines real and virtual environments and allows for human-machine interactions. By practicing first aid and survival skills inside a heart-thumping simulation of a real emergency, research shows participants learn faster and retain life saving knowledge for longer.

This project looks at how immersive technologies can transform the way journalists are trained for hostile environments, without even leaving the newsroom. We believe XR could ultimately save lives by reducing the amount of time and money news organisations and insurers spend to ensure safety, making it easier to refresh and update skills while also becoming more accessible to freelancers.

'Also Known As' is a virtual reality storytelling, research and design studio run by former journalists Aela Callan and Kate Parkinson who have decades of experience working in hostile environments for international broadcasters such as Associated Press, Sky News, AI Jazeera and CGTN.

With Design Foundations funding, they will use their backgrounds in journalism, immersive technology and human centred design to conduct ethnographic research and generate innovative ideas with other relevant experts. Their work will directly engage key stakeholders in the industry, understanding motivations and market demand, while prototyping potential solutions to make their ideas investor ready.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
NINETY CONSULTING LTD	Insurance Workforce 2.0	£32,611	£22,828

Ninety is an insurance innovation consultancy. We help insurers take the risk out of innovation and behave more like startups. Years of experience has allowed us to explore the ins and outs of the industry. Our vision is for the insurance industry to have a fully digitally oriented workforce that embraces innovation naturally, so that insurance companies can innovate independently and sustainably.

Our goal for this project is to create a new customer proposition that focuses on building a culture of innovation for insurers. Through Insurance Workforce 2.0, we want to understand the problems that HR departments are facing and co-create a solution that allows insurers and their employees to be more innovative and "digital ready".

In the project, we will collaborate with a design agency and follow a tried and tested combination of our 123 Methodology(R) and Design Thinking. This approach is inherently human-centred and design oriented whilst at the same time developing commercials, marketing, operations, proposition, data and tech.

This project is innovative because it looks at corporate innovation from a different perspective. By focusing on the people at the heart of the organisation, we can create a solution that will ensure insurance companies will create a legacy of innovation that runs throughout their entire organisation.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
SOUND FUTURES LTD	Foundations for Sound Futures	£37,060	£25,942

This project enables Sound Futures to better understand how to present and deliver its mission to use music and multi-sensory storytelling as catalysts to boost early years language and literacy development.

By embedding a user centred design approach into Sound Futures' development the project will help define its audience and create a roadmap to grow a relevant and effective service for families and early years education professionals.

Sound Futures is a social enterprise founded in 2012 by musician, educator and film music composer Seanine Joyce. Having already created a successful not-for-profit organisation in Hackney, East London in 2009, devising and delivering the "Sing and Learn" and "Books Alive" programmes for families and early years professionals. In the last few years she has been exploring how digital technology can be harnessed to scale these previously successful music and story-led training programmes to a national level.

The user centred design approach will help Sound Futures innovate in multiple ways:

* Prototyping products that support the relationship between parents and professionals who look after their children and tailoring the service to these groups. * Carefully considering the parents in conjunction with the children as users -- researching how young children can be included in the service in order to

facilitate peer-to-peer learning amongst siblings and exploring how children can motivate their parents to engage in family learning and quality shared time together.

* Developing models for how how young people can be engaged as part of design of the overall Sound Futures service as workshop facilitators. Energetic and dynamic facilitators bring workshops alive but this is a very underfunded area of early years service provision. There is potential for Sound Futures to use digital tools to engage young people and provide opportunities to bring more diversity into the area of early years delivery. This is a key target that Government, schools and charities are seeking to address.

* Considering licensing models to fill the gaps experienced across the UK to the access and availability of quality early years content. Currently exceptionally high quality provision is limited to local vicinities and not accessible to more remote or underprivileged audiences. Sound Futures has an opportunity to stimulate and grow a content marketplace.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
SUSTAINABLE VENTURE DEVELOPMENT PARTNERS LTD	Internet of Bins: HCD analysis of drivers for adoption	£38,977	£27,284

Waste is a 'known unknown' for businesses, with little to no oversight over waste streams/materials, generation patterns or autonomy over cost control. Furthermore waste hauliers use an archaic system for collection with little to no intelligence, causing significant inefficiencies and excessive truck movements. This project seeks apply the Internet of Things (IOT) to bins/skips, in order to disrupt the existing inertia regarding waste management, business models and generation patterns. This will lead to \>20-40% gains in collection efficiencies, improved autonomy and oversight of waste generating businesses and improvement against UK waste diversion targets.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
THE AGENCY OF DESIGN LTD	Engaging audiences through immersive technology at the Design Museum.	£35,460	£24,822
THE DESIGN MUSEUM		£4,376	£4,376

The Design Museum and The Agency of Design are collaboratively researching the application of immersive technologies in museums. The project uses a human centered design approach and to deliver creative, prototyped ideas that use immersive technologies (virtual reality / mixed reality / augmented reality) in exhibits for a forthcoming Design Museum exhibition. The team will also be exploring the opportunity to develop these ideas into stand alone immersive technology products or services targeted at the museum and exhibition industry.

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
CASTRADS LIMITED	Electric radiators that people actually want to buy.	£39,883	£27,918

Castrads manufactures cast iron radiators from our factory in Manchester and sells them through our shops in London and New York.

Electric radiators are interesting to us because 2.2 million UK homes rely on electric heating.

In addition, we all have a duty to reduce our carbon emissions. Home heating is the biggest use of energy here in the UK, and is mainly powered by fossil fuels. But, renewable electricity sources are booming, so electric radiators will be an important part of the heating mix in the future.

The technology to convert one of our radiators into an electric radiator has existed for a long time. However it sells poorly and has a low customer satisfaction rate.

We plan to use Human Centred Design to explore new options for converting cast iron radiators to electric radiators. Our aim is to create electric radiators that delight our customers.

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
LIFEBIT BIOTECH LIMITED	Using human-centered design to understand market feasibility and user needs for an early-stage clinical gut microbiome AI-based analysis platform	£39,769	£27,838

Microorganisms are invisible to the human eye, but they run our world. A well-balanced community of gut microorganisms is critical in the context of human health, and disturbances are often associated with disease. Metagenomic approaches allow the assessment of microbial communities by directly sequencing and analysing all species present in a sample.

For these approaches to become a general practice in a clinical setting, it is critical for clinicians to be able to digest the large amount of data generated and translate it into actionable insights. By understanding important metagenomic outputs, clinicians can implement ways to bring the gut microbiotic population back to normal levels through drug treatments, probiotics, and changes in diet and lifestyle.

Lifebit has created a fully functional and accurate backend pipeline which allows users to input their raw metagenomic sequencing data in order to determine 1) which microorganisms are present, 2) their levels and 3) their biological function. Our overall goal is to bring this pipeline to market, however, we need to further understand the context-specific needs of potential users.

Since metagenomics analyses involve huge amounts of data that is useful in the clinical context, we need to understand how to enable clinicians without extensive computational training to manipulate and analyse the data. Therefore, an intuitive and understandable UI that meets their needs is a crucial component for the success of the product.

This feasibility study will allow us to make informed choices about the design needed to make this pipeline useful to clinicians that are either using, or need to use, metagenomics analysis to advance their patients' health. Specifically, our key objectives for this study are to:

- * Understand the market for the pipeline,
- * Understand what users need in the context of clinical metagenomics, and
- * Identify how tailored design and front-end features could address user needs.

To accomplish these key objectives, we will use human-centered design (HCD) processes and methods. The main area of focus is HCD for the design of clinical AI-powered metagenomics software. The combination of metagenomics and machine learning for clinical microbial analysis has not been explored, rendering our efforts innovative. Furthermore, design patterns for this type of software are not yet established, so the design for UI and data visualisations will include novel approaches. Finally, using HCD to validate assumptions is not common for the development of life science software, making the project itself innovative in this design context.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
HUGH HARRIS LIMITED	Research into the motivating and inhibiting factors for users of outdoor gym equipment	£39,408	£27,586

Fresh Air Fitness, the market leaders in outdoor gym equipment, will be carrying out research to understand who are using outdoor gyms, how they are interacting with them, and how improved design could improve their experience and increase the benefit that they derive from them. It will also seek to understand the different reasons that people do not use it or do not use it on a regular basis. Using a proven human centred design model will help them to design products that will appeal to a wider population and increase the health benefits to individual users and thereby to public health as a whole.

Like most western countries the UK is facing a public health crisis caused by poor lifestyles. Physical inactivity is known to be a factor in over 20 chronic conditions and is estimated to cost the NHS £1billion pa while the cost to the economy as a whole is £7.4billion (NICE 2018).

Outdoor gym equipment can make an important contribution to helping to turn the tide on physical inactivity. It is a relatively low-cost facility that makes the benefits of an indoor gym available to all. It is free to use, making it accessible to many who could either not afford gym membership, would find it difficult to travel to their nearest gym or who feel intimidated by an indoor gym environment.

Over 20million adults or 39% of the population in the UK (British Heart Foundation report 2017) are classified as "inactive" meaning they do not meet the Chief Medical Officers recommendations of 150 minutes of exercise per week.

It is also known that exercising in the fresh-air and in green environments improves mental well-being. Fresh Air Fitness are passionate about bringing the benefits of exercise and fresh air to as many people as possible. This research will help us to understand the motivating and inhibiting factors, so that products can be designed to encourage as many as possible to benefit from this free, potentially life changing, resource.

The public purse will benefit from two perspectives. Firstly, it will provide a better return on the investments that are already being made, and secondly the more people use it and become active the greater the health benefits and the potential savings to the NHS

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
COCO WORLDWIDE LTD	Get on your bike	£16,636	£11,645

Population growth and urban migration means UK cities are becoming more congested and our transport networks are under increasing strain, which is also having a profoundly negative impact on our environment. These factors and other lifestyle changes are causing people to be less active.

We believe there is a market for a low-cost, foldable helmet that will motivate more people to cycle. Current helmets are costly, cumbersome and are not always available to cyclists, especially cycle hire scheme users.

Through research and low-fi prototyping, this project aims to examine the link between accessible safety products, initially focusing on helmets, and an increased uptake in cycling. We want to create a game-changing product which supports the UK Government's 2017 Cycling and Walking Investment Strategy (CWIS) which seeks to double cycling uptake by 2025\.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
DIGITAL CARE PLANNING LIMITED	Designing End of Life conversations for Voice Technology	£39,995	£27,996

More than 500,000 people die each year in the UK, and half of these deaths occur in hospital despite only 8% wanting to be there. As the population ages, and medical knowledge advances, the importance of giving people more choice and control over their care has never been greater.

Getting people to fill in Advance Care Plans (ACPs) has been shown to be highly effective in aligning healthcare with patient's wishes, reducing hospital bed days in over-65s, and moving deaths from the hospital to the community. Using Voice-enabled chat services, we will help patients and carers to understand and create Advanced Care Plans (ACPs) in a more natural conversation way - but also enables this to happen at scale.

Having an Advance Care Plan in place means your wishes can be taken into account should you lose capacity, and the burden of decision-making is, in part, lifted from family and carers.

Digital Care Planning believes Voice-technology can be used to encourage more people than ever before to make a plan. Using Google Home and Amazon Echo, Advance Care Plans will be discussed, made, reviewed and updated before being distributed to healthcare systems so the plan can be put in place.

A Voice-enabled chat service is accessible, scalable, and allows patients time to understand, reflect, come to terms with, and discuss their own their end-oflife care experience with their families while still in their own homes.

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
EAST LEARNING CIC	Supporting Supporters: Helping teachers understand what their pupils want and need	£26,004	£18,203

East Learning helps schools ensure their development and enrichment programmes meet the needs and interests of their students. We believe that every child deserves the opportunity to find something they enjoy and are good at, as well as the support to help them achieve their goals, regardless of their circumstance.

Over the past two years, we have developed a programme called 'Aspirations' in conjunction with teachers, pupils and school leadership teams, currently being offered to 1000+ students across 8 schools. Through Aspirations we:

- * Help pupils set their own goals, plus a plan to get there
- * Equip teachers to identify where their support is needed
- * Measure each person's progress over time
- * Help teachers understand what's working, what isn't, and where more needs to be done

Through this, we are also building an evidence base which can demonstrate the efficacy of any programme with impacts beyond exam grades.

This project will help us develop the teacher-facing side of the Aspirations platform, helping them to view, understand, prioritise and take action to support their pupils' development.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
EQUILIBRIUM RISK ADVISORY LLP	The Climate Risk Tool	£31,375	£21,962

Equilibrium is a quantitative risk management tool that enables investors, corporates and policy-makers to better identify, quantity and manage their financial exposure to climate risk. Equilibrium simulates how global capital moves as a reaction to climate interventions, innovations and risks.

In this project we will go back to first principles to redefine the needs of our target market. We will work with Sonder, a human-centred design collective, to map the market, speak to our users, host a workshop and conduct user research and stakeholder analysis to map the sector.

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
LOUD 1 DESIGN LIMITED	Mapping behaviour in client design review meetings: implementing VR for enhanced decision-making	£8,243	£5,770
University of Strathclyde		£7,960	£7,960

Client design review meetings are commercially and creatively charged settings that can have significant influence on project direction and client relations. VR offers great opportunities to improve visualisation, engagement and interaction if deployed effectively. However, simply dropping a computer model into the VR environment is inadequate, and indeed has the potential to alienate or misinform without sufficient consideration of the role it will play in the meeting. 'PowerPoint fail' is a term coined to identify (and ridicule) poorly utilised presentation software in business meetings, and despite its potential benefits VR is susceptible to the same pitfalls as any poorly implemented technology.

This project aims to avoid these through the delivery of a template for best practice in the use of VR to support client design review meetings. In recognising design review meetings as complex social interactions, where commercial, creative and personal dynamics can be conflated and easily lead to misunderstanding and dissatisfaction, it adopts a human-centred approach to assess, generate and evaluate meeting structures. The project will therefore establish the VR-related resources will be required in space, IT assets and bespoke software in a commercial design consultancy setting. Additionally, it will deliver an enhanced understanding of the requirements of multiple stakeholders, develop appropriate interventions, and communicate these for effective VR-supported design reviews.

The work will be led by and situated in Loud1Design, a design consultancy based in Glasgow, and run in collaboration with Department of Design, Manufacture and Engineering Management at the University of Strathclyde. The main project output will be an experience map that will identify types of interaction and associated behaviours in VR design review meetings. This will allow L1 to browse and select the elements most relevant depending on their product, client, design phase etc., and to immediately implement practical changes for better VR-supported meetings. The project output will be a VR enhanced design and development workflow that Loud1Design can offer to end clients or sell into other design consultancy teams on a project by project basis, offering shorter development cycles and higher quality and reduced prototyping costs.

Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
LIQUID VISION INNOVATION LIMITED	Human-centred research and design approach to develop innovative sensor technology for the olive oil industry	£39,656	£27,759

Olive oil has been produced for at least 8000 years and, today, the European olive oil market is valued at €3 billion. Olive oil continues to play a fascinating role in diet and health, with studies indicating that daily consumption of extra virgin olive oil as part of a Mediterranean diet can increase survival among older Europeans. Since the horsemeat scandal of 2013, there has been a heightened awareness of food fraud in increasingly fragmented global supply chains. Extra virgin olive oil is a particularly high-value and vulnerable food product, which regularly tops the list of foods most at risk of fraud in the EU. EU regulations controlling the composition and characteristics of olive oil came into force in the UK in February 2014, but only require one conformity check per thousand tons of olive oil, in other words only 59 tests a year in the UK. Of these tested olive oils in the UK, a recent study found that 1 in 3 breached quality standards.

Liquid Vision Innovation, a London-based SME, are developing smart sensors for the olive oil industry to assure and improve quality. Mediterraneanproduced olive oil accounts for 95% of world production and our product is primarily intended for use in the key olive oil-producing regions (Spain, Italy, Greece), particularly at the olive oil mills and bottlers.

This Innovate UK-funded project will enable Liquid Vision Innovation to work with experienced design professionals at the Imagination Factory to apply and adopt early-stage human-centred research and design processes to ensure that the product provides a desirable and fit-for-purpose solution for the olive oil industry. It is anticipated that this project will lead to significant growth and export opportunities for Liquid Vision Innovation. In addition, the developed sensor will be a tool for improving olive oil quality, increasing quality-based product differentiation and improving competitiveness for olive oil producers, as well as ensuring quality for consumers.

Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
CYREAL LIMITED	Photogrammetry - technology and processes, platforms and services for different user groups and contexts	£21,824	£15,277
University of the Arts London		£18,147	£18,147

The project will use 'human-centered design' research methods to explore improved solutions to the digital capture of objects and artefacts through photogrammetry. This technology creates photorealistic 3D models from digital photographs and is fast outstripping other methods of digital capture (often called '3D scanning') in terms of the multiple applications of the resulting models and 'data sets' of photos and their various forms of processing.

In addition to their long-standing role in scientific, geological and archaeological analysis, these digital 'outputs' have a very wide range of uses in art, craft, design and other creative and cultural practices - from sculpture to gaming and VR; cultural heritage study and dissemination, preservation and archiving - in museums, libraries and collections; and the wider creative and production industries like fashion, footware and industrial design.

The application of the use of 3D models in augmented, virtual and mixed reality systems is growing at a rapid pace. The demand for the creation of these models from real life artefacts is an expanding market, but one in need of innovation, especially in terms of the reliability, efficiency and affordability of photogrammetry at the more accessible end of the market. There is also a pressing need for solutions to the standardisation and preservation of models for cultural heritage, museums and archives of captured material objects and more recently created digital culture.

The research will investigate the further potential of this technology for a range of user groups; from those wanting to access an integrated solution through supported technology and 'bureau'-type services, to 'super-users' seeking high-end adaptable systems that can grow with their needs, and form part of an ongoing exchange of knowledge through evaluation and testing, co-design and innovation.

Through a combination of interviews, user testing of current solutions, brainstorming and discussion workshops, modelling and prototyping sessions, the research aims to identify the potential for development of all of the different elements of photogrammetry. Users and designers, technologists and researchers will work together developing new ideas, and experiment with equipment, systems and software; processes, methodologies and service design that will suit different user demands, levels of technical expertise and budgets - from the individual artist, through educational and cultural institutions, to the commercial and creative industries.

Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
PETIT PLI LIMITED	Petit Pli - Clothes That Grow	£21,525	£0

Petit Pli (PP) is the most innovative childrenswear company in the world. PP has developed an innovative business model alongside of a patent-pending technology, designed using human-centric design methodologies. PP's technology allows clothes to growby 700% without mechanical deformation.

PP's garments upon extension retain their defined silhouette, currently custom fitting children aged 1 to 4 years old - an age range which current childrenswear products do not cater to. This capability of PP's garments and PP's technology is significant. The Ellen MacArthur Foundation together with Waste & Resources Action Programme (WRAP) have identified that extending the life and use of clothes is one of the most significant opportunities the fashion industry has to reach carbon, water, and waste targets. Their research has shown that extending the life of garments just by nine extra months can reduce carbon, water and waste footprints by around 20-30% each.

PP in this project seeks to explore consumer needs for an easy to target market - given existing knowledge base and consumer base, maternity apparel. Mintel reported in 2013 that sizing technologies were among the chief concerns of maternitywear consuers. Together with this Mintel found that pregnant women are more likely to purchase envrionmentally friendly products.

For this reason, this project's key objectives are:

1) To discover, understand and define the needs and behaviours of maternitywear customers by conducting interviews and given questionnaires for the creation of a clear creative brief that frames the fundamental design challenge in maternitywear.

2) To discover what makes a desirable, fit for purpose maternitywear by conducting interviews and workshops for the creation of a clear creative brief that frames the fundamental design challenge in maternitywear.

3) To improve maternitywear product ideas generated using feedback collected from interviews and workshops by user-testing prototypes

Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
JLM Consulting	Cairngorm Connected	£35,709	£24,996

People living and working in rural areas across the UK face reduced access to education, employment, healthcare and social activities due to public transport services that do not meet their needs. People without access to a car lose their independence and become isolated, which has been connected to poor health and well-being. (_Remotely Excluded_, Citizens Advice Scotland, 2015).

This project aims to understand the needs and challenges of communities, businesses and visitors in the Cairngorm National Park, through interviews and workshops. The findings from our research will be used to create ideas for better transport services, created at public workshops with the people that use them. We believe speaking to people and involving them in the design process gives us the best chance of creating transport services that people will want to use.

The project team includes JLM (a Transport Consultancy based in the Cairngorms), Snook (a research and design agency from Glasgow), Cairngorms Business Partnership (a non-for-profit company promoting business in the Cairngorms) and Voluntary Action in Badenoch and Strathspey (an organisation supporting local communities and voluntary groups). Through our project we will set up Cairngorm Connected as a new business, to take forwards the project and drive the creation of new transport services that benefit local people.

Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
IMMERSIVE STORYLAB LTD	Maritime AR- Designing a Augmented Reality Maritime Content Platform	£20,636	£14,445
Liverpool John Moores University		£10,597	£10,597
MEYOUANDUS LTD		£6,800	£4,760

MaritimeAR is 3 month design foundations industrial research project between Immersive StoryLab, Meyouandus, LJMU and Maritime Industry stakeholders. Together they will create the foundations and underpinning focuses for a new human-centred augmented reality software platform and system aimed at maritime passengers on ferries and cruises.

Our seas tell many tales. Imagine taking a ferry or cruise and seeing the past coming alive around you: viking battles in the Irish Sea, a shark circling the boat, Odysseus fighting a sea monster, the Titanic hitting an Iceberg, a giant statue appearing from a long lost civilisation, a ghost ship slowly gliding past you, a WWII battle in the skies. Imagine being able to find out and connect to the stories of famous landmarks as you come into port. You could participate in augmented games, stories and shared adventures that help you pass the time and connect you to the journey and the people around you.

Not only would this provide a wonderfully unexpected diversion on the journey but also a way to highlight landmarks that often go unnoticed by passengers, representing a new opportunity to connect passengers to media content, destination/place-marketing and advertising/commercial opportunities.

This project will enable a design-based, and human-centred, discovery of customer and stakeholder needs in developing such a proposition for the maritime sector, which will be engaging with wide network of Maritime expertise and stakeholders.

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
The Future Fox	Digitising co-creation for urban planning	£27,485	£19,240

Property developers and local authorities must consult communities before submitting urban planning applications (buildings, road closures etc.). They must show how they consulted and addressed comments from the community. While this is a legal requirement, response rates to planning consultation are only around 3% of the local population with particularly low engagement amongst under 44 year olds.

The recent Grenfell tragedy shows how there is an urgent need to provide better tools to improve community engagement, specifically amongst the private sector. On the wake of the disaster, property lawyer Susan Freeman said: "_as a developer you have to be aware of the importance of engaging the community. \[The past events\] have raised additional questions and people are more sensitive to what they have to do to engage communities._"

Through our experience of delivering urban improvement projects for more than 5 years we found that co-creation methods are fundamentally more effective than standard consultation. Co-creation leads to higher participation rates, better buy-in from communities and better proposals. However, current co-creation methods are manual, intensive, and hence non-scalable. Our customer discovery showed that the industry wants to implement co-creation with communities but high costs limits its adoption.

Our vision is to digitize co-creation for urban planning, reduce its costs and integrate it with engagement and consultation.

The project's aim is to design and test early prototypes of a new digital co-creation tools. This will help us secure investment in 2019 and continue feasibility and development.

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
NOVALIA LIMITED	Antiope	£39,779	£27,845

Novalia is an award-winning team pushing the boundaries in what is possible through combining print with low-cost electronics. The small experienced team come from a diverse range of backgrounds; from graphic/product design through to software development, which means that from initial concept through to manufacturable products they are able to deliver working, production ready solutions. Novalia use non-proprietary, traditional print processes widely employed across the print industry. The team combine early-stage, human-centred design skills and electronics product development with software programming and an in-depth understanding of materials and manufacture processes.

Novalia are creating an interactive touchscape for children, called the Creative Touch Studio. This will be the world's first digitally enabled paper based toy that connects with third party smart speaker systems. The supporting technology is already fully developed by Novalia & is protected by a number of Novalia-owned patents.

The project will support physical and infrastuctural product/experiential design to help children learn through innovative, immersive, interactive, digital play without a screen interface. The Creative Touch Studio will enable the child to interact with & launch content via a smart speaker.

The project is entirely centred on a customer first design process of live testing and agile rapid iteration with users & customers to ensure we are creating an exciting and engaging, commercially viable product. This approach has similarities to the Double Diamond, with divergence to accumulate and open up new ideas before converging to a plan & ultimately a designed product/service. This work will support the project aim of providing compelling evidence of market demand to support both the arising business case and investor proposition.

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
DELTEX MEDICAL LIMITED	Observational study to understand and improve the human hand focussing of an Oesophageal Doppler probe.	£39,459	£27,621

Deltex are pleased to announce that it has gained Innovate UK funding through a successful bid to the Design foundations round 1 2018 competition. Deltex is the world leader in Oesophageal Doppler ultrasound for haemodynamic monitoring. Use of the company's TrueVue Doppler, is proven to reduce the complications suffered by patients after surgery and is recommended by NICE. The system also saves hospitals the costs of treating complications that would otherwise result in increased lengths of stay. The minimally invasive TrueVue technology uses an ultrasound probe inserted into the patient's oesophagus (food pipe). The oesophagus lies close to the aorta in the patient's chest and so blood flow velocity can be measured much like a police speed camera checks a car's speed. In this case the moving objects are blood cells. The TrueVue system measures blood flow velocity and the timing of each heartbeat. TrueVue then calculates a range of parameters useful to clinicians in managing patient care and so minimising or even preventing post-operative complications. Clinician's achieve focus of the probe by feel, navigating using their knowledge of cardiovascular ultrasound signals. They have to find the optimum insertion depth and rotate the probe to find the correct signal quality.

Deltex will use the grant monies to fund a study to understand how individual users insert and focus the ultrasound beam. The data obtained will help Deltex develop improvements in the probe's materials and packaging system to advance the probes handleability.

The project will benefit clinicians and patients by leading to ease of use improvements. Deltex expects that the outcome will increase the range of uses of a medical device with already proven efficacy.

Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
MOSTYN GALLERY LIMITED	CANVAS: How do audiences want to interact with a public art gallery in the digital age?	£24,000	£16,800
TransparentBug		£10,500	£7,350
University of Central Lancashire		£4,666	£4,666

Contemporary art can be challenging to audiences. Using interactive technologies in galleries and museums can help to overcome that challenge by speaking to audiences directly, sharing contextual information and enriching their understanding and experience.

Canvas will be a human-centred feasibility study looking at how audiences want to interact with a public art gallery in a digital age. Our focus is on MOSTYN, Wales's foremost contemporary art gallery, which welcomes over 80,000 visitors a year.

The Internet has changed the way in which we acquire and consume information; nowadays, we are one click away from reading the latest news, acquiring the latest gadget or being informed by the latest fashion trends taking place at the other side of our planet. In such a society, 'original' public entities and representatives of knowledge, such as art galleries, museums etc. need to constantly adapt and shape their experiences so that they remain appealing to the public. Canvas will help MOSTYN better understand its role when a wealth of global culture is available non-stop and on-demand via screens.

Our key aims are:

1. To use human-centred design approaches to find out more about MOSTYN audiences and how they behave when having cultural experiences and how we can better meet their needs.

2. To build and test several quick, cost effective feedback tool prototypes to see what technology MOSTYN visitors are comfortable using.

3. To create a plan for how we could use all these findings to build a working feedback tool for MOSTYN that would be fit for purpose, interactive and continue to provide crucial audience data that we can use to inform our programmes of activities.

4. To share our findings with our visitors, stakeholders and other researchers.

Canvas will be innovative in that it brings together a new partnership between MOSTYN, the Media Innovation Studio at University of Central Lancashire and experienced designer Dr Adrian Gradinar, to bring insight to a timely and important issue: what does the public want from cultural institutions in a digital age?

Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
ANIDIUM LIMITED	Personal heart monitoring device	£31,122	£21,785

The project aims to develop the low-cost personal health monitoring system to improve early detection of heart abnormalities, leading to better patient pathways, clinical outcomes and patient experience.

Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
OnMyMobile (a trading name of YTKO Ltd)	Prelude - a study bridging user and developer understanding of network delivery of advanced interactive content	£39,712	£27,798

The Prelude study aims to use human centred research and design to address the issue of delivering good target user understanding of complex issues around network latency - with particular emphasis on the impact this can have on end user quality of experience (QoE) for advanced highly interactive visual environments such as VR, AR, MR and 360 video (HIVEs). The typical 'user' targeted by this study will be implementers of HIVEs, managers of enterprises active in developing or sponsoring HIVEs and investors in the sector, ie those impacted by poor QoE delivered to ultimate end consumer.

Purdue University (Y Charlie Hu 2017 ACM) has done detailed research to show that the QoE achievable for high quality VR applications on today's mobile hardware and wireless networks via local rendering or offloading is about 10X away from the acceptable QoE, yet waiting for future mobile hardware or next-generation wireless networks (e.g., 5G) is unlikely to help.

OMM is developing a regression testing platform which permits developers of such applications to test them against a simulated delivery infrastructure based on actual measured network performance thereby identifying areas of QoE concern early in the development cycle and thus permitting early mitigation, reducing costs and risks. At the moment conceivable highly interactive visual environments far exceed the ability to deliver to untethered devices such as tablets and smartphones and the commercial risks are high due to this delivery and performance gap.

Earlier studies and ongoing work have shown it to be hard to present this issue and the targeted solution we have developed to most potential users who might benefit. This study addresses this presentation / understanding gap.

Competition Code: 1808_FS_CO_DF_R1

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
HEADKAYSE LTD	Improving Head Safety in Sports	£40,000	£28,000

Hedkayse is a start up company, that have reinvented the cycle helmet. After 5 years of development Hedkayse are launching the Hedkayse One - a safer, multi-impact helmet for general urban cyclists, commuters and MTB riders.

Following the imminent launch of our first product Hedkayse One, we need to focus on developing a future product roadmap. This project aims to explore through human-centred design which opportunities present the biggest potential for us to go next in developing our product roadmap.

What makes it innovative?

HEDKAYSE ONE helmets are built completely differently, from our own new flexible impact absorbing material ENKASYE and unique, patented construction method. This makes them super tough and multi-impact (proven to survive 50 times more impacts than a conventional helmet), better absorb lower speed impacts, easily fold for transport and adapt to the full range of adult head sizes and shapes. Standards testing experts have said "This is the first truly innovative cycle helmet we've seen in 40 years".

The focus of this project is to explore the bigger potential beyond the Hedkasye One, where we can identify new user needs, and possible uses.

Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
SPARK AND ROCKET LTD	Developing musical instruments for young children	£39,412	£17,735

Music is incredible. It has significant educational and social benefits for children. However, fewer and fewer children are getting to experience the joy of music with music being taken out of the curriculum.

Children should be introduced to music early but it is hard. Instruments are not designed for their abilities, music notation is difficult, lessons are expensive and teachers and parents do not have the musical knowledge to teach children.

Our aim is a significant human centred challenge. Music and traditional instruments are very complex, even for adults. Our objective is to design an interactive musical instrument that can be not only played by a three year old on their own but that also communicates and teaches the key fundamentals of music.

We will test and significantly improve our understanding of the needs and desires of the customers; what do they want for their child, what value do they see in this product.

We will test and significantly improve the users understanding and interaction of the physical product and educational material including signifiers, feedback and constraints.

We will test and significantly improve the users understanding of music through the interaction with both the physical product and the educational material

We will use these findings to develop a new prototype.

We will collect evidence of the new prototype fulfilling its objectives. Use this to raise investment and move to commercialisation.

The success of the project and the commercial success of the product will hinge on how well the product meets its objectives; how easily a young children can play and learn music with our instrument. As discussed this is a difficult challenge for our particular user and only through excellent human-centred design work can we meet these objectives.

As it is such a challenge when we meet these objectives the value, excitement and benefit of the product will be profound. It will ensure commercial success through parents, partners, educational establishments, retailers and distributors who will all see the effect, benefits and positive reviews of the product.

However, it will also benefit children all over the world enabling them to pal, learn and love music from a young age.

Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
OXFORD HEARTBEAT LTD	Knowledge repository for surgery preparations	£40,002	£28,001

Stenting is a popular treatment for common cardiovascular diseases, such as aneurysms or stenosis, performed in hospitals on a daily basis. Stents are small metallic tubes surgically placed inside diseased blood vessels to provide vascular support or relieve obstructions. Although, stenting is becoming more and more popular due to its minimally-invasive nature, there are a number of challenges associated with successful stent delivery. For a successful surgery, choosing the correct device is critical. Considering the significant anatomical variations between patients and differences in device mechanics, it is currently extremely difficult to predict the final configuration of a stent after deployment. This results in high mortality and morbidity, dangerous complications, increased cost, and the need for secondary surgeries.

In the proposed project we will be investigating the desirability and usefulness to clinicians of a novel knowledge repository which they can consult in preparation of surgeries. Working together with designers, we will be using the human-centred Idea's Design Kit methodology.

During the immersion phase in hospital environment, we will be conducting in-depth research with end users -- neurosurgeons/interventional neuroradiologists -- to determine their needs and design a proposed solution. Thereafter, the initial prototype sketches will be user-tested in the series of interviews and the received feedback used to iteratively improve the proposed solution to ensure it is fully aligned with clinical needs and to facilitate future adoption.

This functionality would provide unprecedented all-encompassing support for surgical preparation, improving patient outcomes and providing peace of mind to clinicians.

Competition Code: 1808_FS_CO_DF_R1

Total available funding is £1,000,000 (minus non-grant costs)

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
ALCOVE LIMITED	Alcove VRI Scan Project (Virtual Reality Inclusion)	£39,716	£27,801

Digital exclusion means the people that could benefit the most from technology are the ones that often have the least access to it. Graphic user interface designs and interactions with smart devices often assume a level of digital literacy that many groups, like disadvantaged or cognitively impaired older adults, simply do not possess. Emerging technologies, like virtual reality, have the potential to minimise this accessibility gap by offering functionalities that are not only more user-friendly and intuitive, but allow individuals to practice new skills and experiences in a safe environment to reduce fear and anxiety of real-life situations.

Alcove, a \#caretech ecosystem, plans to discover how virtual reality can best be used to improve the lives of people with a Learning Disability through proven, human-centered research and design processes with a group of adults living with learning disabilities within Essex. We will use existing consumer technology to see if virtual reality is beneficial and usable to our future customers. From their feedback, we will look to define what features and functionality address their needs and aspirations the best -- from practising and developing new life skills to experiencing quality-of-life boosting activities such as rollercoaster rides and trips to a safari or even trying a train for the first time. We will let the users choose what's important to them; then work out what's technically and commercially viable. From idea to prototype, using off the shelf applets and plugs-ins, users will then be able to try, assess, and report back on new features.