

GLOBAL **excursion** ↩

Extended Curriculum for Science Infrastructure Online

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LIST OF ABBREVIATIONS

Abbreviation	Description
MS	Milestones
ViSH	Virtual Science Hub
WP	Work package

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1 Publishable summary

1.1 *Executive Summary*

GLOBAL excursion is a new way to science education. In this project we will introduce e-Infrastructures to educators and their pupils at the age of 14-18 years.

The aims of GLOBAL excursion are basically twofold: on the one hand we envision to enrich science teaching in European schools and on the other hand we offer researchers and their institutions a promotion channel towards a school audience. Via a central web portal, called the Virtual Science Hub – “ViSH” we provide scientists, teachers and their pupils as well as policy makers a package of activities, materials, and tools for enabling the integration of e-Infrastructures into school curricula.

The ViSH (<http://vishub.org>) is the main access point. It contains a selection of e-Infrastructures, a social network where scientists and teachers are able to exchange and establish collaborations, and a virtual excursion room, where pupils are able to experience real e-science applications in areas of high relevance for the future, such as nano- and biotechnologies, volunteer computing, and life sciences.

During its first year the project has been concentrating on developing and implementing a first version of the ViSH in a truly participatory way. Teachers, as one of the main user groups, have been involved from the very beginning to co-design together with scientists and developers a service that meets their specific pedagogical requirements, that adapts to their personal teaching styles and that fits their specific teaching curricula.

In order to spread the word about the ViSH and its offers for teachers and scientists a series of dissemination activities have been launched, from the creation of information material – in print and online - to the attendance of specific events and contributions to the academic knowledge base via scientific publications. Overall, the response from the target audience has been very encouraging so far, motivating the whole team to continue along our defined path and to critically analyse and adapt the ViSH according to the specific requirements from our user community.

1.2 *Objectives*

The aim of this project is to provide young citizens and their educators across Europe with a range of e-Infrastructures and access to expert knowledge on their usage for a joyful exploration of e-Science through e-Infrastructure. GLOBAL excursion targets pupils between 14-18 years of age. Participating schools and science communicators will engage in communication and teaching activities.

The main purpose of the GLOBAL excursion project is to enable students and teachers to access the experimental laboratories and resources of selected e-Infrastructures in order to improve science curricula by enriching schools' existing teaching and learning materials. By connecting e-Infrastructures, resources and tools with schools, pupils can experience challenging and authentic learning scenarios. Thus, students gain insights in real scientific work and revitalize interest in natural science education.

Another objective within GLOBAL excursion is to enable an ever increasing number of users from all science and engineering disciplines to publish, and effectively disseminate their use of

e-infrastructure in order to increase participation levels in research of global relevance and to allow potential users to access and share facilities and instruments. In this context four big areas of science have been selected to be initial use cases for the GLOBAL excursion: **nanotechnologies, biotechnologies, volunteer computing and life sciences.**

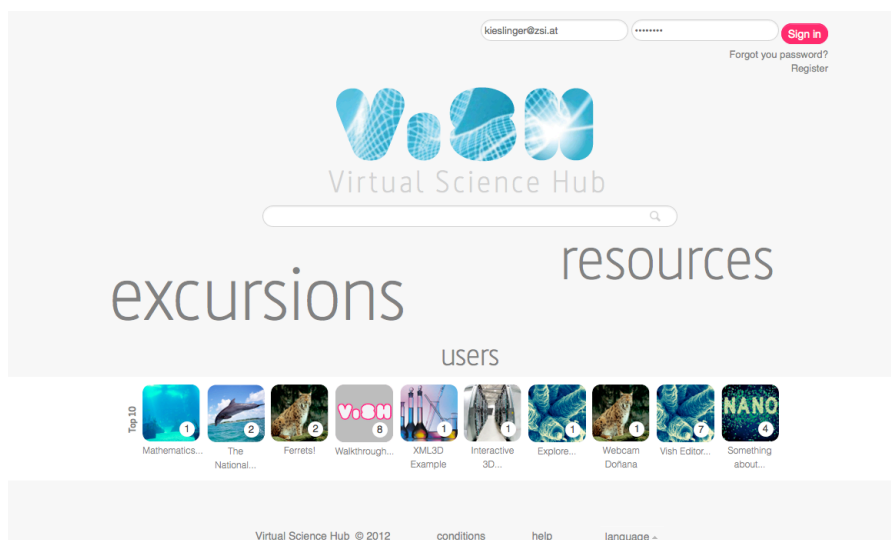
Those areas cover different phases of the scientific chain: fundamental and theoretical research, applied developments, use of technologies and dissemination. The selected areas represent strategic research topics selected by the EU as relevant for the future of the European Society. Researchers of those lines have acquired already a long experience in the usage of the e-Infrastructures. Current technologies allow remote operation of infrastructures, interaction between stakeholders and other community management issues. This makes possible to go one step forward in the scientific communication for those e-Infrastructures addressing the yet-to-become scientists and their teachers.

The overall aims of the project shall be realized via a central portal, the ViSH (<http://vishub.org>), where teachers and scientists collaborate in creating new learning experiences.

1.3 What have we achieved so far?

In the first year of the project we have been concentrating on the design and development of the ViSH. This has been achieved with the strong commitment from all partners and the active involvement of teachers from five European partner countries. In a participatory design approach the first version of the ViSH was created. Iterative feedback cycles between designers, developers and teachers led to deviations from the original design concept and guided the development of the ViSH in its current form.

The teachers communicated very clear ideas of what they wanted the ViSH to be like, how they would like to access it and what type of resources they wanted to have available and in which formats.



Vishub main entry page

Following an open approach the ViSH is supporting a range of pedagogical models that can be implemented according to the teachers' preferences and needs defined by the school

curriculum. It should be stressed that it is the teachers who have the control over the learning activity and they can design them according to their preferences. The main pedagogical models supported by the ViSH are problem-based learning and inquiry-based learning. Teachers can arrange activities including remote experiments and simulations. Any learning activity on the ViSH is presented in a so-called “virtual excursion”. These virtual excursions can then be delivered as group work or individually. A detailed user manual is guiding the users through each step of the ViSH.

The lead users amongst the participating teachers have just recently started in making use of the ViSH in their classrooms and we expect valuable feedback for the further enhancement of the ViSH and its resources provided to European science teaching.

1.4 What is still to come?

The next two phases in the project are dedicated to the wider implementation of the ViSH in schools across Europe. At the same time we expect to perform a co-evolution of the portal. Continuous feedback from the users together with some specific evaluation tasks will contribute to the improvement of the service.

Evaluation is an important objective during the upcoming year. Following the participatory design approach that has been initiated at the very beginning of the project we will continue our evaluation in a very participatory and interactive manner, gathering expert knowledge from the active users of the ViSH and analysing its implications.

In addition, dissemination activities will continue to be launched via various channels, online and offline in order to increase the number of active users on the ViSH, from schools as well as scientific organisations. Teachers shall be using the ViSH for their science teaching and scientists shall promote their resources specifically to a school audience.

2 Core of the report for the period: Project objectives, work progress and achievements, project management

2.1 Project objectives for the period

The project objectives of GLOBAL excursion are arranged along four partly overlapping phases. During this first reporting period mainly the first 2 phases have been active:

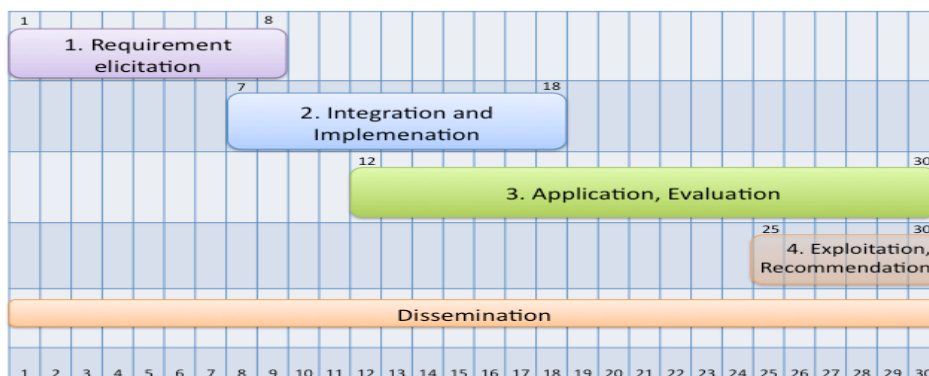


Figure 1: The Four Project Phases

Phase 1: Requirement elicitation and partner involvement- Month 1 – Month 8

The first phase of the project is dedicated to carrying out the basis for both: the *development of the necessary basic infrastructure* (the adoption of the GLOBAL software for being the virtual hub as well as the involvement of relevant scientific e-Infrastructure providers) and the *requirements for content work and pedagogy concepts*. Participatory design workshops with different stakeholder groups take place in this phase. Existing e-Infrastructures will be contacted, features and functionalities will be adopted and technical improvements will be done according to user needs.

Phase 2: Integration and Implementation - Month 7 – 18

In the second phase of the project, mainly the content of the *virtual excursion room* will be elaborated and additional existing *e-Infrastructure will be integrated*. The pedagogical framework will be developed; for the extended curricula, tasks and materials will be worked out, teacher trainings will take place.

Phase 3: Application, Evaluation Month 12 – 30

This phase is only marginally entering the first project period, as it will be initiated at the last month of project year 1. Phase three will be the *core phase* of the supporting action, integrating infrastructures, involving the different stakeholder groups and bringing live to the virtual hub. During this phase only selected schools will have access to the hub and will be able to run their tasks and exchange about their work, interactive sessions will be carried out and various live-events and science competitions will be organised. *Evaluation* activities will feedback to the implementation activities.

2.2 Work progress and achievements during the period

Work progress and achievements during this reporting period are described in the following according to the work packages:

Work package 1: Requirements Analysis, User-centred Design

WP1 had a leading role in the initial phase of the project as it defined the requirements for the services to be provided from a user-centred perspective. A clear methodological approach for involving teachers in the project based on the principles of participatory design has been defined and implemented.

The involvement of the teachers from the very beginning has been identified as crucial for the success of the project and thus an early workshop with the lead teachers or “pedagogical advisors” as we call them in the context of this project was held at the beginning of December 2011. The preparation of this workshop and the recruiting process were coordinated by ZSI and EUN. Other partners join in for specific clarifications on technical issues and infrastructure requirements. A set of informative material was prepared for the teachers. Before the workshop individual interviews were conducted with the teachers in order to get a first understanding of their workplace and teaching practice.

Via this first workshop, where the specific needs and requirements of the target users were defined in a participatory way, a communication process was initiated between all the stakeholders, the project partner, scientists providing access to their e-Infrastructure and the teachers. The dialogue is continuing via a specific weblog, the “teacher’s blog”, which was set up as a main communication channel for the on-going collaboration and consultation process.

The requirement analysis performed during that period has been extended with an additional requirement analysis of Computer Science teachers led by MTA SZTAKI and BIFI. A virtual workshop and further discussions have been organized based on the agenda of the participatory workshop, but with more focus on computer science, thus grid and volunteer computing.

As defined in the Description of Work, two deliverables were produced in this work package:

D1.1. Report on user requirements

This deliverable discusses the methodology for the teacher involvement and the requirements elicitation as well as its implementation. It also presents the analysis and results of the initial participatory design process.

D1.2 Blueprint of teaching use cases, technical and pedagogical artefacts

The aim of this deliverable was to provide tools and templates for designers, teachers and scientists with a framework for the technical and pedagogical implementation of the ViSH. Based on the initial scenarios developed by the teachers and designer together with the pedagogical and technical artefacts a blueprint was developed that covers activities during the preparatory phase, the teaching phase and the post-teaching phase. This deliverable has received important input from work package 4.

According to Annex I this work package ended during this reporting period, at month 8 of the project. However the work initiated here, especially the involvement of all stakeholders via a participatory design approach, will be continued in the future implementation of the project, mainly in the work packages 4 and 6.

This work package has not experienced any major deviations from Annex I nor have there been any other issues that would have required corrective actions.

Work package 2: Virtual Science Hub - ViSH

Work package 2 started its first year with designing and developing the first version of the Virtual Science Hub – ViSH. The main two partners involved in this WP, namely UPM and ASSA, have collaborated in analysing the requirements and designing the functionality and interfaces that the ViSH will have. Wireframes were created and validated with the rest of the partners and the teachers. Initial feedback on the design of the ViSH and its functionalities was collected first from the partners and then from the teachers. Apart from the feedback during the teacher workshop, the communication method with partners and teachers was done through the “teachers’ blog” where feedback was compiled and considered it to generate new versions of the wireframes. With the feedback received for this main target group, important conceptual adaptations have been made. The originally foreseen game approach has been played down in favour of emphasizing the other virtual excursion types since teachers preferred another educational tools such as the virtual meetings and the flashcards.

In addition to the main ViSH portal, MashMeTv was also presented at the teachers’ workshop. Teachers and project partners decided to use it for synchronous meetings at ViSH. An integration between MashMeTv and ViSH has finally been achieved by the end of the first project year.

During this period, the first stable version of the ViSH platform has been released and is now accessible at: <http://vishub.org>. This first release is also the first deliverable in this work package,

D2.1 First release of reliable Virtual Science Hub with virtual Excursion Rooms.

The ViSH offers social networking capabilities for teachers and scientists who can register and state their topics of interest. They can follow each other, update their status, comment on activities and send private messages. ViSH also contains in this first version collaborative functionalities. Users can upload resources of their e-Infrastructure and tag those resources according to topics. The resources are stored in a repository and can be searched, commented or made favourite. They also appear on the users and their followers' timelines. Finally users can combine those resources (along with external resources) in a special presentation, called a "virtual excursion". Virtual excursions are also social objects and can thus also be commented, favoured and so on.

Topics and areas of interest are structured according to a folksonomy, with an initial seed of four topics related to the e-Infrastructures participating in the project: nanotechnology, biotechnology, life sciences and grid computing. Users can add their own topics but those four are suggested as a hint and given an initial position, so e.g. they are suggested first when autocompleting. Finally virtual excursions have been integrated with MashMeTv and the teacher can enter a videoconference room to collaborate with the scientist during the presentation.

After the first stable release of the ViSH, a lot of feedback from partners and teachers was collected. All reported bugs were corrected and the rest of the feedback was evaluated by the developers and designers team and incorporated in the ViSH as far as possible as commented in deliverable ***D2.3. Usability analysis report of first release.***

In the final period of year 1 improvement have been made to the ViSH. A recommender system has been integrated, and now every user has in his/her home page a tab called "for me" that displays virtual excursions and resources that the recommender system finds adequate depending on the user profile, preferences and previous visits to the ViSH. The MashMeTV integration and the search functionalities have been improved. Now the user will be able to separate the search results by type of resource, by date, by author, and order them by relevance or by date. Documents have been fully integrated in the ViSH repository. In the previous version documents could be uploaded and downloaded but this functionality have been improved and now documents (such as pdfs and docs) can be viewed directly in the browsers without leaving ViSH. This improves the usability of the whole site. Finally excursions have been improved with the possibility of creating flashcards. The user can select a background for the flashcard and indicate the "hot zones" to link with the slides. The resulting interactive resource fits pedagogical needs.

This work package has not experienced any major deviations from Annex I nor have there been any other issues that would have required corrective actions.

Workpackage 3 Scientific Infrastructures

The aim of this work package is to provide scientific infrastructures via the ViSH. During this period WP started the discussion with the main actors involved, namely scientific infrastructure providers themselves, ViSH hub developers and teachers. First of all, WP 3 partners prepared descriptions of their available infrastructures and discussions started on how to best accommodate it to the teachers and students necessities and their scheduling during the school year within their current subjects.

Interaction with the teachers took place mainly during the teachers' workshop, but also locally by some partners. In them, they were asked about their work, the topics that they have

to cover in their classes, etc. Using this information, some ideas were developed about how to better present the infrastructures to them as part of the ViSH.

With the information collected on the previous interviews with the teachers, some more online meetings were held with the responsible of some of the infrastructures in order to accommodate the development of the materials to the level and necessities of the classrooms. Based on the feedbacks of the computer science teachers, further investigation has started to find the most attractive applications for presenting grid and volunteer computing in classrooms. Other projects such as PRACE and HP-SEE have been contacted to discuss a possible future collaboration. Both these projects are involved in supercomputing.

Work package 3 partners started to develop new virtual experiments with the advice from their own educational departments and local schools e.g. in Cambridge. Different content from the infrastructure providers and external resources has been uploaded to the ViSH that is going to serve as an example for the teachers so they can start giving us feedback. With all the views received, modifications will be made to the ViSH and to the materials uploaded so they can be adjusted to the topics and level that the teachers are going to explain in their classes.

Apart from available content, e-Infrastructure partner also developed and adapted resources according to the needs and requirements defined by the teachers. Several informal discussions between developers, scientists and teachers have taken place in order to reflect the scientists and the teachers' views in the new virtual experiments currently being developed. In addition, existing resources have been tested with teachers and will continued to be developed. The partners also started to work with local schools in order to get some immediate feedback.

Work package 3 was preparing the deliverable ***D3.1. Design and Development of e-Infrastructures in Education*** with contributions from all partners and especially the three e-Infrastructure providers who contributed to this deliverable with a description of the resources they can provide via the ViSH.

Work package 2 partners have collaborated with the e-Infrastructures to give support and start introducing resources in the ViSH. In addition, requirement analysis of the resources to be uploaded has been performed and in the next period live resources will be integrated.

This work package has not experienced any major deviations from Annex I nor have there been any other issues that would have required corrective actions.

Work package 4 Pedagogical Concept and Training

Work package 4 is dedicated to the pedagogical aspects of the project and the interaction with the teachers. It will define a pedagogical concept based on findings from WP 1 and state-of-the-art literature on science communication to youth. In work package 4 we also aim to work out an easy to use application manual for daily teaching activities. The two main tangible results of this WP are thus a comprehensive teacher manual as a guidebook for using the excursion tool, and training activities for teacher tutorials.

In the start phase of the project the majority of the activities were focused on identifying the five (5) teachers who act as Pedagogical Advisors and contribute to the identification of the twenty-five (25) schools that will carry out the initial implementation phase of the project around Europe. The role of the Pedagogical Advisors is to co-design the ViSH and help define teaching use cases and ideas for generic approaches and templates, to test ViSH features and

give feedback, to assist and train local teachers in their countries and to coordinate the feedback from local teachers.

The next step was the design of pedagogical scenarios for the project activities based on the findings of work package 1 plus the input from the selected teachers. Work package 4 was assisting teachers in elaborating the scenarios they have started to work on during the Vienna workshop. Work package 4 has been coordinating the whole communication with the teachers and has been speaking to local teachers regarding the development of materials taken into account the country specific science curriculum and how this can fit. In order to cover the topic of Grid and Volunteering computing a special online workshop with computer science teachers was organised.

In May 2012 a call for teachers to participate in GLOBAL excursion was launched: <http://www.globalexursion-project.eu/?p=509>. The Call was disseminated through European Schoolnet's channels plus direct mailings to teachers with interest on these subjects. In the final phase of this first year work package 4 was busy selecting the appropriate schools. Support was provided by the respective educational ministries in most countries.

In addition, work package 4 developed a first version of the users' manual towards the end of this reporting period. The manual includes some pedagogical advice on how to use the ViSH as well as a detailed description of the specific functionalities. Important contributions came from work package 2 partners, the main developers of the ViSH. Some first feedback was also collected from the Pedagogical Advisors.

During the reporting period WP1 and WP4 haven been very closely working together and two deliverables were prepared:

D4.1 Pedagogic concept on implementing e-Infrastructure resources in schools is based on the scenarios co-designed by teachers and researchers and intends to cater for the needs of different teaching methods and pedagogical approaches. Such a broad approach has been voiced by the Pedagogical Advisors.

D4.2 User manual for teachers of e-Infrastructure integration in schools is the first version of a ViSH user manual that will be edited into a publishable version. In addition, a screencast that explains the ViSH have been recorded and will be used in the teacher training.

This work package has not experienced any major deviations from Annex I nor have there been any other issues that would have required corrective actions.

Workpackage 5 Dissemination and Exploitation

The objective of the work package is to raise awareness of the GLOBAL excursion activities, disseminate its results and exploit them in a sustainable way. Furthermore, the consortium will engage in significant cross-project clustering and networking in order to promote policy recommendations and build a wider consensus by incorporating results from similar networks, projects and initiatives to establish a European network.

The project website with internal/external contents and the necessary mailing lists have been created to facilitate the communication between the partners and the wider audience. This website is used by the project partners disseminating project related information (dates of coming events, project facts and news, etc). The public website is available here: <http://www.globalexursion-project.eu/> and is documented in the related deliverable **D5.1**.

GLOBAL excursion website. Further improvements, corrections, extensions have been conducted on the project website during the whole reporting period.

Usage statistics of official project website for year 1 (September 2011 – August 2012): The following figure illustrates the usage statistics for the reporting period.

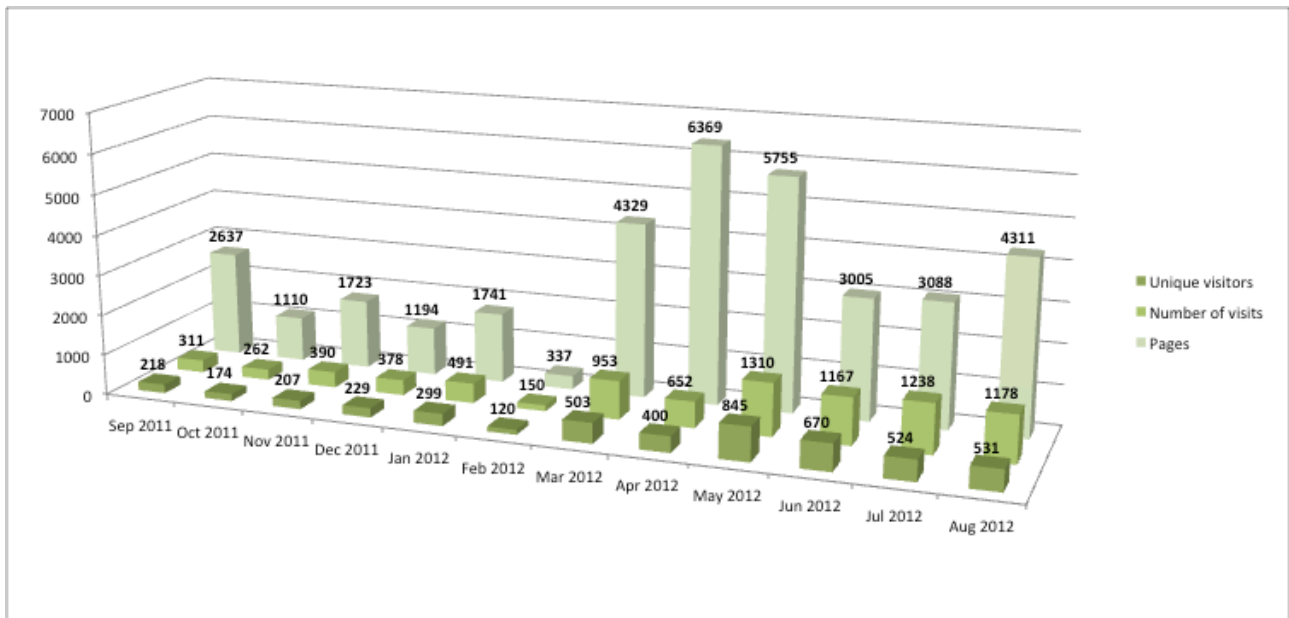


Figure 2: The Four Project Phases

Dissemination activities also supported work package 4 in promoting the call for Pedagogical Advisors and later on the wider call for participating schools/teachers. The organized teachers' workshop has been announced via several channels, mainly provided via EUN. The project featured several newsletters targeting teachers (e.g. Scientix newsletter, Teachers' newsletter, European Schoolnet Newsletter). In addition, in cooperation with the other work packages a discussion blog has been setup for teachers (so far for internal usage only). Via the blog teachers can share their use case scenario ideas and later their experiences with the ViSH.

As part of the awareness and dissemination plan, project members gave presentations at various important events (e.g. 10th International Desktop Grid Federation tutorial and workshop, Seminar & Workshop: Desktop GRID Computing, 9th e-Infrastructure Concertation Meeting, the EGI Technical Forum, EDEN 2012 Conference, University of Cambridge Science Festival, Enabling Technologies meeting in Istanbul, etc.). In addition, articles promoting the project were published in various media, such as newsletter and external distribution media (e.g. iSGTW, an international weekly online publication) and an interview was given in a national radio programme in Spain, which is a magazine oriented to the general-public.

In terms of scientific conferences, a paper has been accepted and has been presented at the EDEN 2012 conference. Three papers related to the GLOBAL Excursion have been accepted in the Frontiers in Education 2012 conference. They will be presented in October in the conference. One paper has been accepted for the eChallenges Conference to take place in October 2012 too.

The deliverable ***D5.2 Dissemination and awareness plan*** has been prepared and submitted. This document provides the basis of a successful dissemination of the GLOBAL excursion project, and contributes to a comprehensive awareness strategy. The consortium has prepared dissemination material including a poster and leaflets for a scientific audience and specific events. A special leaflet for teachers is under preparation.

Dissemination activities also took place specifically towards school audiences at national level, e.g. at a summer camp for secondary school students in Hungary where the ViSH was presented to a young audience and they could try out the portal or at the "Physics at Work" event at University of Cambridge.

This work package has not experienced any major deviations from Annex I nor have there been any other issues that would have required corrective actions.

Work package 6 Usability Assessment and Recommendations

This work package comprises evaluation activities aiming at assessing the user friendliness of the ViSH, its activities and its content, and carrying out recommendations for both, education policy makers and policies for e-infrastructure providers. Work on this package is directly connected to the outcomes of work packages 1, 2, and 3.

Work package 6 started to become active only in the second part of this reporting period. The activities performed relate mainly to the assessment of user friendliness of the virtual excursion hub and its activities and materials. An initial set of testing activities were planned for the pedagogical advisers in order to collect early feedback from the on the first version of the ViSH regarding usability and user friendliness.

The partners involved in this work package also started to work on an overall evaluation strategy and specific methods to be applied. No deliverable has been foreseen in year 1 for this work package.

This work package has not experienced any major deviations from Annex I nor have there been any other issues that would have required corrective actions.

3 Project management during the period

Overall, the project management for this period was very smooth. The main challenge for this WP during the first reporting period has been to organise a successful project start. The Kick-off meeting, which took place in Vienna, 15.-16. September 2011, was an important instrument to achieve this goal.

During the kick-off meeting the members of the following boards were defined: Board of WP leaders, the Project Management Board, the Ethical Board and the General Assembly.

In addition an external advisory board was established, which consists of:

1. Prof. Bernd Stahl: <http://www.cse.dmu.ac.uk/~bstahl/> he is professor of critical research in technology and director of the centre for computing and social responsibility and he coordinate a project called "Ethical issues of emerging ICT applications" <http://www.etica-project.eu/>. He is our ethical expert.

2. Klaus Himpsl-Gutermann: <http://www.donau-uni.ac.at/klaus.himpsl> he will be our pedagogical adviser as he has experience from practical teaching in schools and now he is also involved in some research on the use of new media for teaching.
3. Victor Castelo from CSIC, Spain: <http://www.csic.es/web/guest/home> he is our technical expert as he has expertise in research networks and eInfrastructure.

At the project start Work package 7 also started to establish communication and collaboration processes, such as regular virtual meetings, the use of an online-shared workspace and a project mailing list. In addition, quality procedures, such as the peer review process for the project deliverables, were introduced.

Regular monthly virtual meetings have been established as an important communication means within the consortium.

Regarding administrative and financial tasks during this period work package 7 distributed the signed contract and the advanced payment to the project partners. Quarterly status reports were produced and sent to the Project Officer and at the end of the year partner were advised on how to submit their financial reporting.

The management team took care of a smooth execution of all tasks, of high quality and following the defined deadlines. All deliverables have been submitted on time and the milestones defined for the first year have been reached.

Overall the project is making good progress and is in line with the work plan defined in the DoW. There are no major deviations from the work plan as described in the DoW, nor have there been any problems or changes within the consortium. The only work package that faced some changes in their original plan is work package 2, where the original plan of the ViSH design was changed based on the feedback from the teachers in the participatory design workshop held at the beginning of the project.

In terms of networking with other projects, we have started some first initiatives. Close collaboration has started with the eScience Talk project as a result of a signed MoU (Memorandum of Understanding). The agreed actions include joint events, dissemination and publicity activities. SZTAKI organised a meeting with the representatives of the PRACE and HP-SEE projects for a possible future co-operation in the form of a Memorandum of Understanding. The joint actions would include extending resources in ViSH with PRACE supported applications, not only in the field of Computing and disseminating/featuring PRACE supported applications at teacher trainings. Talks with the “DISCOVER the Cosmos” and “Pathway” project have been initiated as well.

In the following consortium meetings as well as dissemination activities and publications are listed:

List of project meetings

Date	Partner attending	Description
15-16 September 2011	ALL	Kick-off Meeting ZSI, Vienna, Austria
03-04 December 2011	ALL	Participatory Teacher Workshop, Vienna, Austria
19-20 March 2012	ALL	GLOBAL excursion consortium meeting, Cambridge, UK

List of dissemination events

Date	Description
14-16 September 2011	European Foundation for Quality in e-Learning (EFQUEL) - Oeiras, Portugal
19-21 September 2011	Social Innovation Conference - Vienna, Austria
19-23 September, 2011	EGI Technical Forum - Lyon, France
20-22 September 2011	Physics at Work 2011 - Cambridge, UK
22-23 September, 2011	9th e-Infrastructure Concertation Meeting - Lyon, France
27-30 September, 2011	10 th International Desktop Grid Federation tutorial and workshop - Selangor, Malaysia
4 October, 2011	Seminar & Workshop : Desktop GRID Computing – Bandung, Indonesia
14 October 2011	National Research Programme Sparkling Science – Vienna, Austria
03-04 December 2011	Participatory Teacher Workshop, Vienna, Austria
26.02-02.03.2012	ISGC 2012 Conference
12. 25. March 2012	Cambridge Science Festival
21- 23 March 2012	International Conference on Research Infrastructures (ICRI 2012), Copenhagen, Denmark
27 March 2012	e-skills event in BMUKK, Vienna, Austria
26-30 March 2012	EGI Community Forum 2012, Munich, Germany
18-20 April 2012	12th International Public Communication of Science and Technology Conference, Florence, Italy
23-25 April 2012	Science in Dialogue conference, Odense, Denmark
25 May 2012	Enabling Technologies meeting in Istanbul, Turkey
31 May 2012	Global-excursion has been presented at the Excite 2012 Conference in Toulouse, France
5-9 June 2012	EDEN 2012 Conference
24 July 2012	Eötvös Természettudományos Tábor
14-16 September 2012	Scientix workshop: Science projects and teaching STEM in the Future Classroom, Brussels, Belgium
17-21 September 2012	EGI Technical Forum
3-6 October 2012	Frontiers in Education Conference
17.-19. October 2012	eChallenges 2012 Conference

List of scientific publications

Date	Title
June 2012	<i>Holocher-Ertl, T., Kieslinger, B., Fabian, C.M.: Linking Schools with Science: How Innovative Tools Can Increase the Effectiveness of Science Teaching in the Classroom - In Proceedings of the 2012 EDEN Annual Conference</i>
October 2012	<i>Enrique Barra Arias, Daniel Gallego Vico, Sandra Aguirre Herrera and Juan Quemada Vives: Facilitating the creation of K-12 interactive learning objects using a multi device web tool - In Proceedings of the 2012 Frontiers In Education Conference</i>
October 2012	<i>Enrique Barra Arias, Daniel Gallego Vico, Sandra Aguirre Herrera and Juan Quemada Vives: A web tool to create educational content with gaming visualization - In Proceedings of the 2012 Frontiers In Education Conference</i>
October 2012	<i>Daniel Gallego, Enrique Barra, Sandra Aguirre and Gabriel Huecas: A Model for Generating Proactive Context - Aware Recommendations in e-Learning Systems - In Proceedings of the 2012 Frontiers In Education Conference</i>
October 2012	<i>Holocher-Ertl, T., Kieslinger, B., Fabian, C.M.: Designing for the users or with the users? A participatory design approach for science teaching in schools. - In Proceedings of the 2012 eChallenges Annual Conference</i>

3.1 Deliverables and milestones tables

Deliverables

The following table lists all deliverables for this first reporting period. All deliverables were submitted as planned and there were no deviations from the original work plan as defined in the DoW.

TABLE 1. DELIVERABLES											
Del. no.	Deliverable name	Version	WP no.	Lead beneficiary	Nature	Dissemination level ¹	Delivery date from Annex I (proj month)	Actual / Forecast delivery date Dd/mm/yyyy	Status No submitted/ Submitted	Contractual Yes/No	Comments
D5.1	GLOBAL excursion website	1.0	5	ZSI	O	PU	M3	30/11/2011	Submitted	Yes	
D1.1	Report of user requirements	1.0	1	ZSI	R	CO	M4	17/01/2012	Submitted	Yes	
D5.2	Dissemination and awareness plan	1.0	5	MTA SZTAKI	R	CO	M6	01/03/2012	Submitted	Yes	
D4.1	Pedagogical concept on implementing eInfrastructures	1.0	4	ZSI	R	PU	M6	11/03/2012	Submitted	Yes	

¹

PU = Public

PP = Restricted to other programme participants (including the Commission Services).

RE = Restricted to a group specified by the consortium (including the Commission Services).

CO = Confidential, only for members of the consortium (including the Commission Services).

Make sure that you are using the correct following label when your project has classified deliverables.

EU restricted = Classified with the mention of the classification level restricted "EU Restricted"

EU confidential = Classified with the mention of the classification level confidential " EU Confidential "

EU secret = Classified with the mention of the classification level secret "EU Secret "

	resources in schools										
D1.2	Blueprint of teaching use cases, technical and pedagogical artefacts	1.0	1	EUN	R	PU	M8	16/05/2012	Submitted	Yes	
D2.1	First release of reliable Virtual Science Hub with virtual Excursion Rooms	1.0	2	UPM	P	PU	M8	21/05/2012	Submitted	Yes	
D3.1	Design and Development of e-Infrastructures in Education	1.0	3	UNIZAR	R	PU	M8	13/06/2012	Submitted	Yes	
D2.3	Usability analysis report of first release	1.0	2	ASSA	R	CO	M10	06/09/2012	Submitted	Yes	
D4.2	User manual for teachers of e-Infrastructure integration in schools	1.0	4	EUN	R	PU	M12	25/09/2012	Submitted	Yes	

Milestones

The following table lists all milestones for this first reporting period. All milestones were achieved as planned and there were no deviations from the original work plan as defined in the DoW.

TABLE 2. MILESTONES							
Milestone no.	Milestone name	Work package no	Lead beneficiary	Delivery date from Annex I	Achieved Yes/No	Actual / Forecast achievement date	Comments
MS1	Pedagogical concept on implementing eInfrastructures in schools	1	ZSI	M6	Yes	M6	
MS2	First version of Virtual Science Hub (ViSH) based on requirement analysis	1,2,3	ALL	M8	Yes	M8	
M3	First Training Activity for Teachers	4	EUN	M12	Yes	M12	

4. Conclusion

The project achieved its goals as set for the first project year and is in line with its work plan. The active participation of all actors, including the consortium external teachers contributed to the development of an advanced portal for science teaching that offers access to scientific infrastructures and creates new experiences.

In the following year, the aim is to consolidate the portal based on continuous user feedback and perform targeted evaluations, expand the scientific offers on the ViSH, engage and train teachers in using the ViSH and promote it as widely as possible.