



EXPRESSION OF INTEREST FOR PARTICIPATION IN PARTNERSHIP

Info on the call	
Call title	LC-GD-1-1-2020: Preventing and fighting extreme wildfires with the integration and demonstration of innovative means, Subtopic 1
Programme	H2020; Green deal
Deadline	21th January 2021
Link to the call	https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-gd-1-1-2020

Partner information	
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Partner description	
Short description of an organisation	<p>The University of Maribor (UM) will participate in VITRO with Faculty of Electrical Engineering and Computer Science (UM FERI). With more than 200 registered researchers, 50 technicians, and 2500 students, UM FERI is one of the leading educational and research institutions in the field of Electrical Engineering and Computer Science in South-eastern Europe.</p> <p>UM FERI is experienced in coordinating and participating in various projects. We are currently involved in over 30 EU (H2020, Interreg and other), NATO and US Navy funded projects, 20 national research projects, and 50 projects funded by our global industrial partners. We are also actively involved in several Digital Innovation Hubs – we are founding member of DIH UM, DIH AGRIFOOD and DIH Slovenia and also members of DIH Eastern Slovenia and DIH Smart Manufacturing. While UM is Slovenian Entry Point for Danube Transfer Center, UM FERI is also member of EUSALP AG5 and Slovenian Strategic Research and Innovation Partnership (SRIPs), which are responsible for implementation of smart specialisation and are active in Vanguard Initiative. UM FERI has also established its own Center for Artificial Intelligence to coordinate activities in Development of AI algorithms applied to HPC, Remote sensing, Communication networks & Agrifood AI.</p> <p>Research activities at UM FERI are carried out in 8 Institutes with 26 Laboratories, active in the fields of electrical engineering, computer science, information technology, communications, media, telecommunications and mechatronics. Laboratory for Geometric Modelling and Multimedia Algorithms (GeMMA) is the largest laboratory at UM FERI, with 29 full-time members and 3 part-time members at the moment. In the latest years, the research activities in GeMMA are focussed on the following fields and topics:</p> <ul style="list-style-type: none"> • Remote sensing data processing, data fusion, and map generation; • visual data processing (3D modelling, visualisation, pattern recognition, image segmentation...); • geometric modelling, animation, virtual and augmented reality; • environmental and artificial intelligence, machine learning, big data, and complex networks and • GPU programming.

	<p>Its expertise is confirmed with two recent US patents (US 9.300.321 B2 and US9734595 B2) addressing compression of 3D meshes and point clouds (LiDAR), over 150 papers published in scientific journals and with several prestigious awards, including the Danubius Young Scientist Award 2015 and the highest national award for ongoing achievements in Information Society 2015.</p>
<p>Experience in EU funded projects</p>	<p>UM has substantial experience in leading and executing research projects, including national (National Research Agency, Ministries and cohesions/structural funds etc.), international (H2020, Interreg, Erasmus+, etc.) and industrial projects. Administrative support is provided by a dedicated Office for International & Structural Funds Projects at UM FERI (over 40 running projects, June 2020: https://feri.um.si/en/research/international-and-structural-funds-projects/eu-projects/projects-in-progress/).</p> <p>The Laboratory for Geometric Modeling and Multimedia Algorithms (GeMMA) has been focusing primarily on:</p> <ul style="list-style-type: none"> • Earth observation data processing (data compression; feature classification and extraction; visualization; environmental simulations, data modelling, and applications); • artificial intelligence, machine learning, big data, and complex networks; • geometric modelling, animation, virtual and augmented reality; • data compression (LiDAR, rasterized objects, video, medical images); • data segmentation, clustering, and communities; • medical applications (3D modelling, visualization, pattern recognition, image segmentation...), and • GPU programming. <p>GeMMA is currently among the world's leading research groups in developing environmental intelligence systems, geometric pattern recognition, recognized by the International Society of Photogrammetry and Remote Sensing for the most efficient algorithms (at their issue date) for object extraction and 3D reconstruction from huge remotely sensed point-clouds. It is also actively collaborating with the industry in development of GeoServer and its deployment to various geographic information systems, including National Geographic Infrastructure of Slovenia, Croatia, and Macedonia.</p>

Short description of the research field, related to the call	<p>As partners in Holistic IPA, we have developed a real-time wild-fire protection system that consisted of integrated thermal cameras for wild-fire monitoring, GIS based back-office services and viewer, alarming system for first responders, and wild-fire progress monitoring system for drones. The system also integrates wild-fire simulator based on forest fuel maps (generated from LiDAR data) with environmental data (e.g. winds and temperature). The developed system and its components could serve as a basis for project development. In addition, we can provide a wide range of services for remote sensing (primarily optical satellite and LiDAR) data processing and a specialized tool for generation of maps. Finally, we can provide supercomputer infrastructure for computationally intensive data processing.</p>
What can you offer to the project partnerships	<ul style="list-style-type: none"> - Huge contribution to project concept and proposal. - Interantional partners from South Africa (and Australia) which would host pilot activities.