

Search for a Spanish Partner for a Bilateral R&D Project

| Organization | |
|---|--|
| Date of Request: | 20/03/2024 |
| Company name: | Faculty of Tourism and Hotels |
| Contact person and title/ designation: | Dr. Islam Kamal El-Bestawi |
| E-mail: | Islam.kamal323@gmail.com Islam.kamal@fth.usc.edu.eg |
| Phone number: | |
| Mobile number: | +201012908696 |
| Website: | |

SECTION 1: Entity launching the partner search.

(Please give brief / to the point explanations. For more explanation on any point below, you may add a short paragraph as an annexure, with this document.)

| | |
|--|--|
| Sector | Tourism and Antiquities sector • Tourism industry and management of tourist places |
| Entity mission or core functions | The faculty's Vision is "Excellence and leadership in the tourism industry locally and regionally". The faculty prioritizes training future tourism and hospitality professionals to meet industry demands. It accomplishes this by offering exceptional educational programs, conducting groundbreaking research, and fostering sustainable development in the surrounding community, all while upholding ethical practices. |
| Date of establishment | 1997 |
| Ownership (if public and traded, add stock exchange and ticker symbol) | Public Higher Education Institution |
| Total number of employees | 150-200 |
| Number of employees in R&D | 90 |

| | |
|---|---|
| Key products sold or services provided. | <ul style="list-style-type: none"> • Educational services. • Consultation Services. • Travel & Hospitality Services. |
| Entity core technical competences | <ul style="list-style-type: none"> • Educational Museum with Augmented Reality “AR” Facilities. • International Journal of Tourism, Hospitality, and cultural Heritage. • Amadeus Lab • Educational Restaurant. • Information Technology Unit • Risk Management Unit • Languages Lab. |
| Key R&D programs and activities | <ul style="list-style-type: none"> • Technology and Innovation in Heritage Tourism. • Sustainable Tourism and Environmental Management. • Tourism destination marketing using modern ICT. • Heritage Interpretation and Education. |
| Examples of accomplishments | <ul style="list-style-type: none"> • VR Lab of Cultural Heritage and archaeological sites. • Augmented Reality “Wall of Knowledge Project” in cooperation with Center of Documentation of cultural and natural Heritage “CULTNAT”. • Funded Projects such as the project of “Comprehensive approach of risk management in World heritage Site of Saqqara Using Modern Technologies” which is funded by Academy of Scientific Research and Technology (ASRT). |
| Company strategic orientation | <p>The faculty's strategic goals are broken down into actionable programs, supported by well-defined executive plans, to ensure their successful implementation:</p> <ul style="list-style-type: none"> • Introducing and developing educational programs at the undergraduate and postgraduate levels to match the requirements of the labor market of heritage. • Support and enhance teaching and learning opportunities. • Providing a suitable and attractive educational environment for students. • Improving the level of services, activities and support provided to students and graduates. • Supporting and developing the capabilities of faculty members and supporting staff. • Sustainable development of the college's own |

| | |
|--|---|
| | <p>resources to meet the burdens of continuous development.</p> <ul style="list-style-type: none"> • Linking the college's scientific research system to the requirements of the labor market and building effective partnerships with the private sector to support scientific research. • Supporting innovative research and scientific activities related to solving community problems. • Promoting community participation and serving and developing the environment. • Supporting technological development in the tourism industry. |
|--|---|

SECTION 2: Spanish Company Profile

(Please provide a brief summary of the prospective partner company or organization. This summary may address some or all of the points below)

| | |
|---|---|
| | |
| <p>Core technological competencies and expertise.</p> | <ul style="list-style-type: none"> • Web GIS Development with more expertise on (Web Mapping APIs (Leaflet, OpenLayers, Mapbox GL JS) and Cloud Computing Platforms (AWS, Google Cloud Platform, Microsoft Azure). • EO Data Processing and Analysis: Proven experience in handling large volumes of EO data (satellite imagery, LiDAR, radar) from various sensors and platforms. Expertise in data pre-processing, analysis techniques (e.g., object-based image analysis, spectral unmixing), and integration with Geographic Information Systems (GIS). • Machine Learning and Artificial Intelligence (AI): Experience in developing and applying machine learning algorithms for cultural heritage applications. This could include object detection and classification (e.g., identifying archaeological sites, monitoring structural changes), anomaly detection (e.g., detecting looting activity), and predictive modeling (e.g., forecasting environmental threats to heritage |

| | |
|--|--|
| | <p>sites).</p> <ul style="list-style-type: none"> • Knowledge of the Machine learning (ML) techniques such as (CNN- R-CNN – SVM- Canny edge detector ...etc) • Cloud Computing: Experience working with cloud platforms (e.g., Google Earth Engine, Amazon Web Services) for large-scale EO data processing and analysis. This allows for scalability and accessibility for your research project. |
| <p>Other essential qualifications (e.g.: ownership, track records etc.)</p> | <ul style="list-style-type: none"> • Experience in Cultural Heritage Management: A strong understanding of the challenges and needs of cultural heritage management professionals. This allows for developing solutions tailored to their specific requirements. |
| <p>If you have a list of companies with whom you are in contact or interested in contacting, please provide contact details.</p> | <p>N/A</p> |
| <p>If you are interested in collaboration: please specify details and other important information you want to share with a potential company</p> | <p style="text-align: center;">1- Project Objectives</p> <p>The primary objective of this project is to develop a comprehensive framework for utilizing EO big data in cultural heritage management. This will be achieved through the following specific objectives:</p> <ul style="list-style-type: none"> • Develop methodologies for identifying and mapping cultural heritage sites using EO data: This includes techniques for extracting relevant features from low, medium and high-resolution satellite imagery, LiDAR data, and radar data to identify potential archaeological sites and monitor existing ones. • Implement techniques for change detection and risk assessment: We will explore the use of time series analysis to detect subtle changes in cultural heritage sites over time, allowing for proactive risk assessment and |

| | |
|-----------------------------------|--|
| | <p>mitigation strategies. This can include monitoring threats like erosion, subsidence, and illegal activities.</p> <ul style="list-style-type: none"> • Integrate EO data with Geographic Information Systems (GIS) and deep learning: By integrating EO data with GIS platforms, we can create a comprehensive information system for managing cultural heritage sites. This will allow for data visualization, spatial analysis, and the development of targeted conservation plans. • Develop a user-friendly platform for data access and analysis: We will create a user-friendly platform that allows researchers, heritage managers, and policymakers to access, analyze, and visualize EO data relevant to cultural heritage sites. <p>1- Expected Outcomes</p> <p>This project is expected to deliver the following key outcomes:</p> <ul style="list-style-type: none"> • Development of innovative methodologies for utilizing EO big data in cultural heritage management. • Improved identification, mapping, and monitoring of cultural heritage sites. • Enhanced capabilities for proactive risk assessment and mitigation strategies. • A user-friendly platform empowering researchers, heritage managers, and policymakers to make data-driven decisions. • Increased awareness and appreciation for the potential of EO technology in cultural heritage preservation. |
| Interested areas of collaboration | <ul style="list-style-type: none"> • Web GIS Development with more expertise on (Web Mapping APIs |

| | |
|--|--|
| | <p>(Leaflet, OpenLayers, Mapbox GL JS) and Cloud Computing Platforms (AWS, Google Cloud Platform, Microsoft Azure).</p> <ul style="list-style-type: none"> • EO Data Processing and Analysis: Proven experience in handling large volumes of EO data (satellite imagery, LiDAR, radar) from various sensors and platforms. Expertise in data pre-processing, analysis techniques (e.g., object-based image analysis, spectral unmixing), and integration with Geographic Information Systems (GIS). <p>Machine Learning and Artificial Intelligence (AI): Web GIS and cloud computing</p> |
| Specific R&D contribution you are seeking/offering | |



Signature

Name: Islam El-Bestawi

Date: 20-03-2024