

VESTA-GIS NEWSLETTER no. 3 (1/2009)

In this newsletter

The newsletter no. 3, with contributions prepared by the GISIG and ICCOPS staff, is focused on the start-up of the two core project activities: the on-line Training Modules Catalogue and the Mobility Framework.

The catalogue is meant to describe the training modules available on the VESTA-GIS Platform and the way and conditions to access them. To proceed with the catalogue construction it has been necessary a strong effort to properly define metadata able to describe the training modules to be let available on the platform and perform search by the users. The metadata identified are also based on the results of the survey on Gi-related training needs and offer introduced in the previous issue of the Newsletter. The first article of this issue introduces the defined metadata and the levels at which they are organised, also taking into account multilingual aspects.

The VESTA-GIS Mobility Framework aims at promoting people mobility within and outside the Network and to help strengthening cooperation between sending and hosting institutions. The second article introduces the main outlines of the mobility framework and the activities and tools to be promoted to make it effective.

Moreover, a new eContent+ project, "NATURE-SDIplus: Best Practice Network for SDI in Nature Conservation", is shortly introduced in the last article to show the possible synergies existing with the "nature environmental protection" stream of VESTA-GIS, which were the subject of the Workshop "Training and knowledge needs in Geographical Information for the Nature Conservation" also describe in the article.

Contents

The VESTA-GIS Training Framework: a tentative definition of metadata for training material	Page 2
The VESTA-GIS Mobility Framework	Page 5
Link with the NATURE-SDIplus project	Page 6
About Vesta-GIS	Page 7
News and Events	Page 7
Contacts	Page 7



VESTA-GIS Newsletter is a four-monthly, free-of-charge, electronic publication published by the VESTA-GIS Consortium. Neither the editor nor any person acting on its behalf is responsible for the use which might be made of the reported information.

The VESTA-GIS Training Framework: a tentative definition of metadata for training material

Background:

The definition of a set of metadata to describe the VESTA-GIS training materials was one of the first activities undertaken in the project.

As a matter of fact, Metadata, or “data about data”, provide information about data: themselves, in other words, who, what, when, where, why and how. In consideration of this and in order to produce a functional organization and an easy consultability of the training material catalog, all the courses proposed in this framework, have to be harmonised according to the identified metadata.

The first approach with metadata in the VESTA-GIS framework was carried out through assessment questionnaires used to deduce which information about the training courses are useful and which mandatory.

The procedures followed for the definition of the VESTA-GIS set of metadata considered the metadata standards present in literature. In any case, because the metadata must illustrate the content of a course and is used indirectly by the students looking for a suited vocational training, priority was given to understandability. Moreover, because all the providers of GIS training have to be able to fill in the course features form, metadata must be easy to understand, exhaustively explained and not too long.

The set of metadata:

All the metadata selected for the course description have been collected in a form called “metadata template”, where the course provider can, in an easy way, fill in the information about his course. In general, during the drawing up of the set of metadata, it was decided to use mainly predefined options as multiple choice rather than free text, because more suitable for the catalog and the queries.

More in details, the selected set of metadata has been split into three groups, according to the typology of search. In fact, the catalog

will be set up in three level: the first level, the “Basic information to input the catalog”, gives the possibility to the student to make a selection inside the very basic information about the course; the second one, the “Useful information for the catalog”, allows to refine the inquiry; and the last one, the “course details”, shows all the details of the selected course.

This division was developed according to the level of details it provides and to the compulsoriness of these information as well. There is also an upper level where the course title, its ID and the provider are indicated (see Figure 1).

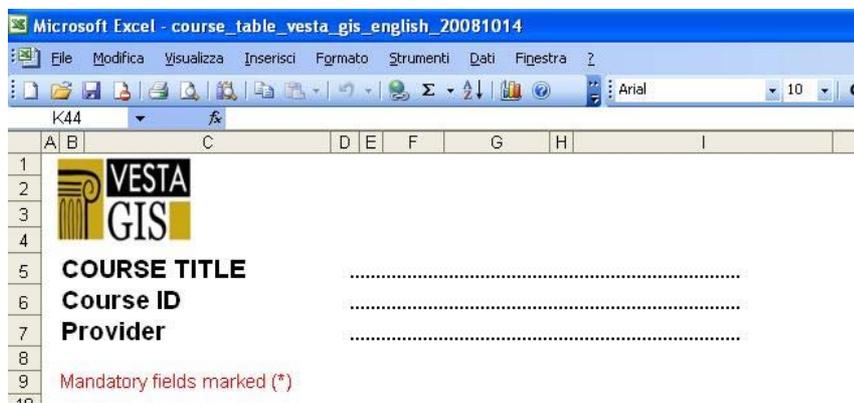


Figure 1: Upper level of details: Course identification

In particular, the first group of metadata (Figure 2) gives essential details, where all the fields are mandatory. In fact, without these basic information it would not be possible to introduce the courses in the catalog because of the impossibility of validating the training material in conformity with the quality criteria.

The courses can be accepted in every language, but it is at least necessary that all the basic information (1st level of detail) are translated in English.

Because the VESTA-GIS project was designed considering both the GIS technology per se and the GI Thematic application domains considered by the proposal, the following “subject areas” have been used to categorize the training courses:

11	Basic information to input the catalog	
12		
13		
14	LANGUAGE OF TEACHING (M)	<input type="checkbox"/> English
15		<input type="checkbox"/> Other (please specify)
16	
17	
18		
19	SUBJECT AREA of VESTA-GIS project (M)	
20	(multiple selections are possible)	
21		
22	<input type="checkbox"/>	GIS (Geographic Information Systems) technology & related sciences
23	<input type="checkbox"/>	GI in Water management
24	<input type="checkbox"/>	GI in Natural Environmental Protection
25	<input type="checkbox"/>	GI in Coastal management & Landscape
26	<input type="checkbox"/>	Other (please specify)

- GIS technology & the related sciences
- GI for Water management
- GI for Natural Environmental Protection
- GI for Coastal Management & Landscape

In the same framework, a predefined list of keywords belonging to one of the four subject areas of VESTA-GIS (multiple choices will be allowed) enriches the search into the catalog. In the same list of metadata, the “course level” is included: for this an ad hoc classification was set up because of the difficulty to find an adequate definition and subdivision

Figure 2: “Basic information to input the catalog”

that would be able to include all the possibilities. It comprises a “basic level” (general introduction to the subject matter and to the technical domain), an “intermediate level” (natural continuation of the basic course), a “specialized level” (concentrated on specific items, providing in-depth information and the related applications) and a “comprehensive level” (a comprehensive and in depth knowledge on the subject).

Finally, the “course delivery format” gives details on how the education is supplied, and in particular differentiates the face to face learning, from the blended (combination of face to face and online activities) and the distance learning (completely online without face to face meetings).

The second level of metadata (Figure 3) gives information on the course type, the cost, the class size, the issued certification and the intended audience.

92		
93	Useful information for the catalog	
94		
95		
96	COURSE TYPE	<input type="checkbox"/> Theoretical
97		<input type="checkbox"/> Applied
98		<input type="checkbox"/> "Hands on"
99	-Theoretical: subjects are dealt with in a theoretical view only, without practical sessions	
100	- Applied: subjects are dealt with specific regard to their practical application	
101	-"Hands on": subjects are taught through practical sessions	
102		
103	COURSE COST	<input type="checkbox"/> Free
104		<input type="checkbox"/> Against payment
105		<input type="checkbox"/> Info n/a

As shown in the screenshot, this level includes information about the “course type” and the “course cost”. Through the field “class size”, divided into individual and group, the supposed student can know if he can book individually, or he has to wait a predetermined number of people before the course is activated.

The “issued certificates” can be very numerous and often differ between countries. This produced a remarkable difficulty to draw up a list of possible certifications. For this reason no list has been set up, but only a distinction between the issuing or not of a certificate and, if yes, the specification if it is formal or not.

Figure 3: “Useful information for the catalog”

The last information contained in the second level of metadata is the “intended audience” where the presumed stakeholders are divided in classes (unemployed, students, teachers and technical, management and administrative staff).

The last level of metadata (course details, Figure 4) gives the possibility to the provider of courses to add or explain more in detail the characteristics of their product.

The “course profile in one line”, the “organizational structure” and the “didactical approach” let the people the possibility to know immediately the content of the course, how the learning hours are organized between the different teaching methods and which kind of interactions are present between the students and the teacher, or between students.

Another important issue is the necessity or not of prerequisites: this part lets the provider specify if there are particular required skills, mandatory or suggested courses, courses that must be taken in conjunction with another course, the presence of the admission test and which level of education is required to access the course.

On the contrary, the "learning objectives", the "final course product" and the "activity type" show what a learner is expected to know, understand or do as a result of successfully completing a process of learning, what a learner is expected to produce in term of outputs (e.g. maps, project, report, dissertation....) and what a learner is expected to do during the course in term of activities (e.g. reading, listening, report preparation, homework...), respectively.

147	COURSE DETAILS	
148		
149	COURSE LOCATION (only for blended or traditional learning)
150	
151	ONE LINE COURSE PROFILE (M) (please sketch out your course in one line)	

Figure 4: "Course details"

A multilingual catalog:

The necessity to have a multilingual catalog was a priority during the selection of the metadata and their explanation and exposition in the template form. Because the general objective is to have a wider service fruition, it is not possible to decide a priori how many languages are necessary. So, it will be provided a multilingual website in the Core Partner languages where all the items are translated, and it will be asked each new adherent (with a new national language) to do the same. Moreover, the "metadata template" (as described above) will be in more than one language: the basic one in English and the others, for courses in a different language, in this national version.

In particular, all the partners will contribute to the translation of the template and for further languages not present in the partnership; it will in case be up to the new adherent willing to contribute to the catalogue, to produce the related version.

Figure 5 shows the detailed course description as result of the search in the VESTA-GIS Course Builder.

 COURSE TITLE Course ID Provider		CONTENTS OVERVIEW	
LANGUAGE OF TEACHING		COURSE DIVISION IN TRAINING UNITS AND RELATIVE DURATION AND TOC (table of contents).	
SUBJECT AREA of VESTA-GIS project		PREREQUISITES & RECOMMENDATIONS	
COURSE WORKLOAD		Required skills: Mandatory or suggested courses	
COURSE DURATION		LEARNING OBJECTIVES	
COURSE LEVEL		FINAL COURSE PRODUCT	
COURSE DELIVERY FORMAT		ACTIVITY TYPE	
KEYWORDS		REQUIRED EQUIPMENT	
COURSE TYPE		COURSE CREATION DATE	
COURSE COST		LAST COURSE UPDATING	
CLASS SIZE		USAGE RIGHTS	
ISSUED CERTIFICATE		CONTACT PERSON	
INTENDED AUDIENCE		Name Surname Position Address Telephone e-mail address	
ORGANIZATIONAL STRUCTURE		Prepared by: Last modification: Revised by:	
DIDACTICAL APPROACH			
ENROLMENT			
HOW TO ENROL			

Figure 5: The course description format

The VESTA-GIS Mobility Framework

The aim of the VESTA-GIS Mobility Framework is to establish common procedures and a favourable environment to promote people mobility among participating organisations and users, both placements for new graduates and people in the labour market as well as short term training/exchange of knowledge visits among the partners. Mobility is promoted both at the general VESTA-GIS Network level and at sub-networks levels with reference to their application domains.

Through the VESTA-GIS Mobility Framework, the Consortium intends to promote the assignment of grants to university students/graduates/researchers from one European Country, applying individually or through an institution of higher education, to complete a period of practical training in a company abroad, normally lasting between 3 and 12 months, even if longer periods are possible according to mutual interest of the involved parties. Students who have just graduated and or undertaking post-doctoral studies are also welcome, as well as those undertaking placements as an integral part of their academic course which will be assessed as part of their final award.

All placements organised within the VESTA-GIS mobility framework should have, in principle, two main characteristics:

- Being inter-sectoral (mobility flow from Academia to Industry – intended in a wider sense as non-educational bodies– and viceversa)
- Being transnational (from one country to another, i.e. a person should not perform a training placement in the country where he/she lives and/or of which he/she is national)

When it comes to the main actors involved, the following definitions are applied:

- Sending organisation: the body to which the grant-holder belongs, normally the University where he/she is studying or has graduated;
- Hosting organisation: the body willing to host the grant-holder for a training period at its premises, also providing financial support whenever not available from other sources.

The candidatures could be also collected in different ways:

- the candidates answer individually to specific offers of placements by the host organisations;
- the sending universities distribute the placement offers opportunities towards their students/new graduates/researchers;
- the sending organisations collect CVs of their students/new graduates and send them to GISIG for distribution towards potential host organisations.

Among the advantages for a grant-holder to benefit of a placement we can find the possibility of:

- working on a defined project to meet a real industrial need;
- realising hands-on experience;
- obtaining on-the-job training and developing practical skills;
- realise a European perspective experience;
- receiving training to improve language skills;
- living and working abroad for several months.

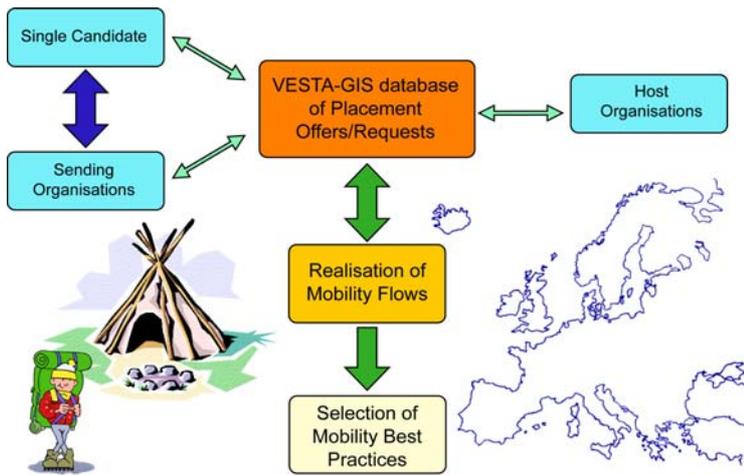
On the other side, the host organizations can find the following advantages in hosting a placement:

- opportunity to establish operational links with the sending organisations, with possibility to promote and manage joint projects of common interest;
- integrating in the company staff a motivated, high degree selected resource (the sending institutions are in fact required to endorse the quality of the placement beneficiaries);
- strengthening the organisation's European image, thanks to an increased level of contacts with universities and companies abroad.

The VESTA-GIS Mobility Framework is based on a continuous process, with no fixed deadlines. All candidates and host organisations can submit their requests/offers at any time they need.

Shortly an open call to collect candidatures and offers will be launched within the VESTA-GIS Network and the first placements will be hopefully started in a few months.

An on-line database collecting offer/demand of placements has been designed and is going to be implemented and constantly updated with offers/requests of placements collected upon the continuous open call to be launched soon.



The on-line database is organised in two levels:

- Public level, where potential candidates can have a look at the offers of placements posted by the project partners and apply for the available position upon free registration and/or simply send their curriculum to submit their candidature.
- Registered level, only available to VESTA-GIS Core and Associated Partners, where the project partners can post their offers of placements and have a look at the available candidatures.

The Mobility Framework of the VESTA-GIS web site will also include a FAQ section addressed to answer common questions by the potential candidates and/or project partners concerning mobility aims and procedures.

It is with great enthusiasm that the VESTA-GIS Network is designing this tool, hoping it could improve people mobility in the GIS related fields across Europe.

All VESTA-GIS Members (and the interested organisations welcome in the VESTA-GIS network) are warmly invited to actively contribute to this process, hoping successful results will soon come.

Link with the NATURE-SDI *plus* project

VESTA-GIS – NATURE-SDI *plus* Workshop “Training and knowledge needs in Geographical Information for the Nature Conservation” (Genova, Italy, 6th November 2008)



The establishment of Natura 2000 and the new transboundary EU approach for protected sites management has enforced the link between nature conservation, geo-information and interoperability of information. This has in fact generated the need for harmonised datasets, interoperable and easily accessible to all the European bodies and stakeholders dealing with territorial issues. The link is acknowledged by the INSPIRE Directive which

addresses geo-information and pursues an EU Spatial Data Infrastructure to support environmental policies.

The Nature-SDIplus Network (eContentplus contract n. ECP-2007-317007) aims, through state-of-the-art methodologies and technologies, as well as with Best Practice examples, to improve harmonisation of national datasets and make them more easily accessible and exploitable. Therefore, it contributes to the INSPIRE implementation with specific reference to a cluster of data themes (as per the INSPIRE Annexes) on nature conservation:

- Protected sites (Annex I);
- Biogeographical regions, Habitats and biotopes, Species distribution (Annex III).

The main objectives of the Nature-SDIplus Network are to: share data and best practices; improve and stimulate exploitation and the re-use of information on nature conservation, also proposing models and solutions for the addressed data themes; involve new stakeholders.

The Network is intended also to accompany the implementation process of the Inspire Directive, with testing actions, feed-backs and technical proposals.

About data management, the project will analyse the usability and accessibility of data.

About semantics, the project will define a common multilingual and multicultural approach for a simpler, and standard, access to spatial data on nature conservation.

A demonstration infrastructure based on an architecture compliant with the INSPIRE principles and supported by web services, will instantiate these principles providing data accessibility for the different stakeholders and a dedicated geoportal (NATURE-SDIplus Geoportal) will be a door to access the datasets and services available. This geoportal will then afford a means to actively engage the stakeholders.

The network will, through training and dissemination, ensure that widespread awareness is achieved.

The objectives of the NATURE-SDIplus project well fit the training and awareness activities foreseen within the "Nature protection" stream of the VESTA-GIS Network and it is worthy to identify and strengthen the synergies applicable between the two project. To such purpose, the joint workshop "Training and knowledge needs in Geographical Information for the Nature Conservation" was organised in Genova (IT) on 6th November 2008, besides the kick-off meeting of the NATURE-SDIplus project.

The joint workshop gave the opportunity to share experience and establish contacts between representatives of the two project partnerships, introducing each other to their respective activities and foreseen outcomes in the "nature protection" area, with a particular focus on training needs and offer in GI-related vocational education and the VESTA-GIS training platform potentiality of use also within NATURE-SDIplus. Some key knowledge elements of NATURE-SDIplus were as well considered, to be possibly included in the VESTA-GIS Training Framework (i.e. training on INSPIRE, data management, standardization issues, web services).

The proceedings are available at <http://www.vesta-gis.eu/> (select "Proceedings" on the left menu).

About Vesta-GIS

The overall aim of VESTA-GIS is to pool knowledge in the GIS domain (technology, applications), to share experience and foster innovation (new approaches) in vocational training by bringing together experts, organisations and users of GI and its application domains, as well as to identify the trends and skills requirements in this area and to improve the anticipated benefit of vocational training initiatives.

The following main activities are foreseen:

- Network Building and sharing knowledge;
- Analysis of training course offer and demand;
- Implementation of the Network training framework and of an e-learning platform hosting the partners' contributions;
- Training course catalogue building. This action will include the definition of pre-requisites of courses, such as a modular structure and selected quality criteria;
- Promotion of people mobility (students, new graduates and working people);

- Exploitation and dissemination action, including workshop organisation and support to competence validation and certification;

The network is developed with particular emphasis to the involvement of the GI users; in this perspective the network is addressed, other than on the GI technologies, including the cutting edge ones (interoperability, web-gis, standards, etc.) to the application domains, starting initially with:

- Water Resource Management
- Natural Environment Protection
- Coastal Management and Landscape

The network is developed in the favourable framework of the new European Directives for environment and territory, which are dealing with problems that have reached a new European dimension (such as the INSPIRE Directive recently approved by the European Parliament).

VESTA-GIS is an open network: all the interested organisations wishing to join as Associated Partners are very welcome.

News and Events

- **AGILE 2009** - the 12th AGILE conference, 2-5 June at Leibniz Universität Hannover. (www.agile-online.org)
- **GSDI 11 World Conference Spatial Data Infrastructure Convergence, Building SDI Bridges to Address Global Challenges**, , Rotterdam, The Netherlands, 15-19 June 2009
- **UMDS 27TH URBAN DATA MANAGEMENT SYMPOSIUM** June 24-26, 2009 LJUBLJANA, SLOVENIJA
- **GI_Forum2009 Geoinformatics Forum Salzburg** 7-10 July, 2009, Salzburg, Austria (<http://www.gi-forum.org/>)
- **Fifth International Conference on River Basin Management** including all aspects of Hydrology, Ecology, Environmental Management, Flood Plains and Wetlands, 7 - 9 September 2009, Malta (<http://www2.wessex.ac.uk/09-conferences/river-basin-management-2009.html>)
- **4th International Symposium on research in Protected Areas** , September 17-19, 2009 Mittersill (Austria) (www.alparc.org)

Newsletter Editor



GISIG - Geographical Information Systems International Group (Project Co-ordinator)
Via Piacenza, 54, 16138 Genova, Italy
Tel: +39 010 83 55 588 - Fax: +39 010 83 57 190
E-mail: gisig@gisig.it - URL: www.gisig.it

