DELIVERABLE

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D2.1 – White paper on Natural Europe Vision

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Statement of originality:

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

Executive Summary

This deliverable documents the process and ongoing results for the establishment of a joint vision on what Natural Europe is trying to achieve (objectives, scope, stakeholders and expected outcomes). In its initial version it reflects the outcomes of the interactive session on "*the ideal project*" that has been organized with the participation of all the partners during the Kick-Off Meeting in October 2010.

During the project's lifetime, this White Paper will serve as a living document that will be periodically revisited and revised, recording the outcomes of similar interactive sessions to take place during project meetings as well as other ways in which the project vision is affected/shaped. Overall, will try to document the evolution of the Natural Europe vision and the foreseen outcomes under the objectives set forth by the project.

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1. Introduction

1.1 Scope

This document is primarily meant to document partners' expectations, ambitions and prospects for the project outcomes. In short, the goal is to answer the question: "Imagine that it is 2012 and Natural Europe has just finished. What are the desired project outcomes that you would envision being able to successfully integrate in your organizations activities? To answer this question, we organized an interactive session during the Kick-Off meeting of the project, and we explored what project success means from different perspectives: for the consortium as a whole and for each of the participants, for the project stakeholders, for the scientific community, for the commission, for the society. Below, we document the process and reflect on our discussions, to outline our consensus regarding the vision of the project, and its main outcomes.

1.2 Audience

This document is primarily meant to be used within the Natural Europe consortium, in order to document and reflect the discussions and consensus reached regarding the vision of the project. In addition, it is addressed to the European Commission, to demonstrate the course of this project and its main outcomes. Other projects could potentially adapt the process followed, in order to describe their own vision.

1.3 Definitions/Abbreviations

Vision: A project's vision is the desired state or ultimate condition that the project is working to achieve. It is typically expressed in a vision statement which is a clear and brief summary of what the project team members and their partners would like to achieve.

NHMs: Natural History Museums

SCs: Science Centers[1]

1.4 Structure

Chapter 1: Gives an introduction to the document, presenting its scope, audience and structure,

Chapter 2: Presents the questions posed in the Natural Europe Kick-Off meeting regarding the expected outcomes of the project, along with an initial analysis of the input provided by the partners,

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[1] Herewith, both Natural Museums and Science Centers will be referred to as "NHMs".

Chapter 3: Describes the Natural Europe approach as this is described in the Description of Work, aligning the questions posed on the Kick-Off meeting with the contractual work to be carried out,

Chapter 4: Provides the Natural Europe Vision Statement, summarizing the points raised during the Kick-Off meeting session, along with the input from the Description of Work

2   Identifying project vision via participatory exploration

One of the keys for project success but also for establishing a common understanding on the basic objectives of any project is to identify exciting and inspiring goals that all project partners can relate to and understand. Apart from a strong management structure that is defined by formal processes and obligations that are described in related documents, team building is also an important part of the whole process. Through it, people are able to work together effectively and efficiently coping with any problematic or challenging situation that may come up during the project implementation.

2.1   Process

The process followed to produce this deliverable is the following:

- A set of questions has been identified as pivotal in charting the vision of the project;
- An interactive session around these questions has been organized in the context of the Kick-Off meeting (October 11-13 2010, Bayreuth & Eichstaett, Germany)
- All partners' responses have been documented and reflected upon;
- A draft version of the White Paper has been prepared and circulated to the consortium to get initial comments;
- The initial public version of the document was prepared based on comments received.

During the next project meeting, a similar session will be organized, reflecting on the initial version of the document and identifying new directions and revisions to this document. This document will also be hosted online on the project workspace, so that people can consult the document at any time, but also provide their feedback and input as the project progresses.

In the interactive kick-off session, participants were split into groups, comprising from six to eight people each, and a common set of questions was posed to them. Before this process, the session started with a brief presentation of the main Natural Europe objectives, as these were described in the project proposal and are reflected in the Description of Work (DoW). To continue, the process that would be followed during the session was explained to the participants. More specifically, the process that was followed involved:

I.   participants were split into **groups**
II.   a **question** was posed
III.   each participant was given 1 minute thinking about it **on his/her own**
IV.   10 minutes were allowed for discussion **within groups**, taking notes altogether
V.   each group was given 2-3 minutes to **present/report ideas**

In total, two (2) questions were posed, which are analyzed in the following paragraphs. These questions aimed mainly at identifying the main outcomes that will be produced by the project but also identifying the potential audiences/consumers of the project outcomes.

Figure 2-1: Group 1 at the participatory session at the Kick-Off meeting

Figure 2-2: Group 2 at the participatory session at the Kick-Off meeting
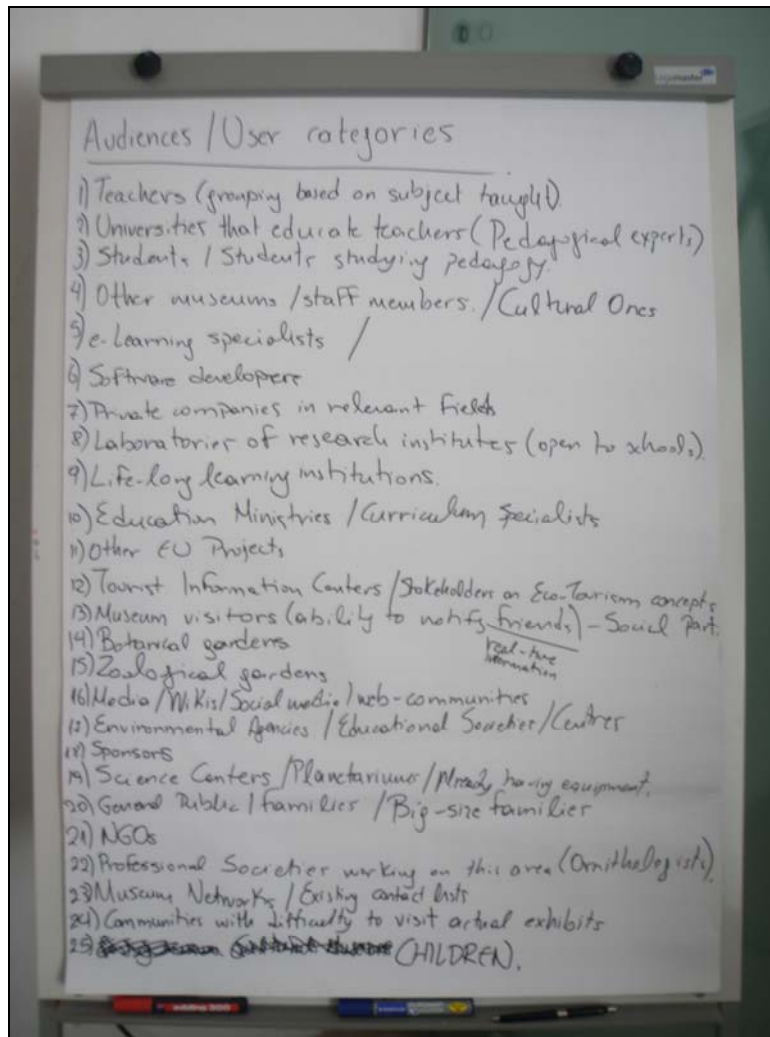
Figure 2-3: Input documented on a flipchart

2.2   Question 1 – Services & Tools

The first question focused on the services and tools that the partners would see coming out of the Natural Europe project. The aim of this question was to build a common understanding around the tools and services that the partners would see being produced, so that the consortium could start building a common understanding of the main project parameters.

Imagine that it's already October 2013 and that the **Natural Europe online services** are up and running and that you are **extremely excited** about them: the outcome has surpassed all your expectations! What **type of services** are you envisioning the project to deploy/offer in 3 years? What type of **digital content** may be accessed by these services?

In the following table (2-1), all the responses from the mind map were documented (column *Idea*), along with an elaboration of the initial input, based on the discussions during the Kick-Off meeting, helping to bring the idea closer to the project objectives and rationale.

Idea	Reflection
Using a 3D tool to show how the exhibit was and how it is now	Go beyond the traditional 2D and laptops or palmtops used already, in order to enhance the whole experience
Support Virtual Visits	Provide the visitor the possibility to create his/her own visit or follow an already structured one, virtually, serving people that have no access to the museums due to geographical or other reasons
Involve different interaction technologies in the museum exhibition	Use alternative methods of presenting the exhibits, complementary to the existing ones (e.g. PDAs, phones, virtual aquariums, etc.)
Multilingual content	Address the challenge of adapting and reusing content from other museums for local needs
Involvement of students & pupils in the content creation process	Students, pupils and visitors in general, generate big amounts of content during their visits to NHMs. How can this content be used by the NHMs ?
Museum visits are usually not fully prepared but instead they are more focused on entertainment rather than education	Learners have limited time to spend on each exhibit. They need greater support on the actual visit (with additional material and services) but also demand follow up, after the visit has ended
The resources of the museums themselves are scarce	NHMs may not have big collections on all subjects that they deal with. Information coming virtually from other museums, may contribute to this content scarcity
Form pan-European networks of access for NHMs	Create a wide network of museums and content, where each NHM can connect to retrieve virtual exhibits
Information in museums needs to be structured	Organize resources using metadata storing them in repositories, to also support the creation and maintenance/preservation of digital resources
Support multimedia content	Visits to NHMs are enhanced and made more interesting through the use of : text, sound, animation, providing different visitors with access to different content/packages, games and virtual translation of exhibitions

Idea	Reflection
Helping people prepare the visit at the museum	Provide support to each visitor to plan their visit to the museum, supporting teachers and individuals, thus attracting more visitors to the museums as well
Temporary exhibitions might have a life beyond the actual exhibition time is over	Space and time is always an issue for most NHMs that host temporary exhibition next to their permanent ones. With the use of virtual reality and digital resources, exhibitions may be supported even when the physical counterparts of the exhibits are moved from the museum floor
Volume of information needs to be manageable and still interesting	Visitors have to be exposed to the right amount of information that will keep them interested and excited, without being overwhelmed with the volume of information available
Identifying audiences that may be interested to the project outcomes	Teachers – museum educators – general public (parents preparing visits, pupils, students
Keeping track of the museum visits	Providing the option of recording the visit while it takes place and replaying it afterwards – Produce dynamically adjusted pathways depending on the time you have at your disposal (Netherlands)
Practical applications: Compare how high an insect can jump	Make me behave as an elephant, if I was an ant I would be able to lift that many kilos, etc.
Content must be easily located, transparent	Actual object – find online pathways connected to the particular object / transparent for teacher – take advantage of content in Europeana

Table 2-1: Collected responses from question 1

Figure 2-4: Mind map produced from the responses in question 1

2.2.1 Summary of Question 1

The ideas that were contributed during this part of the session were really interesting and addressed a series of different issues related to the envisioned services that Natural Europe should offer. To better analyze the outcomes and use them to form the Natural Europe vision, the contributions were grouped in different categories, based on their main focus (technology-content-visitor). A fourth category (general) was used to reflect the ideas that came up, not being necessarily linked to the services that Natural Europe will develop.

Technology-related
- Using 3D representations to enhance the visitor experience,
- Support virtual visits along with physical ones,
- Smart phones and new technologies should be used in the NHMs,
- Technology should provide the possibility of recording your visit and/or managing and changing it in real time

STATEMENT: *"Technology can enhance visitors' experience in NHMs"*

Content-related
- Availability of multilingual content,
- Scarcity of physical exhibits or digital counterparts can be dealt with content from other museums,
- Need for organization of the digital content that is available in the NHMs for storage, retrieval and ultimately preservation,
- Multimedia content, and not only plain text, is a necessity for all museums,
- Digital content can allow the museum to "save space" from permanent exhibits by launching permanent "digital" exhibitions online,
- Practical and entertaining ideas on exhibits that will attract interest (i.e. if I were an Asian weaver ant, I would be able to carry my weight, 100 times[2], meaning..., etc.)

STATEMENT: *"Offer digital content in multiple formats and languages beyond space and distance or time restrictions that is both organized in an efficient and presented in an appealing way"*

Visitor-related
- Involve visitors in the content-creation process,
- Structure the visits in such a way so as to be efficient and have the greatest possible impact to the learner depending on the time he/she spends on the exhibits,
- Allow the visitor to plan their own visit to the museum prior to their arrival,

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[2] http://www.dailymail.co.uk/news/article-1252481/Pictured-Incredible-gravity-defying-ant-carry-100-times-body-weight.html

- Avoid overwhelming the visitor with excessive information he/she cannot process or manage within the time limits of the physical visit

STATEMENT: *"Make visitors an intricate part of the educational process that takes place in the NHMs and put them in the centre of the exhibitions through personalized experiences"*

General

- Form pan-European networks of NHMs that have common access to digital resources related to Natural History and other related subjects,
- Identify all possible audiences that may be interested in the Natural Europe project outcomes,
- Digital content available in the NHMs and other libraries and/or repositories should be transparent and easily retrievable by any individual or institution wanting to re-use it

STATEMENT: *"Scale and spread innovations in the NHM exhibitions on a large scale of institutions and individuals, free of access and copyright restrictions"*

2.3 Question 2 – Audiences & User Categories

The second question tried to identify the audiences/stakeholders that are either already in close cooperation with the project partners or not, and that would be interested in using the tools and services identified in question 1. This question aimed both at establishing some target audiences for the project outcomes, but also to feed the dissemination discussion, providing directions to which the project can disseminate its results.

> Who are the **people in your environment/networks** that you want to tell about these great online services? List **user categories/audiences** (colleagues, communities, institutions) that you feel would *love* this service.

In the following table (2-2), all the responses from the mind map were documented (column *Idea*), along with an elaboration of the initial input, which tries to identify the different perspectives from which the various audiences will relate to the Natural Europe project.

| Idea	Reflection
Teachers	Grouped based on the subjects they teach
Universities that educate teachers	Pedagogical experts
Students / Students studying pedagogy	Graduating from universities or in the process of obtaining a degree
Other museums, staff members, cultural museums	Dealing with similar problems that may be tackled in a similar way, or by using these tools

Idea	Reflection
e-Learning specialists	Would be interested to explore new ways of informal learning in the museum context
Software developers	Interested to develop novel applications for smart phones, software, etc.
Private companies in relevant fields	Either dealing with the technological aspect of such solution on the exhibit level, or working on the educational field
Laboratories of research institutes (open to schools)	That would be interested to adopt and re-use such tools to promote their exhibits, or explore novel ways of showing them
Education ministries / Curriculum specialists	Interested to support such initiatives on a National level to raise awareness around natural history, environmental protection, etc.
Other EU projects	Already working on digitization of content and museum exhibits, also looking for ways to use technology to complement existing collections of museums or even trying to offer novel ways of browsing through existing collections either as an educator or as a learner/visitor
Tourist Information Centers / Stakeholders on Eco-Tourism concepts	Visitors that come from other countries and want to get a quick tour around a museum, would use such tools that allow them to plan their visit as quickly and efficiently as possible
Museum visitors - Ability to notify friends – social part	Visitors would be interested in being able to share their experience in real time with their friends, as they pass through exhibits
Botanical Gardens	Adapted version of the Natural Europe tools and software would interest botanical and zoological gardens as well, as in many ways some of their exhibits are similar to the NHM ones.
Zoological gardens	
Media / Wikis / Social media	Web-communities may arise from such applications, discussing on the possibilities of such tools, planning their visit to the museums in advance, or creating and sharing their own pathways through the content
Environmental Agencies, Educational Societies / Centers, Non-Governmental Organizations	Similar applications can be adapted to fit the environmental education, create relevant pathways having to do with earth, environmental impact, endangered species
Sponsors	To find sponsors from the business world, that may be interested to fund such an initiative, to promote their goals through the tools created by Natural Europe (i.e. digitization equipment, presentation equipment, etc.)
Science Centers,	Already having the equipment, it might facilitate the adoption of

Planetariums	the Natural Europe concepts as a trial, to use with some of the exhibits
Idea	**Reflection**
General public	Especially families and/or individuals that happen to go to a museum, knowing nothing about it, they can be helped to create their own museum visit to fit their needs
Professional Societies working on this area	Ornithologists, biologists and other communities of scientists can form communities around museum education, supporting the creation of pathways on specific topics (i.e. bird evolution, etc.)
Museum Networks	Taking advantage of the existing Contact Lists of the partners to identify more museums that would be interested in contributing to the discussions carried out in the project, but also to adopt the tools and software on a trial basis
Communities with difficulty to visit actual exhibits	People that do not have the chance to visit the museum exhibitions due to distance or other accessibility problems, will be able to work with the exhibits online and get virtual tours of the museums
Children	Children are the primary visitors of museums in general. Any tool, software or service that will be deployed has to take into account the learning needs of the children and mainly to be useable from them and for them

Table 2-2: Collected responses from question 2
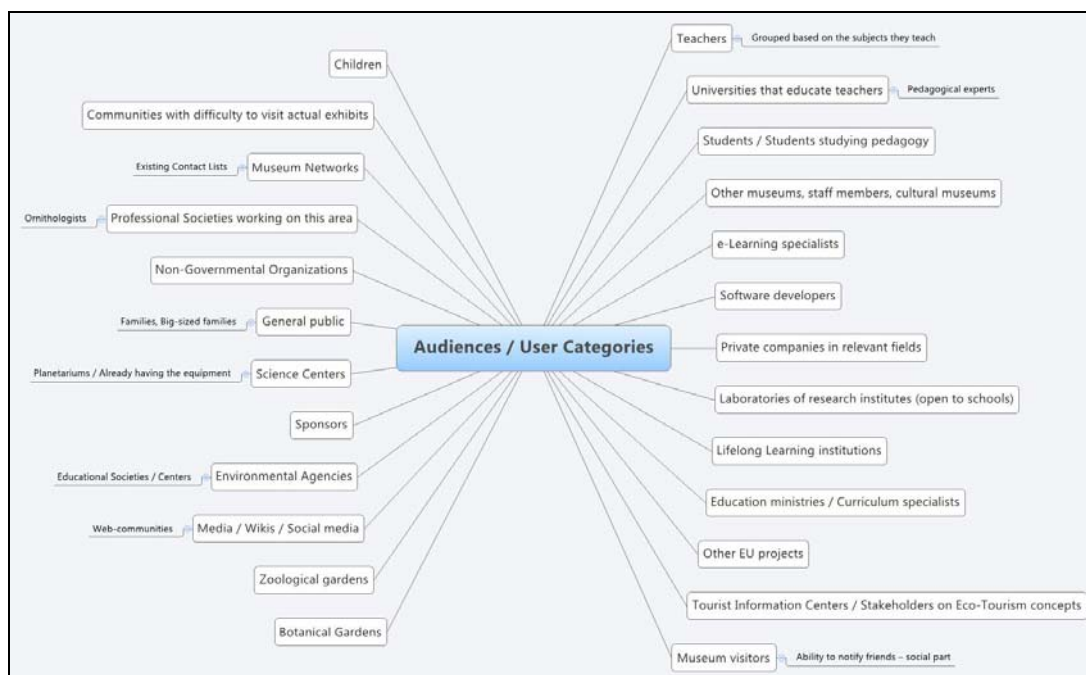
Figure 2-5: Mind map produced from the responses in question 2

2.3.1   Summary of Question 2

The input contributed during this session will affect many other work packages of the project, thus they are carefully examined and grouped into different categories, road mapping the audiences which Natural Europe will address in the near future. So, to better analyze the outcomes all contributions were grouped in different categories, based on their main focus (i.e. other NHMs/related museums – people – profit-driven – other).

Other NHMs / related museums

These audiences are in the museum business, like the NHMs of the project and although they might have a slightly different focus, they are likely to be interested in the project outcomes.

- Tourist information centres (Eco-Tourism)
- Botanical gardens
- Zoological gardens
- Science centres – planetariums
- Museum networks
- Research laboratories
- Other museums

STATEMENT: *"NHMs do not necessarily involve only Natural History Museums, but a wider*	*range of similar establishments"*

People

This category of identified audiences refers to people or wide communities of them that may be interested in the project outcomes.

- Children
- Teachers, based on the subjects they teach
- Students – students studying pedagogy
- E-Learning specialists
- Museum educators from other NHMs – Curriculum specialists
- Curators from libraries – museums
- Software developers
- Media – wikis – social media (web communities)
- General public (families, individual visitors, tourists)
- Professional societies working on the NHM topics (i.e. ornithologists, biologists, etc.)
- Communities with difficulties to visit the actual exhibits

STATEMENT: *"There's a huge potential in developing services that will serve a wide range of individuals around NHMs and other similar establishments, in a personalized way"*

Profit-driven

In this case, the input was focused on institutions and organizations that are profit-driven, a fact that directly influences the way they will interact with the project outcomes, aiming at profiting from them, rather than using them as educational tools.

- Sponsors (businesses)
- Private companies in relevant fields

STATEMENT: *"The services deployed must be able to support economically sustainable and viable services as well (i.e. Acropolis iPhone App[3])"*

Other

This category concerns all the stakeholders that cannot be classified to one of the previous ones, or may as well be a part of more than one of the above.

- Other EU projects working on similar areas
- Environmental agencies
- Non-Governmental Organizations
- Education ministries
- Universities that educate teachers

STATEMENT: *"Networking with people, institutions and initiatives is crucial for a successful project"*

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[3] http://itunes.apple.com/us/app/acropolis-and-museum-audio/id367692488?mt=8
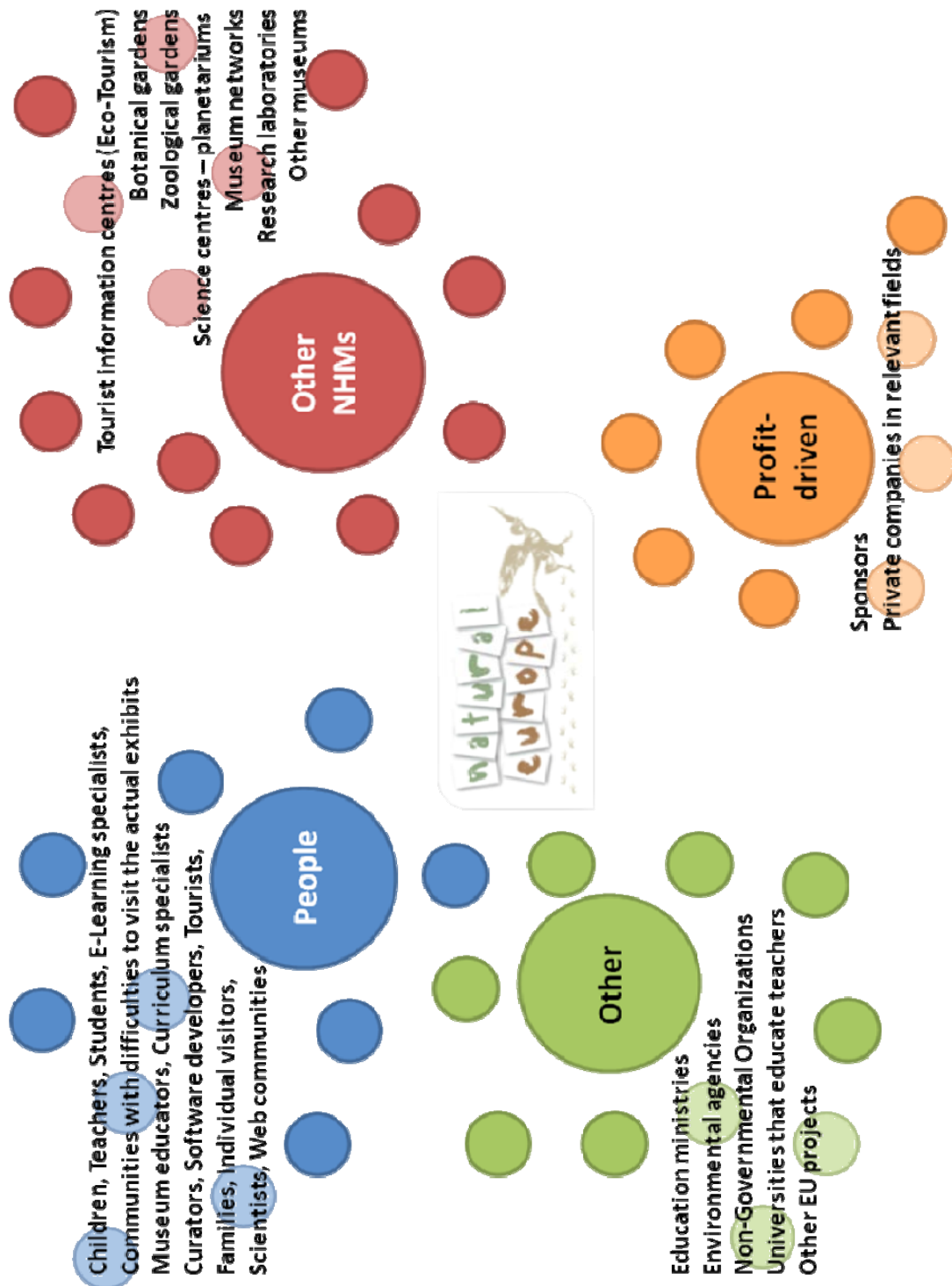
Figure 2-6: Envisaged Communities around Natural Europe

3 The Natural Europe Approach

Apart from the shared vision that is established through the vision building exercises during the project meetings, Natural Europe has already defined a set of key points that will be supported throughout the project lifetime and will be reflected on each project activity. These key points are clearly described in the Description of Work, but in the process of creating a shared vision on the project, it is deemed necessary to re-discuss and re-define them.

3.1 Open Access & Europeana

3.1.1 Open Educational Resources

Open educational resources (OER) are "*Digitized materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research*". Natural Europe is joining the efforts of a continuously growing body of universities, research centers and institutions around the world, that are adopting the concept of "openness" of educational material.

OER include different kinds of digital assets. These assets can range from courses, course materials and learning objects to museum collections but also include the tools that support the creation, delivery, use, organization and improvement of open learning content. In this context, "openness of resources and tools" will act as one of the main driving forces behind the work that will be carried out throughout the project.

3.1.2 Intellectual Property Rights (IPRs)

Natural Europe project has a specific strategy on the Intellectual Property Rights (IPRs) issues that arise regarding the outcomes and content that will be developed during the projects' lifetime.

IPR issues will be handled with, in the following cases:

- **Underlying content that consortium contributes to the project (input)**: IPR will retain to the authors/owners of the content and will not collectively belong to the consortium members. Access rights to the item level will be freely granted even after the project ends, reflecting the project's attitude towards Open Educational Resources. Any item that may be published in other websites/portals/repositories through harvesting processes will retain the initial intellectual property rights set forth by each content provider,
- **Produced metadata (output)**: IPR for the metadata descriptions produced through the course of the project belong to the partner that has produced them; thus, all metadata records will be assigned a creator organisation. Other partners may use these metadata descriptions when the project ends for educational and research purposes,

- **Produced software tools (output)**: Although the IPR for the software tools produced through the course of the project belong to the partner(s) that have produced it, it has been agreed that a functional version of the suite of software tools for Multimedia Annotation of NHM Content will be made publicly available to all interested users. All the Web Interfaces for Browsing Europeana that will be integrated at the NHM Web sites will remain free to use even after the project ends.

Thus, the final results of the project will be made available even after the end of the project, in order to serve the needs of the users and communities forming around the project. The goal of the project will be to produce resources and tools that can be re-used and adapted freely, committing in this way to the principles of the Open Access movement.

3.1.3 Europeana

The project aims to join the large majority of institutions already contributing to Europeana to offer content coming from Natural History Museums all around Europe, but to also take advantage of the vast number of resources already available through the Europeana portal (www.europeana.eu/portal/).

In line with Europeana's Strategic Plan 2011-2015, Natural Europe will try to contribute to all four (4) strategic tracks that Europeana sets forth:

- **Aggregate** content to build the open trusted source of European heritage,

- **Facilitate** knowledge transfer, innovation and advocacy in the cultural heritage sector,

- **Distribute** their heritage to users wherever they are, whenever they want it,

- **Engage** users in new ways of participating in their cultural heritage

More specifically, Natural Europe aims at **aggregating** content from all museum partners but also from museums that will want to join Natural Europe in the future, to offer it through Europeana. It also aims at deploying open technologies and licenses to **facilitate** content and therefore knowledge transfer without any limits amongst Natural History Museums. It will also develop premium services over the content to **distribute** it to museum visitors either online, through the internet or offline on the actual exhibitions. New technologies and visualizations will be used, supported by sophisticated educational models that will **engage** the users to interact with our natural heritage.

3.2 Pedagogy

The pedagogical aspect is one of the most important parts of the Natural Europe project. The educational design of the material that will be produced will heavily influence the impact of the project outcomes to the audiences involved. To this direction, the project adopts the inquiry-based model to design and implement educational pathways through the

exhibits of the museums, both in a structured way (Guided Pathways) as well as in a more free-independent way (Open Pathways) that allows visitors to plan their visit according to their specialized educational needs.

3.2.1 Inquiry-based model

Natural Europe adopts "Inquiry-based learning" as a learning process based on which the Educational Pathways of the project will be developed. Inquiry-based models start through questions generated from the interests, curiosities, and perspectives/experiences of the learner. They are based on the assumption that when investigations grow from our own questions, curiosities, and experiences, learning is an organic and motivating process that is intrinsically enjoyable.

Through the inquiry-based model, learners are encouraged to become active investigators by identifying a range of information, understanding the sources of information and looking for bias in it. They will thus be able to evaluate data and to draw meaningful conclusions which are supported by evidence. Rather than examining an issue from any one perspective, museum visitors will be challenged to explore other possibilities by applying higher order thinking skills in their decision-making endeavors. The following figure (3-1) presents the basic steps of the inquiry-based model.

Figure 3-1: Inquiry-based model structure[4]

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[4] http://www.inquirylearn.com/Inquirydef.htm

3.2.2   Pathways

The Natural Europe approach aims to build upon the strengths of the informal learning taking place in NHMs, demonstrating a next generation learning scheme that crosscuts the boundaries between formal and informal learning settings by involving learners in extended episodes of playful learning.

A series of Educational Pathways Patterns will be developed to model the field trip experiences of the different user groups. Pathways are collections of support materials for teachers who bring their students and parents/adults that bring their children to the NHMs. Pathways are designed to: (a) *Help provide direction and structure for the field trip*, (b) *Focus the attention of field trip students on a particular set of exhibits or topic* and (c) *Suggest links to related materials and additional experiments for pre- and post-trip learning*.

There are two types of Pathways that will be developed by the Natural Europe project partners: Guided and Open. Guided Pathways are intended to be a set course of exploration in the museum. Each Pathway will include a student worksheet and a matching teacher's edition. The teacher's edition will link the Pathway's content to curriculum topics and school standards, and will provide additional support materials as well as sample answers to the worksheet questions. Open Pathways suggest creative ways for adults to structure their field trips and motivate the children. They are less structured and less time-demanding, since they are taking place with the involvement of adults. They focus on educating both children and adults, through activities that can motivate and involve the whole family.

3.3   Technology

On the technological side, existing platforms from previous projects will be re-used; taking advantage of the consortium expertise and knowledge. Effort will be vested into re-using these platforms and software to offer to the museum visitors' new ways of interacting with the museum exhibits.

The following tools are expected to be used / deployed within Natural Europe:

- A multilingual software tool that will allow museums to store and categorize their multimedia content resources for Museums (creating the digital library of the HMs),
- A multilingual software tool that will allow museum educators and visitors to create educational pathways using the existing digital collections,
- A Web interface for navigating educational pathways through the Museums' Web sites, also to be used by parents, teachers that wish to plan a museum visit,
- A Web interface for visualised faceted search through the NHM content of Europeana, that will allow the reuse of Europeana content in Pathways
- An interactive installation / device for enhanced virtual navigation through educational pathways and NHM content of Europeana. This concerns setting up a a stereo-capable visualization system/installation that will allow users to navigate and interact using a 3-D, 'minority report-like' interface, in the NHMs themselves.

In Figure 3-2, all the components mentioned in the previous pages, are synthesized into one collage, demonstrating the concepts behind the Natural Europe project that will ultimately contribute to the project outcomes.

Figure 3-2: **"**Synthesizing" Natural Europe approach[5]

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[5] Pictures were taken from:

OER Commons - http://www.oercommons.org/;
University of Wyoming http://uwadmnweb.uwyo.edu/ctl/pathways.asp;
Open Access Week: http://www.openaccessweek.org/;
Buzz Paradise Blog: http://en.blog.buzzparadise.com/web20-reinforcement/;
PSFK: www.psfk.com/2010/07/museum-of-natural-history-launches-an-iphone-app.html
Print Activities: http://www.printactivities.com/ColoringPages/Dinosaur_Coloring_Pages/
Tech Digest: http://www.techdigest.tv/2010/01/ces_2010_vuzix.html
Europeana: http://www.europeana.eu/portal/
BHL Europe: http://www.bhl-europe.eu/
STERNA Project: http://www.sterna-net.eu/

3.4 Program Requirements

3.4.1 Focus and outcomes

According to the CIP PSP 2009 Working Programme [2], the aim of initiatives like Natural Europe is to improve the availability and relevance of cultural content for education and life-long learning use in a multilingual and multicultural context. Cultural heritage content from all around Europe (either already included or to be included in Europeana) will actually be used by European citizens (pupils and students) in their everyday learning activities. In this way, access to and use of European cultural heritage will be improved. The users (intermediaries, end-users) will become more aware of the educational value of content made available through the Europeana service, developing at the same time their own cultural, creative and ICT skills.

3.4.2 Expected impact

- Raising awareness of the value and potential uses of Europeana.
- Increasing the use and reuse of digital cultural heritage material available through Europeana by European citizens (learners and teachers).
- Better exploitation of the rich European cultural heritage by the European educational systems.

4   The Natural Europe Vision Statement

4.1   Synthesis

Looking at the four clear statements that were elaborated from the partners' input in paragraph 2.1.1, it is made evident that the Natural Europe vision has to encompass and address all the concerns and points made regarding *technology*, *content, visitors* and *other.*

Listing these statements above and pointing out some keywords, will help us define the Natural Europe vision.

*"**Technology** can enhance **visitors' experience** in NHMs"*

*"Offer digital content in **multiple formats and languages** beyond **space and distance or time restrictions** that is both organized in an **efficient** and presented in an **appealing way**"*

*"Make visitors an **intricate part of the educational process** that takes place in the NHMs and put them in the centre of the exhibitions through **personalized experiences**"*

*"**Scale and spread** innovations in the NHM exhibitions on a large number of institutions and individuals, free of access and copyright restrictions"*

> **Natural Europe Vision**
>
> *"Place museum visitors in the centre of an exhibition that is both physical & virtual using technology, services and learning content to provide personalized; appealing educational experiences, changing the way museum education is perceived and conducted, worldwide"*

The vision above gives a clear direction for the future that can act as a driving force for all the project-related activities henceforth.

Nonetheless, this vision is directed towards and concerns the targeted audiences by the project. These audiences were refined in paragraph 2.2, producing the corresponding statements:

*"NHMs do not necessarily involve only Natural History Museums, but a **wider-range of similar establishments**"*

 *"There's a **huge potential** in developing services that will serve a **wide range of individuals** around NHMs and other similar establishments, in a personalized way"*

*"The services deployed must be able to **support economically sustainable and viable services** as well (i.e. Acropolis iPhone App[6])"*

*"**Networking** with people, institutions and initiatives is **crucial** for a successful project"*

Natural Europe Communities of Interest

"Natural Europe aims at serving both consumers of NHM services, such as visitors, teachers, pupils and students, as well as service providers, such as the museums themselves, technology providers or other research centers. Additionally, Natural Europe's outreach is extended towards education-oriented institutions, profit-oriented businesses and other environmental or non-governmental organizations"

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[6] http://itunes.apple.com/us/app/acropolis-and-museum-audio/id367692488?mt=8
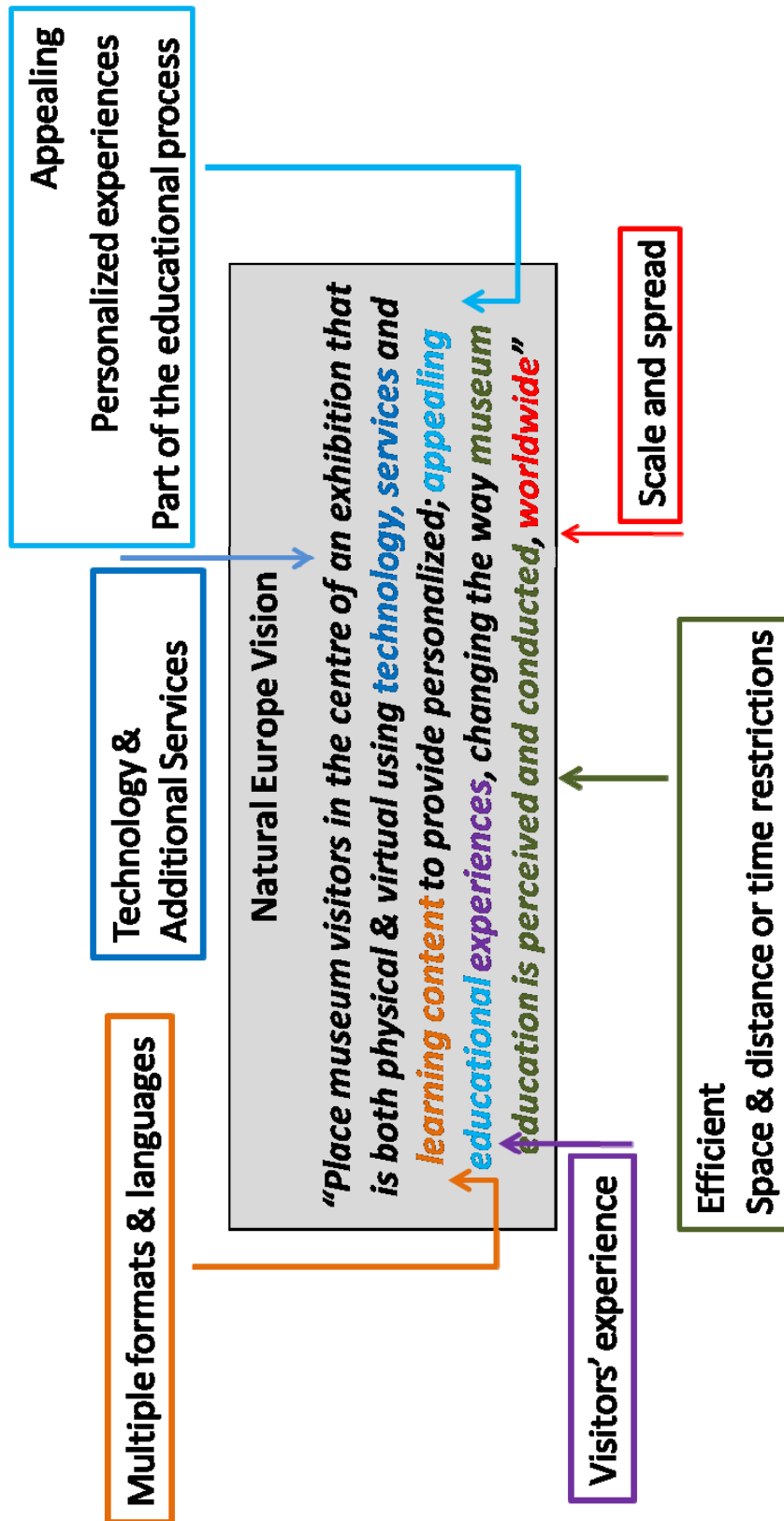
Figure 4-1: Mapping Natural Europe to key concepts

5   References

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