OSGeo Incubator Application Questionnaire

Version of the template: 1.0

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To be sent to incubator_applications@lists.osgeo.org.

Purpose

The purpose of this questionnaire is to provide the information about the ORCHESTRA project wishing to be hosted at OSGeo. This information will be used by the IncCom to determine whether or not should be recommended to the Board of Directors for incubation.

Questions

1. Please provide the name and email address of the principal Project Owner

Project Owner is the ORCHESTRA Consortium (http://www.eu-orchestra.org/contact.shtml) established under the ORCHESTRA CONSORTIUM AGREEMENT Version 7 20-01-2005 (including Amendment number 1).

The ORCHESTRA project representative and co-ordinator is

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2. Please provide the names and emails of co-project owners (if any)

As described in the contract for ORCHESTRA (Open Architecture and Spatial Data Infrastructure for Risk Management, Contract Number 511678), the consortium is composed of the contractor acting as coordinator:

—ATOS ORIGIN SOCIEDAD ANONIMA ESPANOLA, established in Calle Albarracin 25, Madrid, 28037, Spain, represented by Alberto Gascón Saldaña, Division Director. Contact person: Jose Esteban (jfernando.esteban@atosorigin.com)

and the following legal entities:

—EUROPEAN COMMISSION - JOINT RESEARCH CENTRE, established in Rue de la Loi 200, Bruxelles, 1049, Belgium represented by Finbarr Mc Sweeney, General Director of the JRC, or his authorised representative ("contractor"). Contact person: Alessandro Annoni (alessandro.annoni@jrc.it)

—HOCHSCHULE FUER TECHNIK UND WIRTSCHAFT DES SAARLANDES, established in Goebenstrasse 40, Saarbrücken, 66117, Germany represented by Wolfgang Cornetz, Rektor (President), and/or Hans-Joachim Weber, Prorektor (Vice-President), or her/his/their authorised representative ("contractor"). Contact person: Ralf Denzer (ralf.denzer@enviromatics.org)

—OPEN GIS CONSORTIUM (EUROPE) LIMITED, established in 8 Coldbath Square, London, EC1R 5HL, United Kingdom represented by Louis Hecht, Jr, Chairman, and/or David Schell, Director, or her/his/their authorised representative ("contractor"). Contact person: Louis Hecht (lhecht@opengeospatial.org)

—BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES, established in 39-43, quai André Citroën - Tour Mirabeau, Paris, 15, 75739, France represented by Yves Caristan, General Director, and/or Christian Fouillac, Research Director, or her/his/their authorised representative ("contractor"). Contact person: Francois Robida (f.robida@brgm.fr)

—ORDNANCE SURVEY, established in Romsey Road, Southampton, SO16 4GU, United Kingdom represented by Ed Parsons, Director of IS & Chief Technology Officer, and/or Alastair Matthews, Finance Director, or her/his/their authorised representative ("contractor"). Contact person: David Overton (David.Overton@ordnancesurvey.co.uk)

—FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V., established in Hansastrasse 27C, München, 80686, Germany represented by Rüdiger Dorner, Head of Department, and/or Maximilian SteiertT, EU Projects Officer, or her/his/their authorised representative ("contractor"). Contact person: Thomas Uslaender (Thomas.Uslaender@iitb.fraunhofer.de)

—Austrian Research Centers GmbH - ARC, established in Tech Gate Vienna, Donau-City-Str.1, Vienna, Austria represented by Erich Gornik, Managing Director, or by Hans Rinnhofer, Managing Director, her/his/their authorised representative ("contractor"). Contact person: Gerald Schimak (gerald.schimak@arcs.ac.at)

—EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH, established in Raemistrasse 101, Zürich, 8092, Switzerland represented by Ulrich W. Suter, Vice President Research, or his authorised representative ("contractor"). Contact person: Hurni Lorenz (hurni@karto.baug.ethz.ch)

—INTECS S.P.A., established in Viale Poggio Fiorito, 61, Roma, 00144, Italy represented by Marco Casucci, General Manager, or his authorised representative ("contractor"). Contact person: Olga Renda or John Favaro (orchestra@pisa.intecs.it)

—Elsag Datamat S.p.A., established in Via Giacomo Puccini 2, Genova, 16154, Italy represented by Aldo Oliva, General Manager, and/or Pino Mitola, Financed Research & Special Project Mgr., or her/his/their authorised representative ("contractor"). Contact person: Carlo Proietti (carlo.proietti@elsagdatamat.com)

—TYPSA TECNICA Y PROYECTOS S.A., established in Plaza del Liceo 3, Madrid, 28043, Spain represented by Fernando Ruiz, Environmental General Manager, and/or David Caballero, Head of Department, or her/his/their authorised representative ("contractor"). Contact person: David Caballero (davidcaballero@tecnoma.es)

—BMT CORDAH LIMITED, established in Grove House, 7 Ocean Way, Meridians Cross, Ocean Village, Southampton, SO14 3TJ, United Kingdom represented by Owen Harrop, Managing Director, or his authorised representative ("contractor"). Contact person: Zoheir Sabeur (zoheir.sabeur@bmtcordah.com)

—THE ALLIANCE OF MARITIME REGIONAL INTERESTS IN EUROPE, established in Rue du Commerce 22, Bruxelles, 1000, Belgium represented by Jacques Mazieres, Director, and/or Michael Lloyd, Deputy Director, or her/his/their authorised representative ("contractor"). Contact person: Michael Lloyd (info@amrie.org)

3. **Please provide the names, emails and entity affiliation of all official committers**

See answer to question 2.

4. Please describe your Project

Risk management activities involve a range of different organisations at various administrative levels with their own systems and services. However, the sharing of relevant information that is required for dealing with risks is often limited to a mere raw data exchange. Thus, true efficiency, in most cases, is hindered by administrative and legal boundaries as well as a lack of interoperability on the technical side. Furthermore, the application of numerous and different policies, procedures, data standards and systems, results in co-ordination problems with respect to data analysis, information delivery and resource management, all critical elements of risk management.

ORCHESTRA comprised two main goals:

–The first one was the design and development of a reference model for an open architecture for risk management services, based on de-facto and de-iure standards.

–The second goal was to develop the necessary services in order to demonstrate the usefulness of our approach in pilots that address the actual needs of end users and - in general - all the stakeholders involved in risk management activities in real-world scenarios.

In addition, emerging specifications out of the INSPIRE and GMES initiatives has been taken into account. Software adhering to the ORCHESTRA architecture will be able to interoperate, to a certain extent even at a semantic level, and organisations will be able to cooperate much more efficiently than it is currently possible.

More specific goals of ORCHESTRA were:

–To design an open service-oriented architecture for risk management

–To develop the software infrastructure for enabling risk management services

–To deliver an infrastructure integrating spatial and non-spatial services for risk management

–To validate the ORCHESTRA results in a multi-risk scenario

–To provide software standards for risk management applications

According to these initial objectives, ORCHESTRA has:

–Designed an open service-oriented architecture for risk management based on standards. Special attention was paid to an integrated service and data approach, including their spatial, temporal and thematic characteristics. The ORCHESTRA Architecture (RM-OA) has achieved the Best Practice status at OGC.

–Developed services that are useful for different thematic risk management applications (for instance, earthquake, forest fires, floods, maritime or man-made risks).

–Validated the ORCHESTRA results in 4 scenarios that involve different risks, both natural and man-made, in cross-border situations.

5. Why is hosting at OSGeo good for your project?

One of the goals of ORCHESTRA is to stimulate the development of an operational European service market. Not only ORCHESTRA does not have the necessary duration or resources required to provide a full set of risk management services and applications at European level, but the project intends to stimulate the creation of a service market for risk management by

providing the necessary information for interested parties to build ORCHESTRA-compliant software for those services that are not covered by ORCHESTRA, including those whose need has not emerged yet.

In order to comply with both objectives, and to pave the way for the exploitation of project results, it is key for the consortium to facilitate the adoption of the ORCHESTRA software and architecture. The pilots are one good opportunity to start demonstrating the validity of the ORCHESTRA approach, and the consortium has made an effort to fund and launch 4 of them in different European sites. However, additional effort is necessary for the adoption of ORCHESTRA, especially at the earlier stages.

One of the key aspects with respect to adoption is the availability of specifications and software, as well as related information that can help interested parties. The ORCHESTRA consortium is distributing publicly and free of charge different versions of the RM-OA (Reference Model – ORCHESTRA Architecture) which include platform-neutral specifications of the services. Training material is being produced and will be distributed through the project's e-learning platform, in order to provide relevant information to potential users. As regards software, and following initial discussions held during the elaboration of the proposal and the negotiation of the project, the consortium agreed to provide as much ORCHESTRA software as possible free of charge and/or under an Open Source license.

From the beginning, an ORCHESTRA goal was to provide as many project results as possible under Open Source Licenses to facilitate its use. Hosting ORCHESTRA software results under the OSGeo portal is expected to increase their visibility, facilitate their maintenance and favour collaborations with similar projects in the geospatial domain.

6. Type of application this project represents (client, server, standalone, library, etc.)

ORCHESTRA applications have been developed from ORCHESTRA services (W3C web services), following a service-oriented architecture approach.

There are different types of results that ORCHESTRA would like to host at OSGeo:

—ORCHESTRA Software Components (OSC): SW Component that provides an external interface of an ORCHESTRA Service according to an ORCHESTRA Implementation Specification with the sub-classification into OA[1] Info-structure, OA Support, OT[2] Support, OT Risk-neutral and OT Risk-specific

—ORCHESTRA Framework: Set of APIs and/or (partial) implementations that support the development of an OSC in a given programming language

—ORCHESTRA Tool: Program that supports the analysis, design, coding, deployment or testing of an ORCHESTRA Service or an ORCHESTRA application schema

—ORCHESTRA Application: Set of software components that together comprise an application based on the usage of ORCHESTRA Services

These results are provided under different formats: Source code (Java, C++, ...), Binary (JWS, EXE), Batch/Shell scripts, etc.

[1] ORCHESTRA Architecture Service (OA Service): ORCHESTRA Service that provides a generic, platform-neutral and application-domain independent functionality

[2] ORCHESTRA Thematic Service (OT Service): ORCHESTRA Service that provides an application domain-specific functionality built on top and by usage of OA Services and/or other OT Services

7. Please describe any relationships to other open source projects

Some ORCHESTRA services and components have been based on developments from several open source projects and initiatives: 52ºNorth, OS Geo (MapBuilder, GRASS, GeoTools), etc. More detailed information is provided in a table at the end of this document.

8. Please describe any relationships with commercial companies or products

The ORCHESTRA consortium comprises several commercial companies that have agreed to publish the ORCHESTRA Architecture openly and free of charge, and also to contribute to the Open Source developments of ORCHESTRA. See point 5 for more details.

No relationships exist to commercial products, except for the fact that a number of them have been used in the pilots in order to satisfy end user requirements and preferences, and to demonstrate the applicability of the ORCHESTRA approach in environments where commercial products are used.

9. Which open source license(s) will the source code be released under?

The original ORCHESTRA license (as defined in the Consortium Agreement) was essentially a modified BSD license, customized for the specific characteristics of the ORCHESTRA project. The main reason for choosing this license was the freedom for developers to choose a license that fits their needs, since they may decide to open or not the modified source code and/or to collect royalties when redistributing it (Yi-Hsuan Lin et al. 2006). It is considered a good choice when the emphasis is not on keeping the source code open but to have the software redistributed as widely as possible. This is the case for ORCHESTRA, where in addition, a European service market is to be stimulated.

It must be noted that some of the ORCHESTRA software is based on GPL-licensed software. The GPL license and the modified BSD license are compatible, but the former is more restrictive that the latter. Therefore, ORCHESTRA software based on GPL-licensed software must be distributed under GPL.

In summary, ORCHESTRA software will be multi-licensed, with some items being distributed under the projects license (modified BSD) and other under GPL, LGPL, BSD or EUPL.

10. Is there already a beta or official release?

There have been no official releases of the ORCHESTRA software. The software has been deployed for end users during the pilot phase of the project.

11. What is the origin of your project (commercial, experimental, thesis or other higher education, government, or some other source)?

ORCHESTRA is an Integrated Project partly funded by the European Commission's 6th framework program, under the priority 2.3.2.9 "Improving Risk Management". It is therefore a research project, with expected commercial activities in the near future.

12. **Does the project support open standards? Which ones and to what extent? (OGC, w3c, ect.) Has the software been certified to any standard (CITE for example)? If not, is it the intention of the project owners to seek certification at some point?**

Yes, ORCHESTRA supports open standards, mainly OGC, ISO, W3C and OASIS.

The RM-OA (Reference Model for the ORCHESTRA Architecture) in which ORCHESTRA services are based, has achieved recently the status of an OGC Best Practice document. Best Practices Documents are an official position of the OGC and thus represent an endorsement of the content of the paper.

Furthermore, we tried to identify for each individual service which standardization organization to approach, mainly OGC and W3C. For example, the Catalog Specification is under revision at OGC and the Map and Diagram service has been also presented at different OGC TC meetings.

13. **Is the code free of patents, trademarks, and do you control the copyright?**

There are no patents. The consortium is seeking for a trademark for the ORCHESTRA architecture and partners control the copyright except for developments based on other Open Source projects or initiatives (more detailed information is provided in a table at the end of this document).

The "General Statement" below describes the ORCHESTRA copyright and should be used to explicitly state copyright conditions for any ORCHESTRA output.

The only exception to the "General Statement" are those documents that the ORCHESTRA Consortium decides to open completely and distribute free of charge. For such items, the "Statement for Open Documents" applies. As of today, the only documents for which the "Statement for Open Documents" applies are the RM-OA, the RM-OA Annexes, the Service Specifications and the UML diagrams contained in the RM-OA. ORCHESTRA will use the "Statement for Open Documents" for those released under OS Geo.

GENERAL STATEMENT

(c) ORCHESTRA Consortium

The ORCHESTRA Consortium (http://www.eu-orchestra.org/contact.shtml) reserves all rights.

In accordance with Article IV.4.8 of the ORCHESTRA Consortium Agreement, access rights may be granted to third parties upon request to the Project Co-ordinator José Esteban (jfernando.esteban@atosorigin.com) in representation of Atos Origin sae.

In accordance with Article IV.4.11 of the ORCHESTRA Consortium Agreement, the ORCHESTRA Consortium shall make available to third parties the necessary licences for contributions to standards, in conformance with the rules of the standards body setting such standard, provided that such third party similarly provides the needed licences available under its intellectual property rights.

Specifically for contributions to OGC, Any Knowledge, Project Deliverable, technology or other output of the Project, including without limitation any engineering specifications, encoding, abstract data types, data models, data product specifications, service specifications, application schema, conceptual schema, GML application schema, etc., which is submitted by Open Geospatial

14. How many people actively contribute (code, documentation, other?) to the project at this time?

Not all partners will be providing concrete SW results to post in OSGeo, but, all Consortium has been contributing to the project. As regards software and documentation, 9 partners have made contributions and plan to continue the effort. The amount of people currently participating in development is around 30.

15. How many people have committed access to the source code repository?

It is difficult to estimate, since many expressions of interest have been received, but no formal commitment has been established. We expect tens of institutions to contribute actively.

16. Approximately how many users are currently using this project?

In the research side, several projects are using ORCHESTRA results, such as SANY, DEWS, SWING or InterRisk, and we have received expressions of interest from ERMA or Intamap.

We have also received an expression of interest for use from CSIRO (Simon Cox).

Users – not belonging to the consortium – currently using this project include: European experts, personnel from different EU DGs and from the INFOREST and WDNH (Weather Driven Natural Hazards) actions of the JRC, Catalonia Water Agency, Cartographic Institute of Catalonia, Civil Protection of Catalonia, local authorities from Provence, Piedmont Region and Liguria Regions, Italian

Transport companies, Italian Ministry of Transport, French Ministry of transport and ESCOTA (operates the toll motorways), Trilateral Wadden Sea Cooperation, Schleswig-Holstein (Ministerium für Landwirtschaft, Umwelt und ländliche Räume), GAUSS GmbH and Brockmann-Consult.

17. What type of users does your project attract (government, commercial, hobby, academic research, etc.)?

The following sub-sections describe the identified communities. Though there is some overlapping among the identified communities, i.e. some users may belong to the industry, an initiative relevant for ORCHESTRA may be an EU-funded project, etc., each of the communities identified has sufficient weight and relevance for the project (as well as well-defined own characteristics) as to be individually listed and addressed:

The Users Community has been further subdivided in order to better address each type of user of the project's results. ORCHESTRA has identified 3 target user communities:

–Risk Management Community, End Users

–Data Provider Community, Secondary Users

–IT Integrator Community, Primary Users

In addition to the identified user communities, there is one additional group to be accommodated:

–Policy & Decision Maker Community

1. Risk Management Community

These are the true end users of any information services and the most knowledgeable persons with regard to the Risk Management Domain from a practical point of view. Any improvement in access to crucial information, be it e.g. quicker, higher accuracy, etc., would be recognized as a benefit. Contacts can likely be established at any one of the more or less regional events or through related working groups in international organisations, such as e.g.:

–The Information Systems for Crisis Response and Management (ISCRAM) event,

–The GI4DM (Geo Information for Disaster Management) event, or

–The OGC-Risk and Crisis Management Working Group

2. Data Provider Community

The data providers are already supporting the Risk Management Community with data products and thriving on existing business models. Changes to existing business processes need to be commercially justified to be taken up.

3. IT Integration Community

This group being the direct users, the ORCHESTRA results will ideally enable the parties on the IT integration side to work with interoperable components, thus allow the integrators to better meet customer demands and the requirement for investment protection. Alas, this group does not have any direct interest in the particulars of risk management nor any inclination to introduce new architectures and procedures unless required to do so either be the market or policy / legislation.

4. Policy Management Community

Though at a first glance this community seems to be split into a number of fragments, the overall objec-tives are remarkably similar and can be accommodated with the ORCHESTRA approach of an interop-erable and open architecture. The key players in this group are:

–The INSPIRE community

–The GMES community

–Communities centred around other European policies, such as the water frame work directive

–Environmental Information Management communities

5. Additional Communities relevant to ORCHESTRA

–Academia

—Other EU-funded projects

–Standardisation bodies

—Other Initiatives: The consortium will be in direct contact with relevant strategic initiatives, such as INSPIRE (http://inspire.jrc.it/), GMES (http://www.gmes.info/), OXYGEN (ESA initiative to harmonize the ground segment for earth observations in Europe), etc.

–Industry

–General Public

18. **If you do not intend to host any portion of this project using the OSGeo infrastructure, why should you be considered a member project of the OSGeo Foundation?**

N/A

19. **Does the project include an automated build and test?**

No, but there are tools to ease development, such as the ORCHESTRA Framework (for source system integration), the Service Container Framework (set of libraries and tools in order to support the development of ORCHESTRA-compliant Web services) or the ORCHESTRA Tools for development and debugging of the Simulation Data Service, or administration of UAA services.

20. **What language(s) are used in this project? (C/Java/perl/etc)**

ORCHESTRA SW results are provided under different formats: Source code (Java, C++), Binary (JWS, EXE) and Batch/Shell scripts.

21. **What is the dominant written language (i.e. English, French, Spanish, German, etc) of the core developers?**

English

22. **What is the (estimated) size of a full release of this project? How many users do you expect to download the project when it is released?**

There are currently 26 items (services, components, tools or applications). We expect at least tens of users to download the project in its earliest stages.

Type	Name	Partner(s) (provided by)	Format	Based on an existing license?	Pro exi
ORCHESTRA SW Component (OSC)	Feature Access Service (FAS)	ARC	Source Code (Java)	Axis2; XMLBeans (Apache Licence Version 2.0); **Note:** a problem could be the Apache Licence 2.0 as this is not GPL compliant. Apache is also not explicitly listed as EUPL compatible.	inte
ORCHESTRA Framework	Framework for Services (FOS)	ARC	Source Code (Java)	Axis2; XMLBeans (Apache Licence Version 2.0); **Note:** a problem could be the Apache Licence 2.0 as this is not GPL compliant. Apache is also not explicitly listed as EUPL compatible.	inte
ORCHESTRA SW Component (OSC)	Coordinate Operation Service	ATOS	Binary and Source Code	based on proj4 library (MIT license)	GP
ORCHESTRA SW Component (OSC)	WPS	ATOS	Binary and Source Code (Java)	Based on various open source libraries: - 52-north WPS Framework (GPL license) - Java Math Expression Parser. GPL license and free (until version 2.4.1) - Geotools 2. GPL license and free - Apache Derby (apache license)	GP
ORCHESTRA Application	Client (Map viewer) of TYPSA-ATOS Pilot Application	ATOS, INTECS	Binary and Source Code (Java, JavaScript)	Community Map Builder (LGPL) - jdom (apache license) - dwr (apache license)	ATO it b sin sep ATO be

Type	Name	Partner(s) (provided by)	Format	Based on an existing license?	Pro exi
ORCHESTRA SW Component (OSC)	Gazetteer Service	BRGM	Source Code (Java)	Use geonames.org information (multi-lingual gazetteer)	EU
ORCHESTRA SW Component (OSC)	Cost calculation service	BRGM	Source Code (Java)		EU
ORCHESTRA Application	Client (Map viewer) of BRGM Pilot Application	BRGM	Binary	Community Map Builder (LGPL)	LG
ORCHESTRA SW Component (OSC)	Schema mapping service	BRGM	Source Code (Java)		EU
ORCHESTRA SW Component (OSC)	Simulation Data Service	DATAMAT	source code	ORCHESTRA Service Container Framework	LG
ORCHESTRA Application	German Bight Pilot Application	DATAMAT	Binary	WebGenesis (Fraunhofer IITB background)	Lic
ORCHESTRA Tool	Simulation Data Service testing / debugging client	DATAMAT	source code + configuration files		LG
ORCHESTRA SW Component (OSC)	User Management Service	EIG	Source Code (Java)		LG
ORCHESTRA SW Component (OSC)	Authorisation Service	EIG	Source Code (Java)		LG
ORCHESTRA SW Component (OSC)	Authentication Service	EIG	Source Code (Java)		LG
ORCHESTRA Tool	Administration Tool	EIG	Source Code (JSP)		LG
ORCHESTRA SW Component (OSC)	Map and Diagram Service	ETHZ	source code and/or binaries	GPL	GP per
ORCHESTRA SW Component (OSC)	Catalogue Service	Fraunhofer IITB	Source Code (Java)	ORCHESTRA Service Container Framework called as remote Web Services (i.e. not relevant for the licence): conTerra terraCatalogue (for BMT, JRC and TYPSA pilot) IONIC RedSpider Catalogue (for BRGM pilot)	BS

Type	Name	Partner(s) (provided by)	Format	Based on an existing license?	Pro exi
ORCHESTRA SW Component (OSC)	Semantic Catalogue Service	Fraunhofer IITB	Binary	ORCHESTRA Service Container Framework Ontology Access Service WebGenesis (Fraunhofer IITB background)	lice
ORCHESTRA SW Component (OSC)	Annotation Service	Fraunhofer IITB	Source Code (Java)	ORCHESTRA Service Container Framework GATE (General Architecture for Text Engineering) Reference: http://gate.ac.uk/ (GPL licence)	GP with per del
ORCHESTRA Framework	ORCHESTRA Service Container Framework	Fraunhofer IITB	Source Code (Java)	Axis2, Ant, Tomcat, log4j (Apache License, Version 2.0)	per BS
ORCHESTRA Application	Map+Catalogue Viewer of BMT Pilot Application	Fraunhofer IITB	Binary	Community Map Builder (LGPL) WebGenesis (Fraunhofer IITB background)	lice
ORCHESTRA Application	ORCHESTRA Pilot Entry Application	Fraunhofer IITB	Binary	Semantic Catalogue Service	lice
ORCHESTRA SW Component (OSC)	Classification Service	INTECS	Binary and Source Code (Java), Shell scripts	Based on various open source libraries: - GRASS (GPL) - Geotools GPL license and free - Saxon XSLT (MPL)	GP
ORCHESTRA SW Component (OSC)	Map Algebra Service	INTECS	Binary and Source Code (Java), Shell scripts	Based on various open source libraries: - GRASS (GPL)	GP
ORCHESTRA Application	Client (Map viewer) of PEUNHA Pilot Application	INTECS, JRC	Binary and Source Code (Java, JavaScript)	Community Map Builder (LGPL) - jdom (apache license) - dwr (apache license)	Sim pilo