

## Results of competition: Innovation in location-based services - Collaborative R&D

Total available funding for this competition was £5m from Innovate UK.

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
<b>CareWhere Limited (lead)</b> Nottingham Scientific Ltd Walters Group Holding Limited Satellite Applications Catapult	Multi System MicroTag	£785,001	£550,889
<b>Project description - provided by applicants</b>			
<p>The multi-system MicroTag will be the smallest, most power efficient and multi-functional LBS system available anywhere in the world. Its primary objective will be the management and rehabilitation of offenders where the cost of the failure of existing systems and processes exceeds £10 billion per year.</p> <p>This significant advance in wearable location technology, together with very significant power management improvements and innovative design will have applications in any market where location, proximity alert and movement detection are vital. Examples of this, in addition to EOM applications, could include personal anti-collision systems for cyclists or applications in the health and vulnerable persons market.</p>			

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<b>Firefly Experience Limited (lead)</b> Goldsmiths University of London	Product Market Fit Research Release	£539,613	£388,298
<b>Project description - provided by applicants</b>			
<p>Firefly is an app that passively &amp; actively stitches together the most important moments of any trip or life event into a digital story of your memories. Your Firefly trail is your GPS location, which we use to elegantly blend these moments into a map over time.</p> <p>We at Firefly see a huge gap in the travel market for someone who looks at the entire lifecycle of travel and connects the dots. For this grant project, Firefly will collaborate with the Creative Computing Department at Goldsmiths University to apply complex data processing techniques to our digital service.</p> <p>The aim of this grant project is to solve several technical and UX challenges through testing and user trials, building up a database of travel information along the way.</p>			

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<b>Globavista Limited (lead)</b> University of Nottingham	Globavista - Visualisation for Big Data Maritime Location Based Services	£500,606	£344,848
<b>Project description - provided by applicants</b>			
<p>The aim of the project is to carry out the R&amp;D required to create an innovative and powerful BigData geospatial platform, amalgamating data from various sources to exploit the value added data and support the continued growth of Globavista in the maritime commodity movement market.</p> <p>The project will amalgamate satellite AIS data, terrestrial AIS data, global metrological information, vessel data, piracy intelligence, port and terminal information, territorial water and EEZ information in a single repository which will enable the production of value added data, historical trend information and forecasting capabilities.</p> <p>Visualisation software will be developed in partnership with the University of Nottingham to provide an innovative worldwide view of vessel and location analysis capabilities for the user.</p>			

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<b>Guidance Navigation Limited (lead)</b> Bluefrog Design Limited Network Rail Limited University Of Oxford	TrackSafe - Trackworker Safety	£991,323	£681,096
<b>Project description - provided by applicants</b>			
<p>The project will develop a new Location-Based Service (LBS) utilising novel technology to track the locations of trackside workers in the rail industry.</p> <p>The service provides the ability to define safe working zones and provide robust alerts if workers stray outside zones. The use of the new technology makes it applicable in cuttings, tunnels, under bridges and underground.</p> <p>The project will last 2 years with a total value of £991K. The consortium includes Guidance Navigation, Blue Frog Design, Network Rail, and Oxford University. There is a clear need for a technology that works, providing a LBS in GPS-denied terrain to provide awareness and management of worker location on the track, a dangerous working environment.</p>			

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<b>J&amp;M Inertial Navigation Limited (lead)</b> Arrow Technical Services Limited	Personal inertial navigation system	£263,481	£158,089
<b>Project description - provided by applicants</b>			
<p>The project is to develop a system that helps people rescue themselves from hazardous environments, with limited visibility and an immediate danger of death. It starts with divers in caves and shipwrecks, but is also intended for fire and rescue personnel in smoke-filled buildings, guiding them quickly and safely to exits.</p>			

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<b>Linknode Ltd (lead)</b> Heriot-Watt University	UrbanPlanAR9	£366,313	£256,199
<b>Project description - provided by applicants</b>			
<p>UrbanPlanAR will deliver a mobile Augmented Reality solution for visualising proposed urban developments.</p> <p>Development stakeholders, including architects, developers, planning authorities as well as communities and citizens, can visualise proposed developments within their actual (real) urban environments.</p> <p>The solution will implement state-of-the-art urban location tracking with a cross platform augmented reality mobile app. The system will then be extended to use additional sensor data (GPS and magnetometers) and to enable a smooth workflow with Building Information Modelling (BIM).</p> <p>The project will innovatively use increasingly available city 3D models (e.g. in cityGML format) to simplify the process and improve occlusion handling.</p>			

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<b>Mergeworlds Limited (lead)</b> Blispa Limited Womad Limited	Rapid Development Platform for Rich, Location-based Services with WOMAD Festival Use Case	£996,249	£597,749
<b>Project description - provided by applicants</b>			
<p>MergeWorlds demonstrates the first cloud platform for rapid development of location based services by developing an exemplar application for WOMAD, the global festival of music and dance.</p> <p>This festival app, developed by Blispa, will transform the simple festival programme guide into an engaging gateway to new, participatory activities triggered by location and context. It will increase user engagement and build on the relationships and communities formed to trigger longer lasting and meaningful interactions encouraging attendance at future events.</p> <p>The project will seamlessly integrate GPS and Beacon technology at scale, addressing the deployment and operational issues of a challenging outdoor, temporary environment. Interactions with users through alternate reality gaming will provide a rich source of crowd sourced content.</p> <p>Location data will assist in crowd and event management, site retail efficiencies during and after events and provide longer term value to bands, promoters and event organisers. The project will create a platform applicable across a wide range of settings including retail, events, education, tourism and public services.</p>			

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<b>Microlise Ltd (lead)</b> University of Nottingham	COSLE - Collaborative Optimisation in a Shared-Logistics Environment	£999,404	£719,435
<b>Project description - provided by applicants</b>			
<p>This proposal is to develop an innovative service to enable collaboration in a shared freight transport logistics environment. We will bring location data and environmental data together with GPS, vehicle telematics, optimisation, image processing and mobile technology to create an innovative service to reduce empty freight runs, creating business opportunities for users at all levels.</p>			



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<b>Omnisense Limited (lead)</b> 3Squared Limited 1248 Limited	CAMEL - Construction Asset Management using Enhanced LBS	£584,102	£350,461
<b>Project description - provided by applicants</b>			
<p>Using rich location data, including position, velocity and orientation, about equipment materials and workers on construction sites indoors and out, obtained using Omnisense Cluster Location Technology, our innovative application developed by 3Squared will provide site and project managers with information that improves operational efficiency, resource utilisation and worker Health &amp; Safety during construction projects.</p> <p>The application moves seamlessly between zonal information, contextual location and precise (x,y,z) positions driven by temporal relationships between assets and people presenting the information in the way that project managers use it. For example managers are often more interested in utilisation of a particular man and machine and their relationship, rather than merely where each of them are.</p> <p>Our partner 1248 provides essential skills around open standards from the IoT (internet of Things) and BIM (Building Information Modelling) allowing authorised personnel to access real-time information on or off site using local or cloud based services.</p>			

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<b>RNF Digital Innovation Limited (lead)</b> Bestway Cash & Carry Limited University of Aston University of Lincoln	SWiFT	£702,415	£493,705
<b>Project description - provided by applicants</b>			
<p>Given that more than 48% of all adults use social networking and 37% of all social networking is conducted on mobile applications, a large proportion of the population is accustomed to providing their geolocation or seeking geolocated services or resources.</p> <p>Currently, navigation is primarily outdoors using GPS; however new iBeacon technology (low Bluetooth emission devices) facilitates navigation and positioning indoors to within a few meters and can trigger media content on the smartphone.</p> <p>iBeacons are being used in retail environments to highlight products but the potential to combine indoor navigation with the delivery of information at selected points of interest is not currently being exploited.</p> <p>We propose to develop a navigation technology known as SWiFT that combines pre-existing lists of items (points of interest), known item (point of interest) locations, positioning systems, and user preferences to generate navigational pathways which both enhance and streamline environmental negotiation and, where applicable, facilitate the users primary task completion. SWiFT should open up a wide range of potential commercial and social applications.</p>			