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eoMALL

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1 INTRODUCTION

1.1 Project Objective

The overall scope of the project is to support the development of the website for Earth Observation (EO) Services, called eoMALL, part of the Marketplace Alliance for EO Services (MAEOS) initiative lead by the European Association of Remote Sensing Companies (EARSC).

To this aim, the project specific objectives are:

- To develop the website highlighting companies and services including efficient tools to optimise user searches;
- To develop the website interface to keep aligned the content of the website with external e-commerce websites;
- To optimise search engine referencing;
- To develop a showcase demonstrator to communicate and educate on the MAEOS Initiative.

1.2 Reference Documents

[RD1] - Creating a European Marketplace for Earth Observation Service, EARSC position paper, February 2016 (<http://earsc.org/library/>)

[RD2] - Space Strategy for Europe; European Commission, October 2016

[RD3] - Study to Establish a Marketplace Alliance for EO Services (MAEOS) Study report (<http://earsc.org/news/study-to-establish-a-marketplace-alliance-for-eo-services-maeos>)

[RD4] – MAEOS rational on the EARSC portal (<https://earsc-portal.eu/display/EP/MAEOS+Initiative>)

1.3 Project Background

The market for EO based services is changing dramatically. Driven by advances in Information technology and the rapid increase in the availability of satellite data coming from public infrastructures like Copernicus and new commercial satellite constellations, the shift to on-line services seems evident. This is further encouraged by government policies for open data and new data coming from diverse sensors such as mobile devices sometimes referred to as “The Internet of Things”.

Today, the key challenges for Europe are:

- How to leverage the €7b investment by the European Union (EU) in the Copernicus Earth Observation programme to create growth in EU, jobs and economic/social benefits?



- How to respond to the aggressive entry of US companies with almost unlimited resources to invest?
- How to enable European industry, comprising over 95% of SMEs, to reach other geographies/clients?
- How to best respond to the opportunities coming from new emerging markets for digital services?

In response to this situation, EARSC prepared a position paper [RD1] in February 2016 setting out the industry views and proposing to establish a Marketplace for EO Services. Supported by ESA, in early 2017, EARSC completed a study on what this Marketplace could look like [RD3]. This leads directly to the eoMALL which is the subject of this project.

At the same time, the commitment to Copernicus has been made clear through the recent space strategy published in October 2016 [RD2], which will make a wide mix of EO data available for the first time on an operational basis on which business can be built. The EC has also recognised the importance of easy data access and is investing to improve this through the Data and Information Access Service.

Improving access to Sentinel data and making it easy to combine with other data types (open data, environmental, in-situ, socio-economic, etc.) is of paramount and fundamental importance if the European industry is to grow on the back of the Copernicus investment.

The focus of this call is anticipating the market emerging for on-line digital services with the creation of the Marketplace called eoMALL. Today, the large majority of the revenues (>95%) are delivered as bespoke products i.e. where one product is made for one customer. Experts consulted during the EARSC industry survey suggest that the on-line services market will grow from less than 5% today to be greater than 25% in 5 years' time. In this respect, by on-line services, is meant those, which are generated automatically and delivered on-line. They can be characterised by one product for many customers.

eoMALL will be a web-based technological showcase of European Data & Earth Observation Services companies providing access to referenced and qualified companies and products/services. Through various kind of searching tools (thematic, market sectors, geographical area) customers will easily identify available products (information, service, tools, etc.) and which companies provide it. eoMALL will provide visibility to mature and available bespoke and automatically generated EO based products, and provide the customer a channel to on-line services platforms run by its members. In addition, will gather market information by profiling visitors to the website, which will be shared between partners to help with market research and product development.

The MAEOS study showed that whilst companies wish to have a common Marketplace – a common identity - they wish to retain control over their contractual relationship with their customers. Hence, whilst eoMALL will provide a strong, web-based, marketing tool for EO companies to promote their on-line services. eoMALL will not offer e-commerce facilities, leaving sales and direct customer relations to individual companies and brokers.



2 PROCUREMENT APPROACH

The work will be carried out in two phases:

Phase 1 (9 weeks):

- ESA will select three companies to participate to Phase 1 following this ITT. Each company will have a 15k€ contract with ESA to perform and present a prototype within 9 weeks;
- Before the end of Phase 1, each company will provide a Phase 2 proposal including the developed eoMALL prototype

ESA reissues the ITT to the three competing companies, and selects a winner for Phase 2

Phase 2 (21 months):

- Release of eoMALL beta version
- Development of the eoMALL according to Phase 2 proposal
- Incremental development of the eoMALL, including at least 3 subsequent releases

3 PROJECT OVERVIEW AND DISCUSSION ON PROJECT PILLARS

3.1 Overview of the eoMALL website

As a website, eoMALL will provide a strong, web-based, marketing tool for EO companies to promote their services and get knowledge on customers' needs. With a strong user-focus, eoMALL will allow prospective customers to find the services they need and suppliers to connect with new customers. eoMALL will enable companies to promote their on-line services within Europe and in global markets. The principle of eoMALL is to be as flexible as possible allowing companies on eoMALL freedom to adapt the business model.

The first eoMALL beta release (at the beginning of Phase 2) should not include all functions and information but shall be the base to implement new functions and to start promotion. Three additional releases included in Phase 2, are planned every 6 months. Further releases will be undertaken as part of a progressive development program based on user experience, reaction and feedback.

eoMALL will highlight EO on-line services with three principal approaches:

- a) Company description: providing standardised information (*e.g.* text, photos, videos, links to external websites, links to external e-shops, markets, certifications)
- b) Services / Products description: description and previous evaluations if available of both bespoke and on-line services with a link to e-shops (*i.e.* company website, broker) selling the on-line services.
- c) Galleries: based on market sectors, thematic topics, or geographical availability, galleries are visual representation of services providing a quick access to adapted



services. For the first beta release (at the beginning of Phase 2), galleries should be populated with the few most mature services provided by companies. A full implementation is expected for subsequent releases.

The overall goal being to provide the potential-client user with the means to search and find the services, which are most suited to their needs. Hence, categories a and b above should allow structured access as well as a free search around key-words, whilst the galleries will provide alternative structured entries into a search which are focused along each of the selected dimensions *i.e.* market sector, thematic topic or geographical area.

3.2 Identifying and linking to services for the client-user

From the client-user point of view, eoMALL must grant an easy access to identify the service needed and companies providing it. The client-user should access this through different means:

- Search & Find;
- Companies description;
- Services description and comparison;
- Visual representation of services hereafter called Galleries;
- Link to supplier's services through their chosen sales channel *ie.* own website / platform, broker site or eoSTORE.

eoMALL must also develop a new relation with the client-user enabling notation of services and having access to a fair support. The client-user should access this through different means:

- Evaluation of services;
- Access to a support.

3.3 Gathering information for the provider-user

From the provider-user point of view, eoMALL must improve the visibility of the company offering EO services, presenting both the company, bespoke and on-line services. eoMALL should help highlight the company and its products, gather feedback on on-line services sought for, and help identify new service requirements. Members should access this through different means:

- Companies description;
- EO based Services available;
- Customers evaluation;
- Customers tracking;
- Customer searches.



3.4 Project stakeholder

The website has several different stakeholders:

- Current members of the initiative;
- New/potential members i.e. new potential provider-user;
- Statutory body (EARSC);
- The European Space Agency (ESA)

4 PROJECT REQUIREMENTS

4.1 Requirements for the project to develop the eoMALL website

[REQ. 1] – [PROJECT_OBJECTIVE] The Contractor shall support the full website development from design, coding and hosting, referencing and support.

[REQ. 2] – [PHASED APPROACH] Before the end of Phase 1, the Contractor shall produce and deliver a Phase 2 proposal (D1), containing a URL link to the Prototype and a detailed master plan for Phase 2 including schedules, activities and milestones for the next EoMALL releases.

[REQ. 3] – [IPR] At the end of the Contract, the Contractor shall grant the Agency an irrevocable, free, worldwide licence to enable the Agency to use and modify any product, application or result of the Contract for its own requirements.

[REQ. 4] – [TECHNICAL REQUIREMENTS] The Contractor shall perform the development in line with the Technical Specifications (Appendix 2B to the Contract) and is encouraged to propose alternative ways to reach the goal. An innovative solution is being sought.

[REQ. 5] – [Licence fees] No licence fees shall be needed to use, create or modify the eoMALL content.

[REQ. 6] – [ADMINISTRATION] Three categories of users shall be able to modify or create content:

- Admin-user: EARSC dedicated staff will have permission to change content, create new pages, modify rights, etc. and moderate the site;
- Provider-user: each company shall be able to modify the content of their Company profile;
- Client-user: each client shall be able to modify its personal details.

[REQ. 7] – [MAINTENANCE] As part of the service, the Contractor shall undertake maintenance of the website for 21 months from the date of the beta release. Any bugs or errors found on the site after launch will be rectified free of charge. A dedicated budget will be allocated to implement Agency possible change requests during these 21 months.



[REQ. 8] – [SUPPORT] As part of the service, the Contractor shall undertake support for 21 months from the date of the first release including an on-site training for the EARSC staff.

[REQ. 9] – [HOSTING] As part of the service, hosting and domain name registration will be identified as a separate cost of the development. The Contractor shall propose at least three web-hosting services and assist ESA/EARSC in the selection. The Contractor will load the site onto the web and set up E-mail, FTP access, and carry out any other administration necessary to set up the site. The Contractor shall provide for these costs for the length of the Phase 2 contract.

[REQ. 10] – [ADVERTISING] As part of the service, the Contractor should help to set up an advertising account (such as Google Adwords) to attract traffic to the website.

[REQ. 11] – [SHOWCASE DEMONSTRATOR] As part of Phase 2 contract the Contractor shall develop an interactive tool to communicate the eoMALL content.

5 REQUIREMENTS FOR THE PROJECT MANAGEMENT

5.1 Phase 2 requirements:

[REQ. 12] - [PROJECT MANAGER] The Contractor shall nominate a Project Manager to manage the project and fulfill the project objectives. He/she shall ensure close collaboration among all project team members with a view to exploit synergistic cross-fertilisation of the different kinds of expertise.

[REQ. 13] - [PROJECT MONITORING] The Contractor shall regularly review the planning status and the progress of work and assess the impact on future activities.

[REQ. 14]- [VISIBILITY TO ESA/EARSC] The Contractor shall report immediately to the ESA Technical Officer any major problem arising during the project, including schedule or technical issues or options that had not been identified in the initial plan. He/she shall provide complete visibility of all relevant aspects of the work.

[REQ. 15] - [PROGRESS MEETINGS] The Contractor shall attend regular progress meetings (*e.g.* weekly teleconferences) with the ESA Technical Officer.

[REQ. 16] - [SUPPORT TO MEETINGS] The Contractor shall support Meetings/Reviews by preparing supporting presentations and generating Minutes of Meetings as requested.

[REQ. 17] - [SUPPORT TO ANALYSIS] Contractor shall support EARSC for complementary analysis on additional marketing, communication with feedback on technologies or media, which could improve the visibility of the eoMALL.

[REQ. 18] - [PROJECT REVIEWS] The Contractor shall organise and chair regular Project Reviews to allow comprehensive checks on the project results and to verify that the project is progressing according to plans. The Progress Reviews shall be held every 3-months

[REQ. 19] - [PROJECT REPORTS] The Contractor shall issue a Project Report every 6 months in line with eoMALL release (Deliverable D2) to the attention of the ESA/EARSC containing:



- A narrative part explaining the overall status of the Project with respect to the plan, including major achievements and difficulties;
- Risks and planned recovery actions;
- List of open actions;
- Meetings and Milestones plan;
- Up-to-date master schedule (incl. project advancement with respect to it);
- Financial reporting (incl. paid invoices and planning for the future).

[REQ. 20] - [PAYMENTS] Payments shall be related to project advancements and linked to the milestones' accomplishments.

[REQ. 21] - [Quality] In order to guarantee the quality of the deliverables, the Bidders shall propose their own approach in relation to Management, Quality Assurance and Software Engineering Standards. The proposed approach will be based on tailoring the ESA Standards or on Bidder's internal practices.

5.2 Phase 1 requirements:

[REQ. 22] - [PROJECT MONITORING] The Contractor shall participate to short (1 hour) weekly meetings with ESA to discuss the prototype work, progress and issues.

[REQ. 23] - [WEBSITE BETA RELEASE] At the en of Phase 1 The Contractor shall have a prototype capable of being released as a beta version upon being awarded the Phase 2 contract.

6 SCHEDULE AND DELIVERABLES

6.1 Phase 1 schedule:

ID	Milestone Objective	Timeline
M1	Kick off Phase 1	TO
M2	ESA issue of restricted Phase 2 ITT to the three companies participating to Phase 1	TO + 6 weeks
M3	<ul style="list-style-type: none"> • Prototype demonstration • Phase 2 proposal delivery to ESA 	TO + 9 weeks

A minimum of 2 weeks is required for ESA to evaluate the Phase 2 proposals and invite the selected tenderer to negotiations for Phase 2.



6.2 Phase 2 schedule:

ID	Milestone Objective	Timeline
M4	<ul style="list-style-type: none"> • Kick off Phase 2 • Release eoMALL beta version 	TO
M5	<ul style="list-style-type: none"> • Consolidate overall actions planned to perform the 1st eoMALL release • Consolidate plans for forthcoming activities (releases 1 to 3) planned every 6 months 	TO + 1M
M6	<ul style="list-style-type: none"> • Review overall progress results (D2) • Consolidate plans for the forthcoming activities including developments during the next period • First release of Showcase demonstrator • eoMALL Release 1 	TO + 6M
M7	<ul style="list-style-type: none"> • Review overall progress results (D2) • Consolidate plans for the forthcoming activities including developments during the next period • eoMALL Release 2 	TO + 12M
M8	<ul style="list-style-type: none"> • Review overall progress results (D2) • Consolidate plans for the forthcoming activities including developments during the next period • eoMALL Release 3 	TO + 18M
M9	<ul style="list-style-type: none"> • Recommendations for improvements and further developments • Delivery of D3, D4, D5, D6 and D7 • Final release Showcase demonstrator • End of contract and final presentation to ESA/EARSC 	TO + 21M

6.3 Deliverables:

The following deliverables shall be provided to ESA:

ID	Short title	Description
D1	Phase 2 Proposal	Shall contain a detailed programme of work for Phase 2 including a URL to the prototype
D2	Phase 2 Progress Reports	Document describing the progress of the project (work performed, developments realised, marketing and communication axis identified)
D3	Source code	eoMALL website source code
D4	Manuals	eoMALL complete set of installation manuals
D5	System Documentation	Description of the architecture and of the functionality of the system
D6	Online Help	Describing the main features of the system
D7	Showcase demonstrator	Final release of showcase demonstrator



Table acronyms and abbreviations

DIAS:	Data and Information Access Service
EARSC:	European Association of Remote Sensing Companies
ESA:	European Spatial Agency
EO:	Earth Observation
EO4OG:	Earth Observation For Oil & Gas
eoMALL:	Earth Observation mall, website of the on-line initiative lead by EARSC
eoSTORE:	Provider/Supplier website where the product/service can be purchased
MAEOS:	Marketplace Alliance for EO Services, initiative lead by EARSC to promote on-line services
OGC:	Open Geospatial Consortium
SDGs:	Sustainable Development Goals
TEP:	Thematic Exploitation Platform
UN:	United Nations