

## D1.1 – Service Design for the Co-Creation Labs

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Guidelines for the day-to-day operations of the co-creation labs, to include:

- A menu of services that can be offered to users of the co-creation labs, with an evaluation of the inputs and outputs of each.
- An analysis of the touchpoints between clients of the co-creation spaces and the service providers.
- An inventory of effective workshop designs to be deployed.
- A checklist of baseline equipment and resources/materials needed for each space.

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## D1.1 – Service Design for the Co-Creation Labs

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## 1. Scope and Executive Summary

This document contains recommendations and described sets of actions for developing an integrated service model needed to support projects based on the creative re-use of digital cultural heritage and associated metadata made available through Europeana.

In particular, this document summarises current practices and work to create the environment, both physical and virtual, for the co-creation of new products and services based on digital cultural heritage material.

It gives an overview of all the components of the service currently provided by the Europeana Creative project, including the physical labs (“hubs”), the basic requirements for the virtual lab website (Europeana Labs), an overview of the current thinking on applicable business models, a description of the co-creation and pilot processes, an overview of the Pilots being developed within the Europeana Creative project, guidelines for the co-creation workshops and the development and business planning phases. It also gives a description of the suggested Agile development process to adopt, to maximise transparency and ease of collaboration. Following this, the document covers best practice processes for development, testing and evaluation.

The document also contains guidelines for the day-to-day operations of laboratory spaces and physical incubation environments for other institutions with similar goals in encouraging education, innovation and project development by and for entrepreneurs from the creative industries in the field of digital cultural heritage.

Given the current influence of different paradigms such as user-centred design, social innovation, eLearning, consumer as producer or “prosumer”, open-source development and communities of practice, as well as the dissemination and appropriation possibilities the Internet and other online channels allow, the practices for generating new products and services around digital content are dramatically changing. Accordingly, the roles of experts and producers, as well as audiences, are also mutating and generating new needs and opportunities for experimenting and interacting in meaningful and usable settlements, online or offline. This helps them to collaborate in order to participate in systematic user co-creation approaches, which may integrate research and innovation processes. This should not only involve technology and creative agents, but also institutions acting as content providers, and the audiences they work for.

Europeana Creative has already established that in order to provide a successful service, a strong link between the virtual space (Europeana Labs website) and the physical spaces (“hubs”) is essential.

The use of hubs will contribute to the testing of the Pilots as proofs of concept, as well as their dissemination and the generation of new concepts. Each hub is already equipped with the needed materials and facilities for co-design activities and user simulation, including specialised services.



The assignment of hubs to project themes, related to the ongoing Pilots, already show these interrelations:

- The testing and the dissemination processes of the History Education and Natural History Education Pilots are associated with the Future Classroom Lab maintained by European Schoolnet (EUN) in Brussels.
- The Tourism Pilot technical development will be run at the i-Matériel.Lab of youARhere in Paris, a member of the European Network of Living Labs (ENoLL).
- The co-creation workshop for the Social Networks Pilot was hosted by Platoniq, using the community-building methodology and resources of Platoniq's YOUCOOP CoLaboratory in Palma de Mallorca.
- The Design Pilot will be incubated in Helsinki at the Aalto Media Factory.

The type of activities developed in these experimental and user-centred contexts, in relation to assisting the development of creative applications and other technological solutions, is by itself a proof of concept and an opportunity to generate a service model which similar spaces could adopt for their own purposes related to digital culture heritage and knowledge generation.

Although each laboratory environment has a different market focus and a different social and economic context, where the existing day-to-day procedures vary, this deliverable establishes a general service model in order to define a common structure and set of services which would allow everyone to work together as effectively as possible. The service model as described here includes among other things:

- A menu of services that can be offered to users of the co-creation spaces, with an evaluation of the inputs and outputs of each.
- A checklist of basic equipment and resources/materials for each space.
- An analysis of the touchpoints between clients of the co-creation spaces and the service providers.
- An inventory of effective workshop designs to be deployed.

Also in relation to the physical spaces (“hubs”), these methodologies are designed to support creative experimentation and development beyond the hubs themselves. In some cases, the best possible incubation service will take place in settlements like public spaces or other infrastructures (schools, libraries, art galleries, co-working spaces, etc.) adapted to circumstances and needs, if different methodologies and logistical conditions are required.

The Europeana Creative consortium will be offering an incubation service to help selected projects mature and reach their market potential. The project is also using its own Pilot projects to test the concepts of incubation. The incubation services presented in this report are derived from this Pilot experience and may change as the Europeana Creative project progresses. The aim is to create an integrated package of business, legal and technical consultancy services that can be described and offered to future initiatives. On the one hand, the value proposition of this set of consulting services and an “easy-to-adopt” repeatable approach could represent a

second phase of adoption of methodologies and tools from a series of new partners. On the other hand, the potential network could redefine or recombine the service with their daily operations and interaction with users, allowing a continuous improvement and learning between its related agents.

## 2. Menu of Co-Creation Services

A set of modular services can be offered by the co-creation spaces of the Europeana Labs Network, based on both the existing physical labs (“hubs”) allied with the project and possible new ones, as well as the Europeana Labs website platform. An important consideration is the need to define these services according to the existing themes of the Europeana Creative project Pilots (education, tourism, social networks, design) but in a way that can be applied to other themes.

In order to do that, the integral service for giving support to projects and individuals should be adaptable to different phases of experimentation and product development with open cultural content, from idea generation to programming and coding, product improvement, consolidation, commercialisation, etc. It is therefore critical to differentiate between the phases in which the services can be useful, providing the learning, design and implementation needed in a collaborative way whenever possible.

By covering the different needs in a modular way (facilitating only the indicated services as standalone methodologies) and also taking into consideration the life cycle and chronology of product development (from the initial benchmarking or scenario forecasting to full operative versions of applications), it is recommended that the package of lab-based incubation and project development services be composed of the areas described below.

### 2.1 Training and Learning Services

The activities offered by the network of labs and services should start with the dissemination of digital literacy around the technical knowledge and strategic approaches developed in the context of Europeana and the Europeana Creative project, as well as the general context of open heritage and culture, especially in relation to innovative uses of ICT and new tools for open data. This would accomplish a dual goal: to make different types of institutions (public, private, non-profit, etc.) aware of the opportunity of developing or joining efforts around the emergent paradigm of the creative re-use of open heritage content; and to activate the interest of developer communities and other similar agents from the creative industries who could join the workshops, development sessions, projects design etc. and become more skilled in so doing.

Specific services, taking the form of workshops, meetings and seminars will include the following. Required services are marked with [R] and optional services with [O]. The balance between these required and optional services may shift based on evaluations of incubation effectiveness in the Europeana Creative project.

- Organising data connections between heritage institutions. [R]
- Facilitating the work of data providers according to stakeholders’ needs and interests. [R]

- Introduction to Creative Commons licences oriented to cultural and heritage institutions. [R]
- Developing banks of common knowledge for the free sharing of information offers and needs. [R]
- Providing training workshops covering Lean/Agile adaptations of software development and businesses processes, including Scrum.<sup>1</sup> These workshops could be aligned to Scrum Alliance or other certification course curricula. [R]
- Introductory sessions to GitHub as a repository for applications around open cultural data. [O]
- Introduction to crowd-funding – theoretical and practical information about the different kinds of collective financing available. [O]
- Content sourcing and cleaning sessions with the participation of open data experts. [O]

**Applicability:** Would apply to all labs and projects.

**Skills:** Depending on evaluation, would require networking, project management, technical project management, crowd-funding expertise, intellectual property rights (IPR), software development experience.

**Resources:** Best practice case studies, Scrum adaptation, IPR worksheets, etc.

## 2.2 Idea Incubation and Content Re-Use

This service area can follow or be run in parallel with the educational activities detailed in the “training and learning” phase. It covers the re-use of digital cultural content and the generation of new projects based on them. It is based on co-creation methodologies for the collaborative and participative generation of new products and services, contrasting and comparing them with the needs and opportunities detected by stakeholders and end users. This is a fundamental part of the Europeana Labs network, allowing for a distributed assessment and design process, from idea generation to the co-creation of wireframes and final prototyping, based on clear and transferable methodologies of easy adaptation. In addition to the co-creation process described in section 5.2.2 of this document, other services that might be considered are:

- Card-sorting activities for the improvement of open-culture-related online projects. [R]
- Guerrilla observation techniques<sup>2</sup> for an ethnographic approach to end user needs and also the adoption of open approaches among partner institutions. [R]

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<sup>1</sup> <http://www.scrumalliance.org/certifications>; accessed December 13, 2013.

<sup>2</sup> <https://www.gov.uk/service-manual/user-centered-design/user-research/guerrilla-testing.html>; accessed December 13, 2013.

- Context mapping techniques for developing visual comprehension of context in the digital culture field. [R]
- Consulting on open licencing and how to extend the Europeana Licensing Framework. [O]
- Rapid 3-D prototyping (with 3-D printers and other materials) for spaces, exhibitions and other user experiences in cultural spaces. [O]

**Applicability:** Would apply to all labs and projects without prior in-depth knowledge of digital cultural heritage collections and could be specifically tailored to support hardware-specific or expertise-specific maker/hacker spaces.

**Skills:** Depending on evaluation, would require general facilitation skills, IPR knowledge, possibly specialised knowledge of additive (3-D) printing.

**Resources:** General workshop supplies, audio and screencast recording equipment, possibly specialised hardware/software for rapid prototyping.

## 2.3 Project Development Services

Project development is another important aspect of how the physical network of hubs connects to the Europeana Labs website, either as a continuation of the co-creation dynamics associated with incubated ideas and designs, or as an autonomous component of the services. The project development process needs to be integral to the assessment of the technical development of applications, starting with the detection of knowledge, tasks or other services needed from other agents in order to reach a minimum viable product.

This requires activation of the network of contacts from members and users of each incubation lab and other stakeholders in the process, as well as the on-demand facilitation of project development following the Agile framework as described in this document. This process aligns the development of pragmatic projects with the lab's role as a representative of stakeholders and as a place of periodical feedback and decision-taking via online channels or offline meetings. It also facilitates the dissemination of knowledge of the benefits of such frameworks. This will help to cover the training needs for this area in parallel to the educational activities of the service, helping to accelerate and improve results based on technical needs and content requirements.

Additional areas for project development that could be facilitated as a lab service include:

- Modular development sprints (not only for applications but also books, exhibitions, courses, etc). [R]
- Project assessment techniques and sharing of best practice for rapid-cycle projects. [R]
- Regular assessment and “ad hoc” development of Europeana API implementations according to specific needs. [O]
- Canvas approach (instead of Scrum) for easier adoption of Agile principles. [O]

**Applicability:** Would apply to all labs and projects having reached the stage when a feasible project idea has been selected

**Skills:** Depending on evaluation, requires project management expertise, preferably a certified Agile practitioner

**Resources:** General communications, information management and project management software

## 2.4 Funding and Sustainability of Projects

An additional element, again with the same flexibility and modularity as the rest of the services described here, could be the generation of business and sustainability models for initial stages of projects which have followed the integral service deployment of the Europeana Labs Network, or for projects which need only this type of approach, as they are already under development or are stable versions of products. Services could be based on the defining of key aspects of the business model canvas,<sup>3</sup> or on helping to prototype strategies for alternative ways of funding like crowd-funding<sup>4</sup> and non-monetary support like crowd-sourcing<sup>5</sup>. With a more practical and “hands-on” approach than a theoretical one, these services are aimed at concrete projects and real cases of possible adoption of these models for funding, fitting the activities in specific moments of the life cycle of the product as needed. For that, the following activities could be based on this offer:

- Business model canvas generation: project-oriented collective identification and discussion of customer segments, channels, revenue streams, value propositions and other key aspects for sustainability. [R]
- Mapping of communities and values for funding: prospective approach for identifying potential investors, funders, donors and other types of social and financial resources. [R]
- Prototyping crowd-funding campaigns: hands-on sessions in which to experiment with collective financing through a series of real projects. [O]
- Crowd-sourcing possibilities: sessions exploring possible ways of allowing collaborators and communities to help in different parts of a project. [O]

**Applicability:** Not all projects and labs are good candidates for crowd-funding activities, but many activities can be re-cast to use a distributed model of finance. All projects and labs would benefit from focused activities in mapping business models to determine sustainability of the project.

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<sup>3</sup> [http://en.wikipedia.org/wiki/Business\\_Model\\_Canvas](http://en.wikipedia.org/wiki/Business_Model_Canvas); accessed December 13, 2013.

<sup>4</sup> <http://en.wikipedia.org/wiki/Crowdfunding>; accessed December 13, 2013.

<sup>5</sup> <http://en.wikipedia.org/wiki/Crowdsourcing>; accessed December 13, 2013.

**Skills:** Depending on evaluation, networking skills, connection to venture capital or crowd-funding campaigns, experience with business model generation.

**Resources:** Possible access to crowd-funding platforms, general facilitation skills, economic analysis, access to market research, trend reports by sector.

## 2.5 Testing and Evaluation Services

The infrastructures, tools, human resources and access to communities of interest of the labs make them the ideal place for also activating testing services based on the re-use of heritage content via Europeana. Following the example of the Europeana Creative project processes and the evaluation of its Pilots (as described in this document), it is important to consider the possibility of having a permanent service of collaborative evaluation. Testing and evaluation can be organised with focus groups on an “ad hoc” basis for specific applications, or in structured sessions where direct access to prototypes or stable versions helps to analyse and improve their usability, design, performance and goals. Another option would be to run sessions like qualitative interviews, participant observation or holistic analysis in the incubation labs.

- Expert and user interviews: Semi-structured interviews help to achieve in-depth knowledge about expert opinions and users’ requirements. Both are essential parts of successful product development. [R]
- Focus groups: A discussion on e.g., technical, business and governance issues can be more effective if it includes different positions and views. A focus group is an adequate instrument to get such information. [R]
- Usability tests: There are several methods to test the usability of products (e.g., think-aloud protocol). For most approaches, it is necessary to test in a specific testing environment. The labs can offer such spaces and support with their infrastructure. [R]
- Participant observation: This method can provide relevant information for further product development demands. By observing participants it is possible to get helpful hints regarding their needs or problems with a product. [O]

For the Europeana Creative project duration, WP6 offers online evaluation support (essentially, testing and evaluation services) for the Pilot projects. All evaluation and testing methodologies applied in the project will be described and documented. This documentation can be accessed on the project website and in the Europeana Labs.

**Applicability:** Applicable to all projects and labs.

**Skills:** User research and ethnography skills needed, along with general understanding of technical constraints, business models and any sector-specific market analysis

**Resources:** General ethnographic recording and interviewing tools, specialised user testing and evaluation software, screencast recording software, general communication and information management tools

## 2.6 Dissemination and Adoption

Finally, another important task is reaching specific community audiences, as well as stakeholders. This can be achieved through a range of methods from talks to presentations and project demonstrations, using screens, displays and technical stations for the use of applications, as well as specific online dissemination actions via regular channels about the outputs of the Europeana Labs Network. Dissemination of the services and their results could be crucial for establishing synergies with new agents and partners in related areas, and for expanding the community of users and potential clients.

- Dissemination strategy workshops. Develop detailed maps of possible target audiences for project application and develop targeting plans. [R]
- Persona development. Workshop and role-play exercise to identify characteristics and needs of target groups for targeted dissemination activities. [R]
- Business adoption curve modelling. Using a statistical model, monitor take-up of project application using standard models for network effects and adoption velocity curves. [O]
- Communications messaging calendar. Use examples of best practice communications calendars to develop a schedule of communications for the new product or service. [R]
- Post-launch messaging. Using role-play or other empathic techniques, create a flowchart of contingencies for post-launch communications for each kind or tier of audience for the new application. [O]
- Social media strategy. If the new project is based on a mass-market appeal and would benefit from a specific plan to gain viral social media adoption, use a voice and tone exercise to create a plan that includes examples of the most effective tone of voice used to represent this project. [O]

**Applicability:** Applicable to all projects and labs.

**Skills:** Understanding and experience of communications strategy and press relations. Excellent writing skills, including writing for the web. Understanding of and experience in successful social media campaigns.

**Resources:** Workshop materials for web content development, access to social media marketing research, templates for personas and user experience touchpoints.



## 2.7 Ongoing Self-Assessment of Services

The Europeana Labs network acts as a facilitator for product development and market incubation. While it is easier to evaluate the services provided by Europeana Labs online, the evaluation of the physical hubs faces certain difficulties. Assessment will focus on the correct implementation and performance of the activities carried out by the hubs, in coordination with the Europeana Labs offer and its governance consortium. The result will be a series of possible evaluation processes which help to raise internal awareness of effectiveness.

Still the most common way to evaluate user feedback on events, workshops and trainings is the survey questionnaire, either as a classical paper form or online alternative. During the project's duration, a broader range of feedback can be gathered from the development teams and Challenge winners. In order to establish evaluation tools and processes, different methodologies can be applied. Focus groups consisting of project partners and Challenge applicants can capture detailed information on recommendations for improvement. A more standardised and easy-to-maintain option is an online survey which can be hosted and analysed through the Europeana Labs platform.

One of the final deliverables in the Europeana Creative project will be D6.4, "Final Report on a Strategy for a Sustainable Europeana Open Laboratory Network", where all relevant results from the project ought to be summarised. These outcomes will define guidelines on how the labs can be used and which requirements need to be guaranteed.

Evaluation of a range of factors will occur during the deployment of each modular element of the services:

- Evaluate the match with the goal of re-using digital cultural heritage. [R]
- Evaluate quality of the application results in re-using open cultural data. [R]
- Determine whether the service is open source and fulfils related copyright requirements. [R]
- Evaluate whether tools provided offer a high level of innovation and usability. [R]
- Evaluate user satisfaction with provided services, facilitators and venue. [R]
- Assess adequacy of infrastructures and human resources offered. [R]
- Evaluate whether software and codes uploaded are fully functional. [O]

The evaluation of technical services requires technical experience and a framework which needs to be developed in the Europeana Creative project.

**Applicability:** Applicable to all labs, and to projects once they have completed their initial phases and can be assessed.

**Skills:** Broad understanding of project management methodologies, business strategies, basic IPR, user survey techniques.

**Resources:** Workshop facilities, access to focus groups, standard information tools, availability of survey audiences and tools.

## 2.8 Governance Development

Any further development of the incubation service model package would also require a management and governance model to ensure that the goals, needs and methodologies are addressed properly and improved/adapted using knowledge gained through monitoring processes.

Such governance could be managed by a reduced group of partner institutions from the Europeana Creative consortium and similar initiatives, who would meet regularly and take decisions in order to:

- Provide guides for the use and planning of activities under the Europeana Labs brand. [R]
- Monitor the following of the procedures and values included in the model. [R]
- Coordinate and execute the inception of local facilitators. [R]
- Coordinate centralised dissemination of the concept through online platforms. [R]
- Manage a regulatory framework that facilitates the participation of various stakeholders. [O]
- Manage and facilitate access to investment resources for the implementation of activities and projects on a local, regional or global level. [O]
- Regularly certify unconditional compliance with the model. [O]
- Manage the process to duplicate the model and concept in other labs distributed in other countries, cities and contexts. [O]

**Applicability:** Broad-based applicability of this service model will depend on a realistic self-assessment of incubation-related activities during the Europeana Creative project. Consortium members may be asked to contribute resources and skills toward the maintenance of these service provisions in the future. Depending on the results of self-evaluation, this service model could be applied to other lab environments and hubs and be used to reach new specialised audiences.

**Skills:** Awareness of political and financial constraints, connection to consortium members providing incubation services, understanding of business models and ability to make realistic financial projections.

**Resources:** Access to budget projections and actual cost and revenue figures, access to network of labs, access to network of cultural heritage organisations, connection to Europeana Foundation.

### 3. Models for Lab-Based Incubation

In the context of the Europeana Creative project, one of the main objectives is to create a Europeana Labs network which provides the ideal environment for developing digital applications based on the re-use of digitised cultural heritage content via Europeana. Starting from its initial Pilots as proofs of concept, the Europeana Labs network should enable collective value-added processes of idea-generation, planning and development, which activate transparent and accessible knowledge, content, techniques and opportunities for products and services.

The Pilot projects being developed by the Europeana Creative project (apps and games using the Europeana dataset) will serve as proofs of concept. They are designed as inspiration for the adoption and replication of similar models by the creative industries<sup>6</sup>, acting as examples of re-use of the vast European cultural heritage accessible via Europeana from a wide network of libraries, museums, archives, etc. They also serve as catalysts to activate further progress in the generation of other applications and innovations and launch them to the market. The goal is to create a model for experimentation throughout the complete life cycle of a digital product or service, generating economic and knowledge opportunities for the different parties involved.

The Europeana Labs network should demonstrate and openly share the various processes and results such as:

- Showcase the outputs generated by the Europeana Creative project Pilots and Challenges as practical examples and good practices.
- Document the adoption and/or adaptation of those outputs in relevant training processes related to the creative industries.
- Establish an online space and participation channels for tools, open data and content which could be re-used and shared afterwards.
- Create a community of practice around the network, giving voice and visibility to project partners but also encourage new members to join the initiative.
- Disseminate outputs and achievements of the network and other related projects, reaching a shared visibility and awareness about common goals.

The conceptual and practical base of the Europeana Labs network should be built with the following characteristics, aligned with its double constituency (the physical spaces and events, and the online network of platforms and projects):

- Project-oriented: Highlight the outputs from its processes, that is, the tools it generates with new developments or mash-ups<sup>7</sup> using digitised content from Europeana.

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<sup>6</sup> [http://en.wikipedia.org/wiki/Creative\\_industries](http://en.wikipedia.org/wiki/Creative_industries); accessed December 13, 2013.

<sup>7</sup> [https://en.wikipedia.org/wiki/Mashup\\_%28web\\_application\\_hybrid%29](https://en.wikipedia.org/wiki/Mashup_%28web_application_hybrid%29); accessed December 13, 2013.

- Close relationship between hubs: Integrate online tools and mechanisms in continuous feedback with the process of project generation taking place at the physical labs.
- Facilitate communication: Channel communication and coordination between offline and online spaces, in a bidirectional way, and ideally also between generated projects and their participants.
- Flexibility and scalability: The services offered should be adaptable to different contexts (entrepreneurship, learning, experimentation, etc.) and at the same time match a wider continuity plan between stages of the life cycle of a project.
- Replicability: The results as well as the processes of the Europeana Labs network should be aligned with copyleft and open licences, allowing for the replicability of methodologies, contents and code.
- Added value: Should come from the combination of partners at a local and global level, as well as from the “ad hoc” co-design activities between communities of practice around specific projects and the creative re-use of Europeana digital content.

### 3.1 Physical Labs (“Hubs”)

Over the past couple of years, diverse models and places for project generation in incubation spaces and labs have emerged. This has led to new opportunities for the development of digital culture through the use of networks for distributed collaboration and co-design. Hubs have been influenced by the collaborative dynamics of Web 2.0<sup>8</sup> since its beginnings, like meetings between programmers and entrepreneurs in “unconferences”<sup>9</sup> in the early 1990s, as well as by the rise of hacklabs and hackerspaces<sup>10</sup> of different stripes, where open software developers can collaborate with people with interests in science, new technologies, digital and electronic arts.

Among those spaces, different forms exist:

#### 3.1.1 Living Labs

The conceptual design of living labs derives from open innovation, described by one of its first ideologists, Henry Chesbrough, as follows:

“Open Innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. Open Innovation is a paradigm that assumes that firms can and should

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<sup>8</sup> [http://en.wikipedia.org/wiki/Web\\_2.0](http://en.wikipedia.org/wiki/Web_2.0); accessed December 13, 2013.

<sup>9</sup> <http://en.wikipedia.org/wiki/Unconference>; accessed December 13, 2013.

<sup>10</sup> <http://en.wikipedia.org/wiki/Hacklab>; accessed December 13, 2013.

use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology.”<sup>11</sup>

By extending the “firm” concept to the figure of the entrepreneur or to informal groups of people working together to develop a project, in the early 1990s several spaces aiming to foster co-creation and perform as innovation platforms started to operate under the name of “living laboratory”.

The focus of each living lab can be very specific (education, communication infrastructures, sustainability, mobility, culture, health, etc.) or general in terms of goals which merge research and experimentation with the development and use of technology in real contexts, via interactions based on the behaviour, ideas and feedback from end users.

At the European level, the main initiative to highlight is the European Network of Living Labs (ENoLL)<sup>12</sup> and the growing community of centres they officially certify as living labs and to which they offer training, networking and dissemination services. This global initiative also shows the scale of institutions, new or in transformation, which are trying to apply the philosophy of co-creation and direct participation by stakeholders and citizens.

### 3.1.2 Hackathons

A hackathon<sup>13</sup> is not a permanent physical space, but a specific type of event characterised by the shared goal of development in a short time and a “do-it-yourself” methodology. Hackathons represent another type of collaboration process for the co-creation of applications and other technological solutions potentially aligned with the Europeana Creative project.

These events usually gather interest from stakeholders, creative agents and developers, as well as end users. The concentration of a few hours of collaborative and productive work shows how a network can amplify experimentation around software development with open digital content.

There are two frequent forms of hackathons:

1. Those that are self-organised, informal and related to physical spaces like hacklabs or other types of labs, which usually concentrate on the development of solutions that are in the interests of the communities hosting them.
2. Hackathons promoted or supported by institutions with a specific aim/topic (apps, open data, open hardware, education, data visualisation, public transport, entrepreneurship, heritage, etc.), formalised around previous public calls for proposals. After a selection of themes, tools and/or participants, the event usually takes place in “ad hoc” temporary spaces from a partner institution (university, museum, library or other public or private infrastructure). After rounds of talks and presentations by participants, which help to

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<sup>11</sup> Henry Chesbrough, *Open Business Models: How to Thrive in the New Innovation Landscape*. Harvard Business Press, Boston, MA, 2006.

<sup>12</sup> <http://www.openlivinglabs.eu/>; accessed December 13, 2013.

<sup>13</sup> <http://en.wikipedia.org/wiki/Hackathon>; accessed December 13, 2013.

define the motivation and challenge, as well as possible points of departure for developments, participants break out into teams and start developing.

Participants are motivated to take part so they can learn from others working in similar fields, and so they can network with others from their own or related sectors. An increasing number of hackathons also offer motivation through monetary prizes for the best outputs of the meeting, or through visibility and feedback via specific strategies, dissemination in social media and press releases, etc.

A major drawback of the hackathon model, however, is the lack of follow-up after the meeting, falling to generate beta or minimum operative versions of the developments produced. This means that many ideas and potentially interesting products or services have neither significant progress nor attention once the event has concluded, since motivation decreases once there is no face-to-face contact.

### 3.1.3 Co-Working Spaces

Many companies, whether large or small, work with a network of freelancing professionals who collaborate with them either as individuals or groups. Co-working spaces<sup>14</sup> that bring freelancers and companies together are becoming more common in the main European cities. Here, freelancers from different sectors – who can simply turn up and plug in their computers – can connect with each other.

The types of co-working spaces available vary widely. In many cases, they are not just places with an infrastructure for connection and productivity where people can work individually, they are also places to network and create contacts.

### 3.1.4 Telecentres

Another consolidated network of spaces is the Telecentre.<sup>15</sup> A telecentre is a public place where people can find information, create, learn and communicate with others while developing digital skills through access to information and communication technology. Telecentre networks exist in more than forty countries<sup>16</sup> and on a European level.<sup>17</sup>

Telecentre.org is now trying to evolve into a service called SparkLab,<sup>18</sup> becoming a global network of telecentres specialising in innovation, digital inclusion and social entrepreneurship with a socioeconomic impact.

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<sup>14</sup> <http://en.wikipedia.org/wiki/Coworking>; accessed December 13, 2013.

<sup>15</sup> <http://en.wikipedia.org/wiki/Telecentre>; accessed December 13, 2013.

<sup>16</sup> <http://www.telecentre.org/>; accessed December 13, 2013.

<sup>17</sup> <http://www.telecentre-europe.org/>; accessed December 13, 2013.

<sup>18</sup> <http://www.telecentre.org/sparklab/>; accessed December 13, 2013.

### 3.1.5 Fab Labs

Another sort of open space for incubation and experimentation around replicability and scalability of new technologies is the international network of Fab Labs<sup>19</sup> – personal fabrication centres with access to training and practical tools such as 3-D printers and services for modelling and fabrication of hardware. The first Fab Lab was started by the Grassroots Invention Group and the Center for Bits and Atoms (CBA) at the Media Lab in the Massachusetts Institute of Technology (MIT)<sup>20</sup> with a grant from the National Science Foundation in 2001. A network of Fab Labs around the world has now become a legal foundation. While some Fab Labs have a thematic focus like sustainability, urbanism or mobility, others have a wider one in partnership with institutions like universities, associations, companies, etc.

Although the main goal is the production of physical objects (with or without connection to the Internet), in the context of the Europeana Creative project and its potential relationship with open design via digitised heritage content, Fab Labs offer opportunities for the experimentation and building of products and services which are inspired by designs from the past. Content provided by Europeana can be part of the inputs/outputs of experimental manufacturing.

### 3.1.6 Other Spaces

It is also important to consider other physical spaces which could exist in university departments and their facilities,<sup>21</sup> as well as cultural or experimental centres in museums, libraries, galleries and innovation hubs, which could also be interested in a network for developing applications based on digitised European cultural heritage.

We should also consider training experiences and events in the field of programming. These usually have a practical “hands-on” focus. They may target an audience of children and young people, through small-scale initiatives at a local level like computer clubs<sup>22</sup> or “CoderDojos”<sup>23</sup>, or may target those looking to expand their technical skills through Europe-wide schemes like Europe Code Week.<sup>24</sup>

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<sup>19</sup> [http://en.wikipedia.org/wiki/Fab\\_lab](http://en.wikipedia.org/wiki/Fab_lab); accessed December 13, 2013.

<sup>20</sup> [http://en.wikipedia.org/wiki/Massachusetts\\_Institute\\_of\\_Technology](http://en.wikipedia.org/wiki/Massachusetts_Institute_of_Technology); accessed December 13, 2013.

<sup>21</sup> For example the Cooper-Hewitt Labs at the Digital & Emerging Media department at Smithsonian's Cooper-Hewitt, National Design Museum in New York City: <http://labs.cooperhewitt.org/>; accessed December 13, 2013.

<sup>22</sup> For example this computer club in London: <http://wizziewizzie.org/>; accessed December 13, 2013.

<sup>23</sup> <http://www.coderdojobcn.com/>; accessed December 13, 2013.

<sup>24</sup> <http://codeweek.eu/>; accessed December 13, 2013.

## 3.2 Digital Incubation Spaces

In addition to physical spaces and experiences, the digital domain needs consideration as well, especially in relation to similar approaches to the ones described above from physical labs, and to online platforms and settlements where specific communities of practice meet and develop projects. For that, rather than creating an inventory of typologies of labs, it is important to consider similar practices and examples which can serve not only as inspiration but can also highlight potential partners for the Europeana Labs network.

### 3.2.1 Mozilla Webmaker

The online platform Mozilla Webmaker<sup>25</sup> driven by the Mozilla Foundation<sup>26</sup> focuses on the educational aspects of developing the Open Web. Following on from an early period of offline events in the spirit of hackathons, the platform brings together digital tools which can be freely used for creating web pages<sup>27</sup>, interactive videos<sup>28</sup> and applications<sup>29</sup>, with local communities who wish to learn the skills needed for web development.

It also has a network of allied institutions which collaborate in training and organising events, mainly for children and teenagers, in order to teach them the creative and professional skills needed for developing for the Open Web.

### 3.2.2 Wikimedia Chapters

Although other types of thematic groups and communities of users around Wikipedia exist, we should consider the Wikimedia Chapters<sup>30</sup> – geographic nodes recognised by the non-profit foundation behind it – as other examples of digital activity.

Wikimedia Chapters operate as autonomous nodes of Wikipedia and have their own digital tools (bulletin boards and wiki pages mainly). They are also involved in the emergence of incubation initiatives like the development of open data and knowledge around collections, museums and other cultural centres.<sup>31</sup>

Another initiative to take into account is the Wikimedia IdeaLab<sup>32</sup> which is driven by the Wikimedia Foundation. It regularly gathers proposals for developments which are selected and awarded grants.

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<sup>25</sup> <https://webmaker.org/en>; accessed December 13, 2013.

<sup>26</sup> <http://www.mozilla.org/en-US/foundation/>; accessed December 13, 2013.

<sup>27</sup> <https://popcorn.webmaker.org/>; accessed December 13, 2013.

<sup>28</sup> <https://popcorn.webmaker.org/>; accessed December 13, 2013.

<sup>29</sup> <http://appmaker.mozillalabs.com/>; accessed December 13, 2013.

<sup>30</sup> [http://meta.wikimedia.org/wiki/Wikimedia\\_chapters](http://meta.wikimedia.org/wiki/Wikimedia_chapters); accessed December 13, 2013.

<sup>31</sup> <http://en.wikipedia.org/wiki/Wikipedia:GLAM>; accessed December 13, 2013.

<sup>32</sup> <https://meta.wikimedia.org/wiki/Grants:IdeaLab>; accessed December 13, 2013.



### 3.2.3 Open Knowledge Foundation Labs

The lab section<sup>33</sup> of the Open Knowledge Foundation's<sup>34</sup> digital presence provides a repository and regular information about developments and open-source applications, mainly for the visualisation of open data. The repository gives access to use cases and facilitates contact with creators of each development, promoting its adoption and improvement by allied communities. An important aspect to highlight is that there is a link to a code repository for each application which fosters its appropriation and re-use.

### 3.2.4 Scratch

The Scratch application software and environment<sup>35</sup> for teaching programming skills allows users to view and use other participants' results. They can download and modify pieces of code in a continuous learning cycle. This project, initiated by the Massachusetts Institute of Technology (MIT), combines an Internet platform which showcases and stores the applications and programmes built by learners in a vast gallery, with a distributed network of volunteers in the educational sector who teach Scratch to pupils in formal and informal learning contexts.

This combining of online and offline processes with results that can be continuously re-used and modified highlights again the importance of a combined approach to communities of practice based on openness and access to code assets, followed by structured methodologies for offline activities around the applications' sources.

### 3.2.5 P2P University

This distributed platform for teaching and learning<sup>36</sup> among communities of practice represents another good practice in the field of online labs. The P2P University platform gathers peer-to-peer educational processes based on the free offer and demand of knowledge and the flexibility of roles. Any person interested in teaching can quickly draft the content of a course and plan its different lessons, which others can then join and commit to follow.

The pre-eminence of courses incorporating open content, open-source development and open data is especially relevant at the moment of writing, as these courses could re-use the digitised cultural content available through Europeana.

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<sup>33</sup> <http://okfnlabs.org/projects/>; accessed December 13, 2013.

<sup>34</sup> <http://okfn.org/>; accessed December 13, 2013.

<sup>35</sup> <http://scratch.mit.edu/>; accessed December 13, 2013.

<sup>36</sup> <https://p2pu.org/en/>; accessed December 13, 2013.

### 3.2.6 GitHub

GitHub<sup>37</sup> is another inspirational example for the Europeana Labs network. GitHub presents a range of projects online along with a code repository that enables massive collaboration and adoption of open-source developments, as well as the continuous improvement and generation of versions or forks of projects, based on the participation of programmers and other types of volunteers from all over the world.

### 3.3 Other Digital Spaces for Incubation

There are also other digital spaces which represent interesting options for knowledge, code development and re-use. They are part of the online strategy of various institutions or networks of institutions. As examples, without being an exhaustive list, it is important to consider models such as:

- British Library Labs: <http://labs.bl.uk/>
- Bibliothèque nationale de France Labs: <http://labo.bnf.fr/>
- Arts Holland Developer: <http://dev.artsholland.com/>
- DPLA App Library: <http://dp.la/apps>
- NYPL Labs: <http://www.nypl.org/collections/labs>

### 3.4 Strategies for Synergies with the Europeana Creative Project and Europeana Labs

According to the previous examples and the potential of synergies with the Europeana Creative project and its outputs such as the Europeana Labs platform, we can define a series of general considerations for establishing a collaboration network with other agents and similar processes. In order to do that, the project must make available the results it achieves, such as the Pilots from WP4, the tools developed during the Challenges in WP5 and other data and tools. Only then can we accomplish a long-term strategy, using the success stories and looking at the needs and opportunities of specific stakeholders, end users and creative industries. The success stories will make the physical and online labs and services more attractive.

Even with the recent expansion of the “living lab” concept, it is not easy to define common methodologies and services among the different centres.<sup>38</sup> Their territorial expansion and affinity with the principles of open innovation makes them potential allies of the Europeana Creative project and the Europeana Labs network. The same goes for some Telecentres,

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<sup>37</sup> <https://github.com/>; accessed December 13, 2013.

<sup>38</sup> For an updated list, see: <http://www.openlivinglabs.eu/livinglabs>; accessed December 13, 2013.

particularly those that are changing their model from training and dissemination spaces to the incubation of projects and the development of innovative technological solutions.

Hackathon events that relate to open culture or open data might be considered as possible partners as common audiences, contexts and goals can be identified.

In relation to co-working spaces, where the identification of common interests is more complex, the possibility of establishing significant alliances would need experimentation. Calls could be made for presentations at specific events, and specific types of professionals could be targeted and engaged via the Europeana Creative project dissemination channels.

Finally, in relation to online labs and the organisations behind them, the alliances for initiating a common network or “network of networks” should start by showcasing similar projects and should pilot experiences based on shared goals for training, awareness and project development. The aims of collaborating with online labs could be to combine content and technological infrastructures, to focus on the creation or adoption of code, open access, copyleft objects and data, or to carry out dissemination actions with the creative industries and its professionals.

### Actions in the Short Term

- **Identification of and contact with relevant hackathons** in the cultural and digitised heritage context, via institutional contacts from the Europeana Creative project consortium as well as thematic search engines like Hackaton IO<sup>39</sup>. Try to propose Challenges aligned with the Europeana Labs network and the Europeana Creative project Pilots, with direct participation from consortium partners.
- **Identification of European living labs** related to the development of open-source applications and digital culture, starting with the ENoLL directory<sup>40</sup>, inviting them to adopt methodologies for co-creation like the ones described in this document, as well as specific testing, dissemination or training activities around the Pilots generated.
- **Open call to members of the creative industries who work as freelancers** from co-working spaces in the development of applications, digital content, education services or heritage-related publishing, in order to become “open culture ambassadors” in their respective environments. Offer them personalised assistance for the adoption and re-use of both the content and applications generated on top of Europeana.
- **Approach SparkLab Telecentres** via talks and mentoring incubation processes. Identify partners for experimenting with the adoption of learning and co-creation activities around open cultural data, adapted to their types of users and needs.
- **Organise offline practical meetings** following a prioritised list of physical incubation labs, showing the adoption and alliance possibilities around specific outputs of the

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<sup>39</sup> <http://www.hackathon.io/>; accessed December 13, 2013.

<sup>40</sup> <http://www.openlivinglabs.eu/livinglabs>; accessed December 13, 2013.

Europeana Creative project (Pilots, Challenge developments, work methodologies). Meetings would include presentations and “hands-on” sessions for testing or adaptation for specific needs.

- **Boost the reciprocal dissemination** of concrete projects identified in digital incubation networks (starting with the ones from other similar platforms related to GLAMs, open audiovisual production, development of online tools, open data, etc.) and highlight the connections, when relevant, with Pilots or developments incubated in the Europeana Creative project.
- **Use GitHub to publish code** developed in the Europeana Creative Pilots and disseminate progress, supporting users interested in the source or the contents and encouraging the generation of derivative applications.
- **Propose new challenges and/or specific hackathons** based on developments from the Europeana Creative project and Europeana’s content / other projects. Themes might be: music, advertisement, cuisine, activism, literature, electronic art, games, sustainability, etc.

### Actions in the Long Term

- **Coordinate the call for working groups in the fields of education, tourism, social networks and design**, as well as other themes of interest, in a selection of incubation spaces. Use the Pilots, Challenges and other outputs from the Europeana Creative project to generate new designs or appropriations by creative industries, via “ad hoc” activities and methodologies.
- **Generate documentation and training material for workshops** and masterclasses about co-creation processes, open data, copyleft, business models for applications and re-use of Europeana content, in a way that makes it easy for interested individuals and institutions to adopt.
- **Establish a training and incubation itinerary** for projects as an integral service for entrepreneurs, developers, multimedia artists and other creative industries professionals, adapting processes from the Europeana Creative project or integrating them in the existing offer of other incubation labs, so they are complementary to their own sustainability models.
- **Ally with the European co-working network** (for example via events like the Coworking Conference Europe<sup>41</sup> and its partners) for continuous dissemination among their creative-industries-related users and also for organising thematic meetings or project presentations.

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<sup>41</sup> <http://coworkingeurope.net/about-coworking-conference/coworking-europe-2013-barcelona/>; accessed December 13, 2013.

- **Deploy a pilot training course at the P2P University** around the re-use of digitised cultural content via Europeana. The course would include topics from the conceptual and theoretical framework to dealing with APIs, open licences and programming for different platforms.
- **Establish intense training cycles** in short periods, addressed to visitors of museums, libraries, archives and other centres from the network, to help them to acquire basic knowledge for interacting with the content digitised in each specific centre. By doing this, institutions could extend their offer of services and users could become familiar with the Europeana Creative project.
- **Generate a first version of open badges**<sup>42</sup> in order to accredit competences, skills and merits among members of the development community. Badges let them visualise their contributions and relationship with the project, whilst at the same time fostering the collaborative development of new applications.

### 3.5 Summary of Relevant Practices Connected to Digital Cultural Heritage and Creative Industries

There are several initiatives that could inspire the activities and services of a Europeana Labs network. We should consider these initiatives in order to learn from them and try to establish specific collaboration processes aligning with their design and goals (in parallel to ongoing activities by Europeana like organising specific hackathons<sup>43</sup>), in particular when there could be an overlap in activation of new digital applications or re-use related of European digital heritage content:

- **HACK4DK:**<sup>44</sup> An annual hackathon in Denmark on cultural heritage organised by major heritage institutions. Since the activities focus on the subjects of open data, business models, crowd-sourcing, start-ups and digital heritage development, it could be good practice to get involved and include the outputs from the Europeana Creative project.
- **OpenGlam:**<sup>45</sup> Aimed at cultural institutions, the initiative provides workshops and documentation in order to open up cultural open data and content. A network alliance could foster the effort of bringing together groups committed to building an open cultural commons.

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<sup>42</sup> <http://openbadges.org/>; accessed December 13, 2013.

<sup>43</sup> <http://pro.europeana.eu/web/guest/hackathons>; accessed December 13, 2013.

<sup>44</sup> <http://hack4dk.wordpress.com/>; accessed December 13, 2013.

<sup>45</sup> <http://openglam.org/>; accessed December 13, 2013.

- **Wikimarathons:** Usually organised by the local chapters of the Wikimedia Foundation,<sup>46</sup> this type of meeting gathers wiki enthusiasts and Wikipedia contributors for intense content-scouting and editing of cultural heritage articles, which could be a good opportunity not only for re-using content accessible via Europeana but also for the creation of new content in Wikipedia related to partner institutions of the Europeana Labs network.
- **Museomix:**<sup>47</sup> The aim of this initiative of three days of meet-ups and activities is to create multidisciplinary opportunities for new ideas and projects related to museums, experimenting with the spirit of the incubation labs. Museomix and Europeana Creative share the similar goals of fostering collaboration between different stakeholders in the development of engaging experiences around cultural content.

### 3.6 The Europeana Labs Website and Its Connection to the Hubs

The Europeana Labs website platform is a playground for remixing and using your cultural and scientific heritage. It is both an online space and a network of real-world places for inspiration, innovation and sharing.

As a strapline, the message is: “This is your code, this is your heritage, these are your labs – make it, break it, play with it.” We want to achieve much higher rates of use of Europeana (Network) metadata and associated content.

The platform is designed for a target audience including the developer inspired to or paid to develop based on the Europeana API, code and labs hardware; the creative industry professional or entrepreneur with a commercial motivation to remix or republish heritage, or to do so at scale; and the designer-developer or multidisciplinary teams who want to do both of the above.

They could browse, use and contribute to the largest collection of digital content, tools and projects in cultural heritage. A digital lab to learn from, modify, expand and improve, where some of the best thinkers in this sector will be available to help newcomers, connecting the academic community, public sector and memory institutions in a unique way.

Its connection to the physical labs (hubs) could consist of a specific section of featured labs and their relationships to incubated projects that are also accessible via the platform. Each hub should have a special profile page which gathers the activity related to the platform projects as well as specifying the outputs generated in the physical context (related to idea incubation, development, evaluation, etc.). Also, the potential role in dissemination processes from the

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<sup>46</sup> Like, for example, this Wikimarathon at the Joan Miró Foundation in Barcelona:  
[http://wiki.wikimedia.cat/viqui/Apunt:Viquimarat%C3%B3\\_a\\_la\\_Fundaci%C3%B3\\_Mir%C3%B3](http://wiki.wikimedia.cat/viqui/Apunt:Viquimarat%C3%B3_a_la_Fundaci%C3%B3_Mir%C3%B3);  
accessed December 13, 2013.

<sup>47</sup> <http://www.museomix.org/accueil/home/>; accessed December 13, 2013.

physical labs would mean a set of features like tools for sharing via social networks, widgets or featured contents.

The ongoing development of the Europeana Labs website will be undertaken as part of the yearly Product Development Roadmap of the Europeana Foundation, and its continued growth will be managed as part of continuing knowledge management activities. Primary stakeholders will be the Technical Development, Research and Development and Knowledge Management teams of Europeana.

## **4. Partner Hubs' Potential for Incubation Activities**

### **4.1 Relation of Hubs to Incubation Activities**

Each of the four partner hubs in the Europeana Creative project, as described in this section, can serve as an incubation space for the project Pilots and similar initiatives. Depending on the infrastructure, user communities, partners and thematic focus they have, these physical labs can gather the people and resources needed in order to develop different types of activities, from collaborative design to the evaluation of applications and other developments in relation to different projects and their progress.

While the Europeana Creative project will disseminate its activities broadly and on a European scale, the hubs themselves remain a key factor in connecting to creative industries. As each hub has grown its own network of local interested public, private and third-sector partners, it is expected that these local networks will serve as mature jumping-off points for engagement with very focused thematic segments of creative industries. As centres where access to knowledge and digital tools is one of the key values, as well as being potential hubs for networking and learning about new possibilities in the field of digital culture, the physical labs therefore represent a first touchpoint between the Pilots in the Europeana Creative project and the creative industries in which it is possible to raise awareness about the goals and outputs of the Europeana Labs network.

Furthermore, each hub can adapt its activities in the different fields covered, from education to tourism, culture or design, not only in order to host new developments based in the Pilots generated by the Europeana Creative project, or evaluation processes for them, but also to provide more information and assistance in the generation and incubation of new applications and other software developments. Section 5.2 of this document will describe suggested guidelines for services and activities of the hubs.

### **4.2 Description of Partner Labs**

#### **4.2.1 Future Classroom Lab**

The Future Classroom Lab (FCL) in Brussels is a fully equipped, reconfigurable teaching and learning space developed by European Schoolnet, its thirty supporting Ministries of Education and leading educational technology providers. The Future Classroom Lab is located at the offices of European Schoolnet in Brussels.



## Goals and Mission

The Future Classroom Lab has been created to help visualise how conventional classrooms and other learning spaces can be reorganised to support changing styles of teaching and learning. It has been designed as a “living lab” for how ICT can be implemented in schools and where policy makers, ICT suppliers, teachers and educational researchers can come together to:

- Rethink how new technologies can support the educational reform process at both national and European level.
- Engage in regular workshops, seminars and courses on how existing and emerging technologies can have a transformative effect on teaching and learning processes.

The Future Classroom Lab is formed by six different learning spaces. Each space highlights specific areas of learning and teaching and helps to rethink different points: physical space, resources, changing roles of student and teacher and how to support different learning styles.

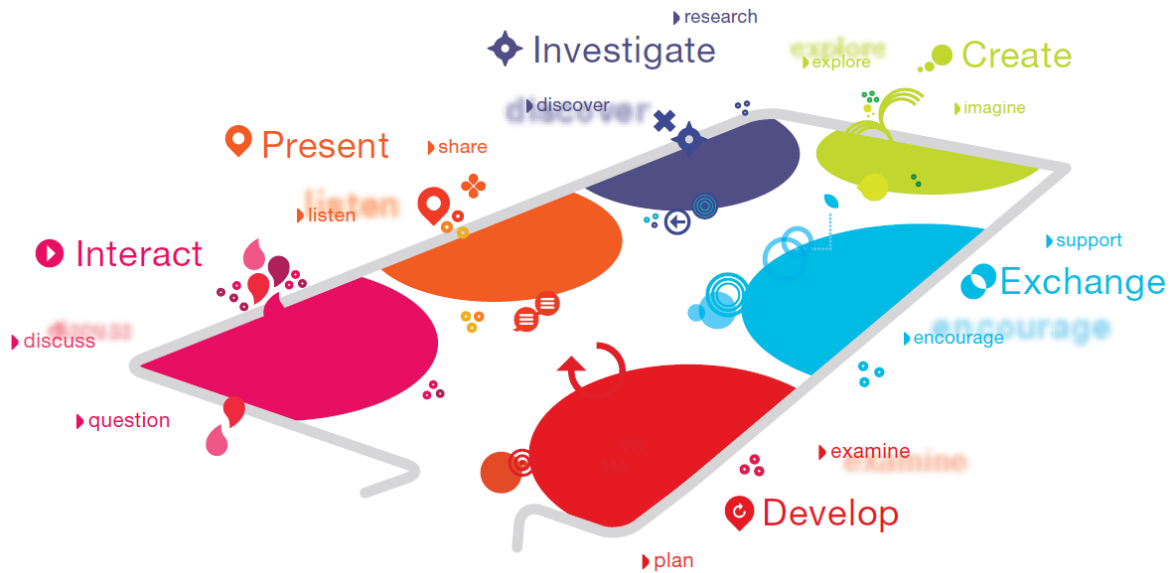
All together, the spaces form a unique way of visualising a new, holistic view on teaching. The zones reflect what good teaching should be about: being connected, being involved and being challenged. Education should result in a unique learning experience, engaging as many types of students as possible.

## Physical Spaces and Infrastructure

The Future Classroom Lab consists of a meeting room and a large open space that can support a number of current and future activities:

- To stimulate discussions and illustrate practice related to a range of current and prospective teaching and learning scenarios that can be mainstreamed and taken to scale.
- To provide hands-on training facilities for teachers and ICT advisers.
- To act as a venue for meetings, workshops and events for Ministries of Education, regional education authorities and commercial partners.

The Future Classroom Lab is organised into six learning zones, each focusing on a different aspect of an innovative teaching and learning process.



**Fig. 1: Future Classroom learning zones**

In the “Investigate Zone”, teachers can promote inquiry- and project-based learning to enhance students’ critical thinking skills. The flexible furniture supports this concept, and the physical zone can be reconfigured quickly to enable work in groups, pairs or individually. The infrastructure in this zone includes: data loggers, robots, microscopes, online laboratories, 3-D models.

In the “Create Zone”, students plan, design and produce their own work – for example, a multimedia production or a presentation. The infrastructure in this zone includes: chroma key, high-definition video camera, digital camera (pocket), flip camera, video-editing software, audio-recording equipment (e.g., microphones), podcast software, animation software and streaming software.

In the “Present Zone”, the presentation and delivery of the pupils’ work is the focus, allowing students to add a communicative dimension to their work. Sharing of the results can be supported by a dedicated area for interactive presentations that, through its design and layout, encourages interaction and feedback. Online publication and sharing are also encouraged, allowing the students to become accustomed to using online resources, and familiarising themselves with the principles of eSafety. The infrastructure in this zone includes: presentation area with reconfigurable furniture, a dedicated HD projector/screen to provide more quality to the presentations and online publication tools (blog, VLE, online sharing sites).

The “Exchange Zone” develops teamwork and other collaborative skills, both via face-to-face work processes in other zones as well as synchronous and asynchronous feedback processes online. The infrastructure in this zone includes: interactive whiteboards, collaborative table with projector, mind-mapping software, brainstorming board/wall, online sharing sites.

The “Develop Zone” is a space for informal learning and self-reflection. Students can carry out school work independently at their own pace, but they can also learn informally while concentrating on their own interests outside of the formal classroom settings both at school and at home. The infrastructure in this zone includes: informal, comfortable furniture, study corners, portable devices, audio devices and headphones, books and e-books and games (analogue and digital).

The separate meeting room of the Future Classroom Lab includes the “Interact Zone” which is used to show how the teacher can use technology to enhance interactivity and student participation in traditional learning spaces. The infrastructure in this zone includes: interactive LED display, learner response system and devices, mobile learning devices such as laptop, netbook, tablet and smartphones, classroom management system.

### **Online Tools for Activities and Knowledge/Dissemination**

A range of online tools and platforms are used for Future Classroom Lab activities. As part of the training activities in the lab, the Schoology platform (free version) is the preferred platform for course and user management and is used by most Future Classroom Lab trainers. The platform is used for sharing of resources and insights with course participants during but also before and after the courses.

However, as part of many of the European-Commission-funded project activities in the lab, each project uses its own online platform. For example, the Living Schools Lab project has its own teacher community of practice based on a Liferay platform which it uses during project activities in the lab.

The use of online tools for activities also heavily depends on the kind of workshop or training in the lab. There is no set of designated tools that visitors to the lab can use but rather they are encouraged to make use of the large number of free and easy-to-use tools and applications available. Examples of such tools are Socrative<sup>48</sup>, Powerleague<sup>49</sup> or TeamUp. Partners in the lab offer access to paid-for versions of tools such as DisplayNote<sup>50</sup>, ActivEngage2<sup>51</sup> or ArcGIS online<sup>52</sup>.

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<sup>48</sup> <http://www.socrative.com/>; accessed December 13, 2013.

<sup>49</sup> <http://www.powerleague.org.uk/>; accessed December 13, 2013.

<sup>50</sup> <http://www.displaynote.com/>; accessed December 13, 2013.

<sup>51</sup> <https://play.google.com/store/apps/details?id=com.activeengage2&hl=en>; accessed December 13, 2013.

<sup>52</sup> <http://www.arcgis.com/home/>; accessed December 13, 2013.

## Regular and Special Activities and Services Offered

- **Tours:** The Future Classroom Lab is regularly visited by a whole range of educational stakeholders. These tours vary depending on the audience but usually last around one hour and provide an introduction and overview to the concepts behind the organisation of the lab as well as a brief introduction to some of the technologies available in the lab and their pedagogical use.
- **Teacher training workshops:** the Future Classroom Lab regularly hosts teachers from around Europe for workshops focusing on themes associated with the use of technology in education. Some of the lab's associated projects have offered teacher workshops in the lab, such as the CPDLab project<sup>53</sup> as part of which three five-day courses were organised in the lab. These courses focused on eSafety, Future Classroom Scenarios and the creative use of interactive whiteboards. As part of these training activities, teachers from the eTwinning network are offered a course in the lab around every two months. Furthermore, the Flemish Ministry of Education uses the space to provide workshops to Flemish teachers approximately once a month.
- **Project workshops:** European-Commission-funded projects like the iTEC project<sup>54</sup>, the Creative Classrooms Lab<sup>55</sup> project or the Living Schools Lab<sup>56</sup> project regularly use the lab for workshops with project partners. For example, the Creative Classrooms Lab used the space and equipment in the lab to come up with innovative pedagogical scenarios around the use of tablets in the classroom.
- **Industry partner events:** Partners of the lab have the opportunity to use the space up to four times a year free of charge for their own activities. In this context the lab has been used for briefings of partner distributors or strategic seminars for policy makers, offered by an industry partner of the lab.
- **Other:** the Lab has been used for special events such as the Safer Internet Day 2012<sup>57</sup>, involving Vice-President of the European Commission Neelie Kroes, as well as student workshops as part of the Safer Internet Forum 2013<sup>58</sup>.

## Users of the Space and Its Services

- **Policy makers:** Policy makers regularly visit the Future Classroom Lab via short tours of the space, providing them an introduction to the key concepts and ideas of the lab. Policy makers also make use of the space in the context of special workshops or

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<sup>53</sup> <http://cpdlab.eun.org/>; accessed December 13, 2013.

<sup>54</sup> <http://itec.eun.org/>; accessed December 13, 2013.

<sup>55</sup> <http://creative.eun.org/>; accessed December 13, 2013.

<sup>56</sup> <http://lsl.eun.org/>; accessed December 13, 2013.

<sup>57</sup> <http://www.saferinternetday.org/>; accessed December 13, 2013.

<sup>58</sup> <http://www.saferinternet.org/sif/>; accessed December 13, 2013.

seminars organised for them by industry partners or European-Commission-funded projects.

- **Teachers:** Teachers primarily visit the space in the context of training activities as described above.
- **Researchers:** Researchers visit and make use of the space in the context of project activities.
- **Children and teenagers:** Children and teenagers do not use the space regularly but are invited for special events such as the Safer Internet Day or the Safer Internet Forum.
- **Industry representatives:** Industry representatives primarily make use of the space in the context of their partnership right to use the lab for own events four times a year.
- **Other:** A range of European, national and regional organisations with interests in educational technology or innovation in the classroom visit the Future Classroom Lab for inspiration, exchange and reflection.

### Description of Partners of the Hub

The Future Classroom Lab is currently run by European Schoolnet with the support of twenty-four industry partners.<sup>59</sup>

The initial design for the Future Classroom Lab was done in collaboration with RM, a leading provider of ICT software, infrastructure and services to UK education. Companies that are currently supporting the Future Classroom Lab include Acer, Cisco, Cronos, Corinth, eInstruction, Dassault Systemes, Esri, Fourier, Gaia Technologies, Intel, ISIS Concepts, Lego, NEC, Mimio, Microsoft, Oracle, Panasonic, Planet PC, Promethean, RM Education, SMART Technologies, Samsung and TTS.

These partners consist of a mix of large multinational technology companies as well as smaller vendors with a more regional outlook. The technology focus of the partners is also mixed, offering a range of different hardware and software solutions. While the numbers of partners in the lab is continually expanding, there is an increasing shift towards content producers. First steps in this direction have brought organisations like Corinth, Gaia Technologies and Dassault Systèmes on board as partners in the lab. Discussions with publishers are currently ongoing.

In line with European Schoolnet's ethical charter for industry partnerships, all ICT vendors are treated equally and in a transparent manner. Each company is asked to make a financial contribution toward the operational costs of the centre and to commit to a two-year agreement with European Schoolnet under which they will be expected to provide and regularly refresh all necessary equipment (hardware, software, etc.) at their own expense.

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<sup>59</sup> <http://www.eun.org/partners/>; accessed December 13, 2013.

## **Business Model of the Hub**

The Future Classroom Lab is run by European Schoolnet as a not-for-profit activity supporting its main mission of transforming teaching and learning through the use of technology in the classroom.

The lab is funded directly by European Schoolnet and its partners. All equipment and furniture in the lab is provided free of charge on loan by the lab's industry partners. Operational costs of the lab are covered by the annual financial contributions of the partners. Furthermore, projects wishing to use the space are required to provide a contribution to the operational costs.

### **4.2.2 YOUCOOP CoLaboratory**

Platoniq and its YOUCOOP CoLaboratory focus on the application of the creative and social uses of the ICTs, networked work processes and methodologies for collaborative creation through the ICTs, in cultural and social projects fostering innovation, citizens' participation and free knowledge regionally, nationally and internationally.

## **Goals and Mission**

Thus, the mission of Platoniq and its YOUCOOP CoLaboratory is to boost cultural and social change through:

- The promotion and development of open-source culture, free knowledge, the commons and information and communication technology.
- Giving support and training to individuals or initiatives who share or would like to share resources, data, information and knowledge as well taking advantage of the results given.
- Conducting training and consultation with public and private bodies to publish, open or free information and data of public interest.
- Promoting an entrepreneurial spirit through help in the setting up of companies primarily based in knowledge, creativity and social and cultural innovation.
- Development and management of tools which facilitate the getting of resources and the collaboration or participation of civil society and the public and private sectors' need for the development of said initiatives.
- Maintaining and distributing repositories of information with open/free licences accessible on the Internet for those who need them.

Through their online crowd-funding platform Goteo.org and their own methodologies for face-to-face workshops, Platoniq aims to establish a standard for funding open projects so it can be replicated as a formula to raise resources for those initiatives promoting open and free culture and knowledge.

## Physical Spaces and Infrastructure

The Platoniq Lab is composed of an activity space in the city of Palma, Mallorca, of nearly hundred square metres of polyvalent space for workshops, presentations and meetings, as well as diverse equipment including devices, screens and displays for specific co-creation methodologies. It also includes the associated centre at the CCCB (Centre de Cultura Contemporània de Barcelona)<sup>60</sup> in Barcelona, next to the contemporary art museum MACBA (Museu d'Art Contemporani de Barcelona), with the use of infrastructures for different kinds of training and development activities. To complement this, and as a prominent characteristic of its lab model, Platoniq configures mobile incubation settlements with “peer-to-peer” dynamics, holding workshops and modular activities for crowd-funding, project prototyping and knowledge sharing. Stakeholders and communities of practice interact with online tools or platforms depending on local and thematic needs.

## Online Tools for Activities and Knowledge/Dissemination

Platoniq generates innovative software applications and methodologies, in addition to an extensive free-licenced archive on the Internet. The online resources created and used by Platoniq are mainly self-developed and consist of a set of combined tools for different purposes, from the crowd-funding platform Goteo.org<sup>61</sup> and its available open-source code<sup>62</sup> to other projects like Burn Station<sup>63</sup>, OpenServer, Bank of Common Knowledge<sup>64</sup> or a mobile fab lab currently under design. All documentation and methodologies generated are available on the online research platform YouCoop<sup>65</sup>.

## Regular and Special Activities and Services Offered

Platoniq facilitates cooperation and distributed social innovation processes by using dynamics, methodologies and workshops to introduce cultural shifts within organisations such as NGOs, institutions, cooperatives or social businesses.

Platoniq's tools and methodologies are based on the following roadmap:

1. Mapping and displaying processes: from personal networks to abilities and interests networks.
2. Recording capsules: audiovisual interviews to detect obstacles, needs and challenges.

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<sup>60</sup> <http://www.cccb.org/en/>; accessed December 13, 2013.

<sup>61</sup> <http://goteo.org/>; accessed December 13, 2013.

<sup>62</sup> <https://github.com/Goteo/Goteo>, accessed December 13, 2013.

<sup>63</sup> <http://www.burnstation.net/>; accessed December 13, 2013.

<sup>64</sup> <http://www.bancocomun.org/?lang=en>; accessed December 13, 2013.

<sup>65</sup> <http://www.youcoop.org/en/>; accessed December 13, 2013.



3. Digital tools to gather new ideas, problems and solutions, drawing them from citizens and/or members from one or several organisations. Applications for collective decision-making and voting, suitable for events.
4. Unconventional public formats and participation dynamics to enhance co-creation and learning.
5. Methodologies and practical research adapted to local needs.
6. Facilitation of Scrum and Agile processes.<sup>66</sup>
7. Crowd-funding workshops and massive open online courses (MOOCs).



**Fig. 2: Workshop about crowd-funding**

Platoniq organises ideas and knowledge exchanges adapted to different (public or private) environments. Examples include sessions involving participants from secondary schools in Seville or NGOs from Yogyakarta, Indonesia, while themes include Ideazoka – the market of ideas addressed to cooperatives produced in collaboration with the University of Mondragón,

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<sup>66</sup> [http://en.wikipedia.org/wiki/Scrum\\_%28software\\_development%29](http://en.wikipedia.org/wiki/Scrum_%28software_development%29); accessed December 13, 2013.



Basque Country – and the participation and entrepreneurship dynamics applied to Catalan senior centres, or the creation of urban labs in collaboration with CitiLab Cornellà.

Platoniq has organised numerous meetings, workshops and digital production outreach events related to cultural innovation in Spain in collaboration with institutions like the CCCB (Centre de Cultura Contemporània de Barcelona), CitiLab Cornellà, Medialab-Prado in Madrid, the foundation for science and technology Fundecyt Extremadura and the Open University of Catalonia (UOC), amongst others. Platoniq has also collaborated with European and Latin American organisations such as LabforCulture, Ars Electronica, transmediale, Science Gallery, La Friche La Belle de Mai and the Network of Spanish Cultural Centres of Latin America.

The impact of the tools and activities promoted over the years attest to Platoniq's influence and impact, especially in Spain and Latin America. Many of their projects have been adopted and reproduced by many cultural groups, training centres and institutions around the world. They have over 38,000 users signed up to online platforms, more than 16,200 followers in social networks and receive an average of 7,200 visits a day on their respective websites.

After eighteen months of activity, Goteo.org is a platform with 30,000 registered users, more than 14,000 daily visits and followed in social networks by around 14,000 Twitter users and 7,000 Facebook ones. More than 180 open projects have been fully funded and supported so far, gathering altogether more than EUR 1,000,000 (64% success rate) and around 1,200 offers of different types of collaboration from volunteers.

### **Users of the Hub and Its Services**

Every year, Platoniq trains an average of 250 people in their workshops on ICT, social networking and crowd-funding and participates in more than 35 national and international events on technology and culture, attended by over 10,000 people. More than 1,000 people have been participating in more than 50 Goteo workshops and side events around Europe.

Through the online crowd-funding platform Goteo.org and their own methodologies for face-to-face workshops in other contexts, they aim to establish a standard for funding open projects so it can be replicated as a formula to raise resources for those initiatives promoting open and free culture and knowledge.

Platoniq's open crowd-funding workshop provides theoretical and practical information on different types of crowd-funding campaigns and the dynamics they generate, with experience accumulated over two years of operations. Thus, it raises digital crowd-funding practices as a strategy of interest for the projects and creators, both for funding and for the dissemination and generation of communities.

Platoniq's mission, beyond its crowd-funding purpose, is to train and encourage organisations, individuals and entrepreneurs to join the open/shareable movement. Platoniq develops workshops to help entrepreneurs make their initiatives more open, shareable and actionable and also to show how these new projects can benefit from the developed knowledge of previously developed open initiatives.

## Partners of the Hub

Platoniq enjoys the support of many institutions such as the cultural industries branch of the Spanish Ministry of Culture, the department of innovation and internationalisation of the Barcelona Institute of Culture (ICUB), the department of civic participation and open government of the Basque Region Government, the Cultural Industries and Businesses of Catalonia (ICEC), the Spanish Network of Publicly Owned Theatres, Auditoriums, Tours and Festivals and the State Federation of Associations of Cultural Managers, who they have acted as consultants for.

## Business Model of the Hub

In relation to the lab run by Platoniq and its activities, fifty percent of the sustainability plan is based on annual public funds from cultural and governmental institutions (see list of partners above) to design and facilitate educational programmes and develop specific tools.

The other fifty percent of the lab's economic resources come from services, based on workshops, and technical development, consulting, design of methodologies and organisation of events such as hackathons or co-creation environments in partnership with national labs such as CitiLab and CCCB Lab in Barcelona, or Medialab-Prado in Madrid.

The lab's model is based on the interaction of digital and analogue processes. Firstly, a piece of software or an app is developed through a co-creation process with the community of interest and potential partners. Through the process of technical development, a set of online and offline services is developed around the use or the implementation of the tool. The costs of the technological development are usually covered by public funds, and the sustainability of the tool is based on the development of methodologies and services, which serve both as dissemination and training strategy for the organisations who are willing to use that specific tool (such as universities, NGOs, private partners or local governments).

All the tools developed at the lab are open source and are published on public repositories. The lab also gets funding on different occasions for specific adaptations of tools or the development of concrete features – business alternatives for the future that could inspire the design of the Europeana Labs platform.

In relation to new economic activity currently under development, it is relevant to mention the making of physical board games and 3-D elements inspired by the methodologies developed at the lab. These could be used in workshops and training sessions in order to apply the working methods of the Internet and “peer-to-peer” processes to several environments such as education, cultural production and social innovation. These games would serve to organise sessions on applied creativity, experimental dynamics of co-learning, co-working or collective

decision-making. The design process could also be “applicable” to external methodological proposals or the “transcription” of an app or a tool to an analogue serious game version.<sup>67</sup>

### 4.2.3 i-Matériel.Lab

The i-Matériel.Lab is a recently established living lab, oriented to new mobile media dedicated to heritage, culture and eTourism. The association behind the lab is based in Paris.

#### Goals and Mission

The i-Matériel.Lab expects to be part of a very active network about live testing, especially in fields like culture, education, tourism and mobility. The lab has been created on behalf of its first partner, youARhere<sup>68</sup>, creator of the augmented culture app “CultureClic”<sup>69</sup>.

The aim of the lab is to share experiences on these matters and promote cultural citizenship and European heritage. Within the museums the lab is working with, there is an interest in sharing experiences, skills and knowledge, as well as physical systems and devices to deal with visitors, with other European museums.

The i-Matériel.Lab can contribute (through experimental results, studies or benchmarks) in the following thematic domains: tourism, digital cities, e-participation, smart spaces, future media and content delivery.

The lab’s specialisation means that it is relevant to institutions with an interest in these domains and whose researchers and digital specialists are already used to studying public needs and strengthening these characteristics.

#### Physical Spaces and Infrastructure

Amongst the lab’s members there are several museums and exhibition spaces. Therefore, the lab, rather than being based in a permanent physical location, has the ability to conduct real-life experiments with the real public, in real situations.

The lab, thanks to its partnerships with museums and exhibition spaces, can run testing sequences, behaviour observations, etc. in real public spaces.

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<sup>67</sup> For example, the simulation game Elgoog (The Tracker):  
<http://youcoop.org/en/games/p/16/elgoog/>; accessed December 13, 2013.

<sup>68</sup> <http://www.youarhere.fr/>; accessed December 13, 2013.

<sup>69</sup> <http://www.cultureclic.fr/eng/>; accessed December 13, 2013.

### Online Tools Platform for Activities and Knowledge/Dissemination

Thanks to fourteen years of experience by the youARhere team, the lab is able to use different online media and channels for public visibility, communication and interaction. For instance, the president of the lab, Natacha Quester-Séméon (also co-responsible for the Girl Power 3.0 network) co-organised a meeting-debate-demo about the use of technology with Nathalie Kosciusko-Morizet, Secretary of State for Forward-Planning and Development of the Digital Economy. The lab also specialises professionally in social networks, which are a key feature for its promotion and mission.



Fig. 3: Stanley Kubrick exhibit in CultureClic at Cinémathèque française, Paris

### Regular and Special Activities and Services Offered

The i-Matériel.Lab is specialised in several areas, offering regular activities and services, guided by the following objectives:

- Improving the knowledge of mediation abilities in the domains of culture and new media.
- Improving practices and developing “nomadic tools” adapted to these sectors.
- Studying the devices of contribution for all types of practices, from professionals and amateurs (stakes in sociability).

- Experimenting with innovations in the field of mobility within the framework of heritage discovery, to optimise the conception and the chances of success in the concerned market, in pre-commercial or launching phases.
- Promoting the economy of the immaterial, the carrier of cooperative strategies and new nearness.
- Developing “know-hows”, tools and marketable techniques.
- Contributing to the promotion of cultural citizenship: a sense of responsibility for heritage and culture, not only locally but also at a European level.
- Facilitating public access to culture, particularly for youngsters.

The means for that, more specifically, can be summarised in this list of key factors for the lab:

- Developing and testing adequate devices of observation (for the collection and analysis of tracks), based on reflection in the lab environment and the observation of situations.
- Realising tests, studies and experiments with demonstrators and prototypes in the mediation areas of the partners, for mutual development.
- Extensive documentation of analysis and guidelines.
- Expert study about navigation and end uses.
- Testing of user behaviour with smartphones and tablets.
- Evaluating questionnaires to improve content layouts and ergonomics.
- Realising technological and innovation benchmarks and studies in related fields.

Among the lab’s plans for the future, oriented to the type of activities described above, it is important to highlight the possibility of:

- Building experiments for products intended for the whole European market, taking into account psycho-sociological and cultural differences.
- Allowing key actors to exchange knowledge and to be interconnected (via a fully active network).
- Realising experiments and standard studies, spreading them as widely as possible (translations, contacts with media and social media channels).
- Becoming an interlocutor between groups of experts and the digital industry (mobiles, tablet manufacturers and phone operators).
- Becoming a world reference in its domain, to shine as a French and European specialist in the world.
- Raising awareness among European institutions and national representatives about the importance of the transformation of technological uses, in particular the mobile domain

in relation to knowledge, education, travel, tourism, and the necessity to generate digital strategies adapted to new needs.

- Promoting through the opening of data (and open data) the increase of new services to citizens in the cultural domain and innovative applications.
- Developing a similar network of labs in Europe to share knowledge and establishing partnerships with private enterprises and cultural institutions in different European countries.

### **Users of the Space and Its Services**

The i-Matériel.Lab operates from the consideration that openness, in the networked society, is the only way that collective intelligence could lead our democratic and smart development in a very complex world. That is why the lab is based on a user-centred attitude in which all actors are involved to help design better services. With the help of the lab community, the lab is oriented to new economic models in which value is articulated between the intelligent object (mobile devices, chips, etc.), the platform, the service provider, the research institutions and the end user.

The founder of the lab, youARhere, works essentially in the public field, trying to facilitate the wide dissemination of free content to the public, an example being the “CultureClic” project which makes available the paintings of the Réunion des musées nationaux, along with images from the Bibliothèque nationale de France (BnF) and digital heritage from the French Ministry of Culture.

Users of the lab can be involved in all the steps of a project. For a mobile service, this could be, for example, during the definition and conception phases (by running surveys of needs), but also at the intermediary developing stages and the final prototype stages, by running real-life usage case tests and analyses.

### **Partners of the Hub**

The main partners of the i-Matériel.Lab are youARhere and the Centre Pompidou’s Institute for Research and Innovation (IRI)<sup>70</sup>. Among its associated partners, there are cultural institutions such as La Cinémathèque française<sup>71</sup> and Issy Média<sup>72</sup>.

All partners of i-Matériel.Lab are devoted to giving as much free access to cultural contents as they can. For instance, the Centre Pompidou, with around six million visitors each year (a total of over 190 million visitors in its thirty years of existence), is doing some research to provide a better user experience enhanced with an API with free-of-rights content and crowd-sourcing.

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<sup>70</sup> <http://www.iri.centrepompidou.fr/en/>; accessed December 13, 2013.

<sup>71</sup> <http://www.cinematheque.fr/>; accessed December 13, 2013.

<sup>72</sup> <http://www.issymedia.fr/>; accessed December 13, 2013.

Some experiments on mobile and digital working spaces are being held at the centre. Furthermore, several other experiments are planned at the BnF Labo<sup>73</sup> around augmented books and the free contents of Gallica<sup>74</sup> and at the museum of the Cinémathèque française.

Partners of the the i-Matériel.Lab are members of Europe's network of libraries, film museums or research centres and the lab can benefit from such close Europeans connections.

### **Business Model of the Hub**

The lab is fully open to private partners and institutional partners from all over Europe. Some museums have already shown their interest in participating (from the UK, Belgium or the Netherlands). The i-Matériel.Lab business model is based on promoting the alliance between research and private and public entities.

The i-Matériel.Lab is a non-profit organisation under the French law. Its activities are financed by membership fees, public funding and paid analyses, studies, testing or any work other entities like cultural institutions, museums, companies, etc. can order from its services.

As described above, the capacity of the lab's partners, regarding the need of testing services for either qualitative or quantitative public data and developments, can contribute to its sustainability in evaluation challenges which require methodological and technical knowledge.

The insight for product/service life cycles and value chains is still under study as the lab has just been created.

#### **4.2.4 Aalto Media Factory**

The factories of Aalto University<sup>75</sup> – Aalto Media Factory, Design Factory, Service Factory and Health Factory – provide platforms for collaboration and development outside the usual scope of academic departments and research units.

Aalto Media Factory<sup>76</sup> focuses on developing multidisciplinary media-related research and education, welcoming people from all around Aalto, and reaching out to commercial industry partners and non-profit organisations. The lab is active in joint ventures such as research projects, course pilots and event productions by providing funding, coaching, tools and spaces.

Aalto University's Media Factory contributes significantly to the global development of the field of media through its work in developing and seeding high-quality international research, as well as through its contributions to the development of pioneering multidisciplinary education in the field of media and by bravely overcoming barriers and instilling renewal in the field. Through its

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<sup>73</sup> <http://labo.bnf.fr/html/accueil.htm>; accessed December 13, 2013.

<sup>74</sup> <http://gallica.bnf.fr/>; accessed December 13, 2013.

<sup>75</sup> <http://www.aalto.fi/en/>; accessed December 13, 2013.

<sup>76</sup> <http://mediafactory.aalto.fi/>; accessed December 13, 2013.

operations, Aalto Media Factory contributes to the education of responsible, independent and broadly knowledgeable media experts who become visionaries within society.

The values of Aalto Media Factory as part of Aalto University are:

- passion for discovery;
- freedom of creativity and criticality;
- courage to influence and excel;
- responsibility to care, tolerate and inspire;
- a basis in ethics, transparency and equality.

### **Goals and Mission**

As a strategic platform for collaboration within Aalto Media Factory, the finest experts from the broad field of media, covering content, technology and business, will be able to meet, collaborate and excel. Through the work of the Aalto Media Factory, Aalto University will become known internationally for its education, research and creative productions in the field of media.

### **Physical Spaces and Infrastructure**

The total area of Aalto Media Factory is about 650 square metres. It contains an auditorium for about fifty people, a kitchen, smaller meeting rooms and offices. The Fab Lab workshop is about 100 square metres and can fit about fifteen people working; for an enjoyable working atmosphere it is suited for twelve people. The Fab Lab is equipped with a laser cutter (about 60 × 90 cm), CNC machines (120 × 150 cm, 20 × 35 cm and about 30 × 50 cm), three 3-D printers (Ultimaker and 3D Touch) and a vinyl cutter. There is also a well-equipped electronic workshop with two studio masters helping in the workshop.

The auditorium is equipped with a good-quality data projector and 3-D sound system, and large screen monitors are placed in almost every room. There is the possibility for streaming up to ten simultaneous streams. Approximately fifty to sixty people can fit in the auditorium.

Aalto Media Factory has two units with video editing, 3-D and game development software, and there are professional-quality still and video cameras with two professionals who offer consulting services for the productions. Fast Wi-Fi connections are available.

The premises of Aalto Media Factory on the Arabia campus consist of regular office rooms for the personnel of Aalto Media Factory and project workers and researchers, an auditorium, a meeting room, a workshop (Fab Lab), a kitchen and an AV edit room. The AV equipment is included in the facilities, too. The Department of Design, the Department of Media and also the Department of Art and other schools have used the auditorium actively. It has also been used in various events, seminars and meetings. The original idea of creating a multi-usable space has not been accomplished because of the active use and also because of the fact that the room



would work poorly as an AV studio (the roof is too small, the windows are too big to use artificial lighting, poor sound insulation). So a small-scale studio for shooting portraits or small objects is needed close to Aalto Media Factory. Aalto Media Factory is supporting the games field through a new activity called game studio.

The Web Studio offers personal consultation, study materials and test devices at an actual physical location. The studio offers selected learning materials and a range of contemporary devices for testing web projects. The main objective is to provide assistance and organise events to help with practical Internet-publishing-related matters. Students, researchers and staff are all welcome to get feedback and discuss ideas for their projects.

For example, the Web Studio has developed the Aalto People service and offered consultancy on Aalto communication, IT and HR services.



**Fig. 4: One of the learning activities at Aalto University's lab**

The Aalto Fab Lab<sup>77</sup> is open twenty-four hours a day. The lab will firstly concentrate on serving its users better by training the workshop masters. It will also organise courses with the Department of Media for Aalto students (digital fabrication basics and digital fabrication studio) and with the Department of Design (expressive innovation course), as well as short non-credit courses on a weekly basis (electronics for artists and “Hello Fab Lab” courses). It will also serve the students in their master's thesis works, quest workshops, etc.

### **Online Tools Platform for Activities and Knowledge/Dissemination**

Currently, Aalto Media Factory provides more than 130 videos via its website. These are lectures, documentaries, promotional videos, etc. Aalto Media Factory has developed a concept for promotional videos called “Aalto Snapshots”, which is a concept for three-minute

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<sup>77</sup> <http://mediafactory.aalto.fi/fablab/>; accessed December 13, 2013.

presentation videos in order to promote research and projects, departments, units or education at Aalto University. The videos can be broadcast through channels like YouTube, Vimeo, etc. The concept consists of clear directions as to how a unit can independently produce its own three-minute promotional videos in a professional manner. The concept will be finalised during 2014.

Aalto Media Factory will look for possibilities to develop activities on the topic of open knowledge and data as well as activities for the film industry of which the “Eläköön arkistos” project done in 2013 was a good example. The project aimed to study how digital audiovisual materials from AV production companies could be made more accessible and re-usable.

AV production consultation will be given on topics like video shooting and editing. Web-based tutorials (creativelive.com-style) will be developed, and greater visibility of the more than 130 videos on Aalto Media Factory’s website will be created.

### **Regular and Special Activities and Services Offered**

Aalto Media Factory helps Aalto University departments create new innovative learning opportunities within the media context. Aalto Media Factory helps in organising new course pilots involving educators, researchers and students from around Aalto, and can provide spaces, technical resources and funding to get things started. The priority is to integrate education to research initiatives and the media industry, in the form of workshops, seminars, small learning modules and projects.

The “Content, Business and Technologies” (CBT)<sup>78</sup> minor subject focuses on management and technology in the creative industries and cultural sectors. It includes courses from Aalto University’s ARTS, BIZ and SCI schools.

“Games Now!”<sup>79</sup> is an open and free lecture series that will explore the hot topics in the games industry and games culture right now. The series started in 2013 and will continue through the academic year. The first lecture was a success with more than hundred attendees at the lecture space and one hundred and fifty simultaneous stream viewers (of which there were many classes of universities of applied sciences).

The lecture series “Internet of Things”<sup>80</sup> is open to Aalto students and the general public and aims to explore how we design products and services by using the lenses of “Trends”, “Smart City”, “Infrastructure”, “Wearables” and “Gaming”. The series started last season, and because of its success it was continued in cooperation with the Department of Media.

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<sup>78</sup> <http://cbt.aalto.fi/contacts/>; accessed December 13, 2013.

<sup>79</sup> <http://mediafactory.aalto.fi/games-now/>; accessed December 13, 2013.

<sup>80</sup> <http://mediafactory.aalto.fi/internet-of-things/>; accessed December 13, 2013.

A new minor study programme, “Art and Technology Studies”<sup>81</sup> kicked off in autumn 2012, focusing on “interactive artworks that are spatial, embodied, or mobile”. The programme continues during the term 2013–2014.

The courses on digital fabrication utilising the Fab Lab are also part of the Aalto Media Factory educational offerings.

Additionally to the courses mentioned above, Aalto Media Factory offers a lecture series on “Electronics for Artists”.

### **Users of the Space and Its Services**

In a multidisciplinary environment it is important to have occasions to meet members from other spheres or disciplines. One of the important actions of Aalto Media Factory has been to organise events that gather parties from multiple disciplines. The Aalto Media Factory Gallery and Researchers’ Breakfast, amongst others, have shown the importance to match people in a way that supports the multidisciplinary goal of Aalto University.

Apart from that, Aalto University staff members use the lab for organising different kinds of activities such as happenings, events, workshops, etc. Aalto Media Factory offers “Open Tuesdays” for the public in the Fab Lab. The only charge is for material costs.

In relation to students using the space, these are the current educational offerings:

- “Electronics for Artists” lectures every Wednesday (for the Aalto community)
- “Fab Lab tools tutorials” every Wednesday (for the Aalto community)
- “Web Essentials” (for the Aalto community)

Minor study programmes coordination:

- “Content, Business and Technology” multidisciplinary programme for master’s students
- “Art&Tech” multidisciplinary programme for master’s students

Aalto Media Factory also has regular users from the following sectors:

- creative industries;
- media-related professionals from the industry;
- GLAM institutions (galleries, libraries, archives and museums);
- third sector, NGOs, e.g., Open Knowledge Finland;
- general public.

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<sup>81</sup> <http://artandtech.aalto.fi/>; accessed December 13, 2013.

## Partners of the Hub

The two main partners of Aalto Media Factory are the Fab Lab community and the Fab Academy<sup>82</sup>. Events are often organised in cooperation with partners from either within or outside the university. Events are proposed by members of the Aalto community or external “media” parties. The events are organised at the Aalto Media Factory premises or elsewhere.

## Current Activities Related to Digital Cultural Heritage and Design

Aalto Media Factory develops its actions by constantly listening to its users and non-users. Aalto Media Factory has organised several meetings and surveys in which representatives of the schools and departments have expressed their opinions and suggested development ideas for Aalto Media Factory. These ideas have often been implemented. The Aalto Fab Lab is one example.

The “modelling lab” is a proposed service that will help people with 3-D-related questions. It is one of Aalto Media Factory aims for 2014. If founded, it will serve in 3-D design, printing, animation and post-production. In the design school context, 3-D design can be seen as a required general education subject similar to art history or research skills. Design and architecture students have the possibility to take courses in 3-D design, but often after a course they may not use the learned skills on a continual basis. When new applications and tools appear, they may be considerably different from those originally studied. The studio will include the popular 3-D design and animation programmes as well as game editing software and a 3-D scanner. The studio will offer support to use the software and the tools according to a similar concept that is utilised by the Web Studio.

A Game Arcade is another important addition to Aalto Media Factory’s media production support palette. At first the aim is to offer consoles and important games to test and discover; a small library for familiarisation with games. The purpose of the studio is to gather a limited collection of games that experts consider that everyone should play to broaden our knowledge of that sector. The studio will be designed to serve all members of the Aalto community.

The project “CoMeUp – Collaborative Media Content Creation for Urban Planning” will take a “citizen science” approach in the context of urban planning in order to explore how digital media documentation of the urban environment, which is produced and analysed by citizens, could be shared and discussed with urban planners and decision-makers.

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<sup>82</sup> <http://www.fabacademy.org/>; accessed December 13, 2013.

### 4.3 Business/Sustainability Models for Incubation Hubs

The concept of a (living) lab originates from the research community. Labs claim to provide new ways of involving users in the development of (software) product development and a necessary lab infrastructure to do so. An example of a living lab is the so-called Fab Lab, as described in section 1.1.1 of this document, which has specialised in providing an infrastructure for creating physical products. Despite initial results, there are not many success stories of successful products and services that come out of labs. Research on labs has mainly focused on the conceptual understanding of the user-centricity of living labs and lab users and far less on the business models which they use to create and capture value from their activities to be able to sustain themselves.<sup>83</sup>

Like Fab Labs, labs in general are often a public–private partnership, consisting of a network of R&D industry partners and research institutes, funded by national and local governments.<sup>84</sup> In Europe, this stems from national policy objectives to increase the innovation performance in the European Union, a country or region for job creation, growth and wealth. Public grant and subsidy programmes are the dominant ways to fund labs, but are increasingly required to serve private markets,<sup>85</sup> delivering high-potential investment opportunities and viable products and services to the market.

Based on interviews with lab directors, in his article “Designing Viable Business Models for Living Labs” (2012), Bernhard R. Katzy proposes a “business excellence model” which tries to describe the basic process of a living lab and how it contributes to the generation of revenue for the lab:

1. The first phase is the *ideation phase* in which ideas for the development of new products are stimulated, the formation of teams are mobilised and investors (which can also be grant givers) are matched to the teams. Instruments that are often used in this phase are idea fairs or competitions (in the case of the ideation of new products with cultural heritage objects examples are Open Cultuur Data competitie<sup>86</sup>, Apps for Culture<sup>87</sup>, Hack4Europe<sup>88</sup>) and business plan competitions (e.g., Apps for Europe<sup>89</sup>).

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<sup>83</sup> See Bernhard R. Katzy, “Designing Viable Business Models for Living Labs”, in: *Technology Innovation Management Review*, September 2012, pp. 19–24, available online at: <http://timreview.ca/article/604>; accessed December 13, 2013. See Peter Troxler and Simone Schweikert, “Developing a Business Model for Concurrent Enterprising at the Fab Lab”, available online at: <http://www.ami-communities.eu/pub/bscw.cgi/d573159/Developing%20a%20Business%20Model%20for%20%20Concurrent%20Enterprising%20at%20the%20Fab%20Lab.pdf>; accessed December 13, 2013.

<sup>84</sup> See Henny de Vos, “Living Labs en Business modellen”, available online at: <http://www.novay.nl/medewerkers/henny-de-vos/living-labs-en-business-modellen/67124>; accessed December 13, 2013.

<sup>85</sup> See Katzy 2012.

<sup>86</sup> <http://www.opencultuurdata.nl/competitie/>; accessed December 13, 2013.

<sup>87</sup> <http://opencultuurdata.be/apps-for-culture/>; accessed December 13, 2013.

<sup>88</sup> <http://hack4europe.se/>; accessed December 13, 2013.

<sup>89</sup> <http://www.appsforeurope.eu/>; accessed December 13, 2013.

2. A second phase is the *co-creation phase* in which the lab coordinates support of the product development (with physical tooling, software development environments and technical consulting), user validation and marketing (with the provision of development and test methodologies, access to relevant user populations and market knowledge) and entrepreneurship by creating a new firm in which all the needed knowledge, skills, brand value and the team are structured into an organisation. Examples of programmes that incubate ideas into viable products in Europe currently are Startupbootcamp<sup>90</sup> and Rockstart<sup>91</sup> (they also cater for the venturing phase).
3. The last phase is the *venturing phase*, which follows a standard investment process after a project “graduates” from the lab and is taken over by business angels or institutional venture capitalists. In this phase the project has a working prototype, generated initial revenue from end users and lead customers and has transformed into an independent business unit or new venture.

Katzy’s research shows that in addition to the public funding model, the following three models of generating revenue from the market are dominant:

- Revenue that comes from fees paid on a per-hour basis of professional service provision or a fixed price for a project.
- Revenue through the marketing of a product or service.
- Revenue from handing over projects to investors at the moment that they have matured enough. The lab gets funding from business angels, corporate investors or venture capitalists that are looking for investment opportunities (e.g., in cash or shares in the venture).

Katzy’s researched business model opportunities can be extended with the “enabler” model. In this model, the lab organisation gets revenue by launching new labs or provides maintenance or other services (for a network of) existing labs.<sup>92</sup> An example is the European Network of Living Labs (ENoLL).<sup>93</sup> Labs can be a member of this network for a yearly fee. In return they can make use of their services (depending on the type of member that they are), work under their label and make use of ENoLL’s communications and promotion, project development, brokering, policy and governance and learning and educational services.

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<sup>90</sup> <http://www.startupbootcamp.org/>; accessed December 13, 2013.

<sup>91</sup> <http://rockstart.com/>; accessed December 13, 2013.

<sup>92</sup> Massimo Menichinelli (March 2011): Business Models for Fab Labs.

<http://www.openp2pdesign.org/2011/fabbing/business-models-for-fab-labs/>; accessed December 13, 2013.

<sup>93</sup> <http://www.openlivinglabs.eu/>; accessed December 13, 2013.



## 5. Pilots Incubation for Re-Use of Digital Cultural Heritage

### 5.1 Overall Principles, Goals and Current Processes of WP4

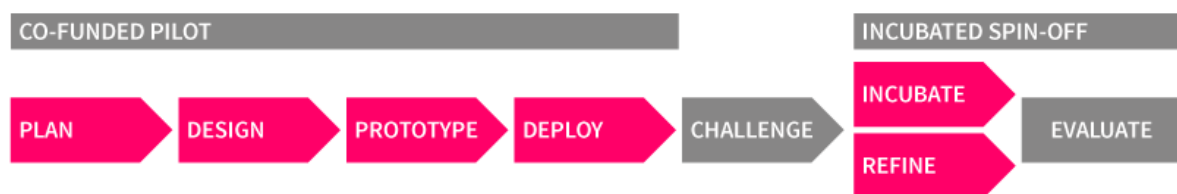
Within WP4 of the Europeana Creative project, five test applications will be developed as proofs of concept and are being designed in a number of events to spur innovation and further development by entrepreneurs from the creative industries. The five Pilots are in the following thematic areas: Natural History Education, History Education, Tourism, Social Networks and Design.

The chosen approach for the overall planning of the Pilots is staggered. The activities for the different Pilots will not start at the same time, but rather at different intervals during the project:

- Months 4–18: Natural History and History Education Pilot
- Months 10–24: Tourism and Social Networks Pilot
- Months 16–30: Design Pilot

The Pilots follow the planning as described in “D4.1 – Pilots Delivery Plan and Content Sourcing Strategy”<sup>94</sup>. Each Pilot task has a development runtime of fourteen months, with a milestone after five months of activity (M9–M13). Pilots should be able to present good progress at given milestones. The first delivery of each co-funded Pilot is scheduled after eight months of development, coinciding with the Challenge events. A further six months is allowed after the Challenge for incubation, refinement and evaluation of the Pilots.

Each Pilot follows the same phased workflow pattern, from design and scoping into a working prototype application, followed by a Challenge and an incubated spin-off phase as shown in the figure below.



**Fig. 5: Europeana Creative Pilot workflow**

<sup>94</sup> [http://pro.europeana.eu/documents/1538974/1601973/eCreative\\_D4.1\\_NISV\\_v1.0](http://pro.europeana.eu/documents/1538974/1601973/eCreative_D4.1_NISV_v1.0); accessed December 13, 2013.

At the time of writing, the first two Pilots are under development, namely, the Natural History Education Pilot and the History Education Pilot. For Milestones 9 and 10 (month 10), a public demo of both prototypes was given to the consortium, and supportive documentation was produced.

The Natural History Education Pilot will develop two products: a Museum Game and a Memory Card Game. Both products demonstrate two examples of the effective utilisation of Europeana content in the natural history education domain. The Natural History Education Co-Creation Workshop was hosted by the Pilot Lead at the National Museum in Prague.

The History Education Pilot develops online learning activities to enable history educators and their students to work with digitised historical sources in ways that are more challenging and more educationally stimulating than those currently available to them both online and in printed resources. In the Pilot, the potential for re-use of cultural heritage resources (particularly those made available through Europeana) by history educators will be tested. The History Education Co-Creation workshop was hosted by the Pilot Lead EUROCLIO in The Hague.

Both Pilots are working towards the first Challenge events where the concepts will be presented to creative industries. The Social Networks and Tourism Pilots kicked off in month 10. The Social Networks Pilot Co-Creation Workshop took place in Palma, Mallorca, and the Tourism Pilot Co-Creation Workshop took place in Verdun (First World War theme) and Mons (European Capital of Culture 2015). The Design Pilot will not start until month 16 of the project, and the Design Co-Creation Workshop is planned to take place at the Aalto Media Factory.

The physical lab spaces hosted by the project partners are available for the Pilots' activities and can serve as hubs for the provision of incubation services. They can also serve as a "physical hub" with information displays showing the work done during the co-creation workshops and to showcase selected ideas that has been identified for potential development in specific areas. Although the first two co-creation workshops did not take place at the physical labs, they should showcase the outputs of the co-creation workshops as well as the Pilot results during the Challenge events, and they should also serve as evaluation spaces for the initial and final versions of the applications developed in each case, as described in section 5.2.4 of this document.

The physical labs will be supported by the online tools developed in the Europeana Creative project, such as generic services for image-similarity queries or geolocation coordinates conversion. These tools, as they are developed, will be made available for demonstration purposes on the Europeana Labs website. This website will also enhance the availability of content for the development of Pilots by highlighting collections that are particularly valuable and meet the technical and legal criteria of the Europeana Content Re-use Framework, developed in WP3 of the project. The Europeana Labs website will also assist in the re-use and implementation of suitable content through clear descriptions of licencing issues affecting such collections, as well as aggregate a large collection of open-source tools and software services developed by other projects and organisations. The website will also showcase the project Pilots when they are released, providing an easy way to download the requirements, designs and code used to create each thematic application.



Based on the work done so far on the incubation and development of the Europeana Creative project Pilots, as summarised in this section, a series of guidelines and methodologies are described in the following sections, with the aim of configuring a wide system of support services for the generation, launching and evaluation of further cases of Pilot applications, making use of digital cultural content via Europeana in the context of the labs.

## **5.2 Guidelines for Services and Activities in the Hubs**

The methodologies for incubation in the context of the Europeana Creative project try to guide participants, aided by a facilitator, from scenario planning to collective decision-making, definition of personas and their relation to cultural objects, and finally to group design and visual definition of ideas and value creation.

In this first version of the methodology, each activity is described individually, with the recommended duration, materials needed, goals and instructions. It is recommended that each workshop starts with a programme of short presentations that outline the technical possibilities, areas of interest and available content. This helps everyone to understand the context of the task. Finally, the workshop should reflect on the results and outputs of the activities and create a “backlog” list that will outline the next steps and tasks.

### **5.2.1 Baseline Equipment and Resources Needed**

The baseline equipment needed for these services may vary and are further elaborated in the section giving examples of workshop formats (see section 5.2.2). Generally, the basic equipment consists of screen-based devices of various sizes that allow for watching and interacting with digital content, including tablets, smartphones or laptops. Depending on the audience and structure, co-creation participants can be asked to supply their own digital devices, which offers a certain advantage concerning scale and familiarity. Use of digital devices in this context generally requires access to Wi-Fi. Equally important are more “low-fidelity” stationery supplies such as printed boards, posters, cards and post-its for recording ideas; they are the basic materials of the facilitated session.

Of course there are laboratory activities that require more specialised equipment, such as additive printing of prototypes or large-format plotting, but this kind of equipment, once installed in a lab, can be used for a variety of audiences and workshop types. For processes such as user testing or evaluation or specific product development, the equipment required may vary and may not be as accessible or affordable, depending on the lab infrastructure. Given the networked nature of the physical labs and their access to other partners’ equipment and materials, this hurdle might be addressed by “ad hoc” agreements depending on the specific needs.

The human resources of each lab and of the Europeana Creative project and Europeana Labs network to host, facilitate, disseminate and handle the logistics needed for such services should also be taken into account when considering the following methodologies and guidelines. For

that it is important to share experiences and look at teacher training approaches, making the process scalable and adaptable when needed, as well as ensuring that there are viable strategies and ways for allocating the time needed for preparation and facilitation, as well as the costs associated for developing these types of activities.

## 5.2.2 Inventory of Effective Workshop Designs for Incubation

### Guidelines for Co-Creation and Business Model Workshops

The following activities comprise a sequence of interactions for collaborative design of digital projects and software applications, from idea generation to initial wireframes, development planning following Agile principles<sup>95</sup> and business model development.

As a project under development, the activities described in the document can be considered as work-in-progress, since they are still being adapted and tested. Partners' experiences in the first two co-creation workshops designed around the Natural History Education and History Education themes, for example, have influenced the shape and format of the next co-creation workshops on the Tourism and Social Networks themes. The current version could already be adapted for other incubation processes and spaces such as digital labs.

### Pre-Workshop Considerations

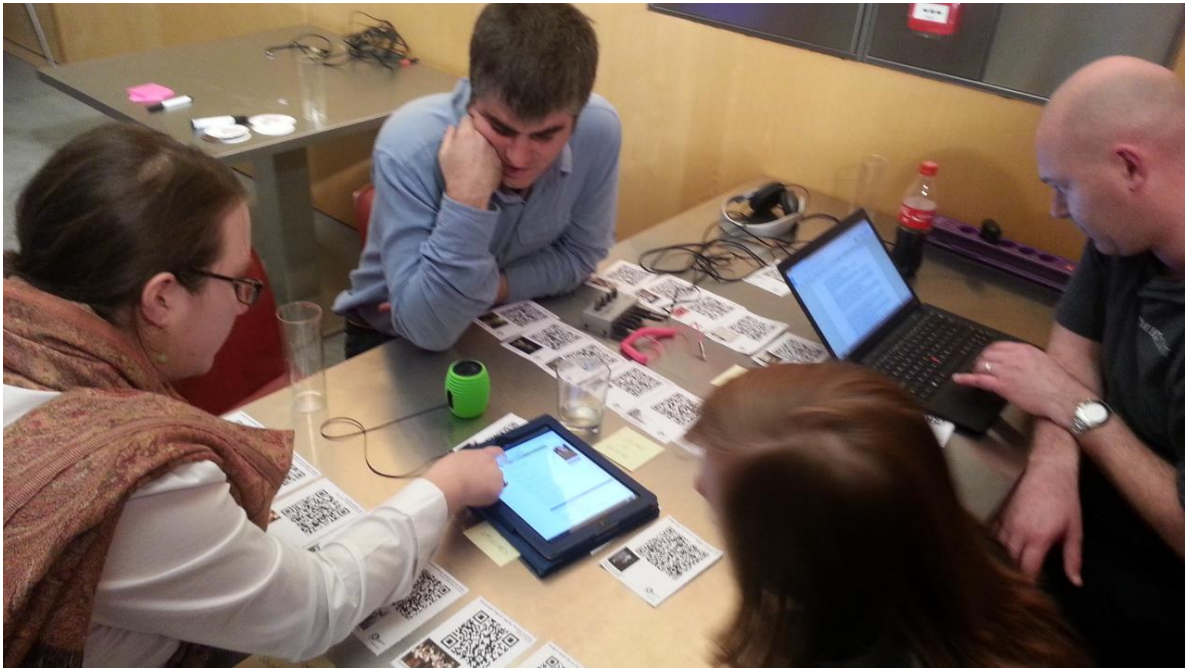
- Apart from facilitating pictures of outputs, discussion and open dissemination of the process, it is recommended to take an ethnographic approach, taking pictures of each visual output, recording parts of activities and taking notes of significant issues during each activity.
- At the end of the workshop there should be an initial backlog of things to develop for the Pilot, not just scenarios or collaborative designs produced by participants.
- When preparing illustrative content examples from the Europeana repository, it is important to adapt content items to the most representative and interesting samples of what can be found via Europeana, and to match these to the area or theme of interest. This helps to stimulate discussion and debate using real rather than hypothetical content results.
- It is important to have a shared understanding of what a business model is and use a concept that participants who are not particularly familiar with business modelling can easily understand and apply.

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<sup>95</sup> [http://en.wikipedia.org/wiki/Agile\\_software\\_development](http://en.wikipedia.org/wiki/Agile_software_development); accessed December 13, 2013.

## 1) Show Me Your App! (“Appetizer”)

- Time: 30–60 minutes
- Uses: “Ice-breaker” previous to other activities, for example, the evening before the workshop. Inspiration for development. Initial agreement on indicators for evaluation.
- Materials/technical needs: Quiet bar/space with good Wi-Fi, drinks and tables or chairs for small groups (but no loud music!). Smartphones, laptops or tablets from participants. Voting board, with level indicators (usability, innovation, feasibility, engagement, “potential” in that specific theme or area, adaptability, “Europeanability”).
- Instructions
  - a. In groups of two or three people, show each other your best app or website for interaction. Explain to each other why. It does not have to be an app focused on a specific theme but something you like to play with or use, ideally in that context, or you think is original. You have ten minutes each to show your favourite app to the rest of the group and use/play it a little bit.
  - b. Now decide which one is better as an inspiration for apps using Europeana content. Questions to ask: “How will you use it in a concrete environment (education, tourism, design, etc.)?”, “Which open data content could be applied to it?”, “How could it connect / mash up with Europeana?”
  - c. Present the selected app to the rest of the group with your insights. Place the screen device on the table so all participants see the app and a number next to it.
  - d. Equalize! What’s the best app we could be inspired by, as a whole or according to some of its main features? Move the tokens according to the indicators on the board.
  - e. Voting! After checking all the levels of each project, let’s decide which app wins, discussing why, based on its main features.
  - f. The app with the highest scores wins (ideally, invitation for a drink!).



**Fig. 6: Adaptation of the “appetizer” activity for sound assets**

## 2) Content Walkshop (Alternative “Ice-Breaker”)

- Time: 30–60 minutes
- Uses: “Ice-breaker” previous to other activities. Inspiration for development. Inspiration for content/metadata requirements.
- Materials/technical needs: Exhibition space or public space with enough cultural heritage content. Smartphones or tablets from participants. Post-its of different colours. Large rectangular table. Main tablet/screen for showing pictures from participants. Ideally, portable printer if there are not enough screen devices.
- Instructions:
  - a. Form small teams of two/three people. You’re a “collection scout” (look for offline contents that have something in common).
  - b. Each group takes at least four pictures from what they see around them (objects, walls, displays, people, interactions). It can be any idea of a set you consider important in what you see for the area/theme selected.
  - c. Select in groups the best findings you have, choosing the most interesting three items.
  - d. Send the selected files to a Dropbox/activityID/groupID folder and/or share it in the same device as a slideshow.

- e. Each team shows and explains the collection they have arranged to the rest of the participants.
- f. Put the device (tablet, mobile, laptop) containing the slideshow of your collection on the table.
- g. Tag any collection, using one word per post-it (depending on the colour), in order to classify it according to:
  - metadata for retrieving the content (nouns, yellow post-its);
  - type of interaction you can have with that content (verbs, blue post-its);
  - type of users which can find it interesting (personas, orange post-its).
- h. Identify the tags which repeat in each collection, then discuss: “Are they represented in Europeana or similar platforms that connect open data cultural heritage content?”, “Which of these tags could be useful or interesting for creative industries?”
- i. Identify unique tags (if there are any) in any of the collections, or the most significant/unexpected/useful ones for you, then discuss: Can it be applied to other types of content related to Europeana? Or similar platforms that connect to open data cultural heritage content?

### 3) What's Your Nature? (Accreditation)

- Time: 15 minutes
- Uses: Assigning roles for the rest of the session. Helping to define groups. Using basic Europeana search.
- Materials/technical needs: White sheets of adhesive paper. Scissors. Printer, Wi-Fi and as many laptops or tablets as possible. Slides with descriptions of metaphors, ideally related to the area/theme selected (in the case of Natural History, for example: content holder – monkey; programmer/developer – owl; teacher/education specialist (and end user) – elephant).
- Instructions:
  - a. Watch the definition of four samples and their assigned roles. Note which applies best to you (if none, think of another one) and get your badge, writing down your name on it and briefly presenting yourself to the group.
  - b. In case you want a different badge/role: Identify a picture for your badge at <http://www.europeana.eu/>.
  - c. Send the link of the image you chose to the session pad [URL] or print it right away, cut it, write down your name and organisation on it and wear the sticker as your accreditation for the workshop.

#### 4) Scenario Forecast

- Time: 60 minutes
- Uses: Elicit expectations. Exploring possibilities. Detecting opportunities.
- Materials/technical needs: Big board/wall with an axis cross. Post-its (yellow: users; blue: actions; green: content; orange: objectives). Small red and green circular stickers. Examples of one or two previously elaborated scenarios in order to inspire.
- Instructions:
  - a. Imagine what would be the opportunities in the selected sector/theme/area in the near future related to an application that uses (open) cultural content. Try to focus on the tool (or feature of a tool) that will allow that, rather than abstract situations.
  - b. Work in groups of three/four people and think of possible scenarios. Write them down in one sentence, using four post-its of different colours, starting with the words: “[What if as a <role>], [I could <desired action>] [<with this content>] [so <benefit>]” Use at least one verb, describing an action, and a type of content.
  - c. Follow this structure and the examples: yellow: users; blue: actions; green: content; orange: objectives.
  - d. Put the sentence on the wall and present it to the group. The rest of the participants (depending on their role) are invited to add possibilities and alternatives or to narrow down the scenario according to the colour of post-its they have (actions, content, goals).
  - e. After sharing and working on scenarios from all participants, give a title to your scenario (considering the initial sentence, as well as the other possibilities around it).
  - f. Place the title of your scenario on the whiteboard, considering its level of technological complexity, as well as its potential in the area/theme/sector of the session.
  - g. Other participants can ask you to move it around the axis according to their opinion, only if they briefly explain why.
  - h. Once all the scenarios are on the axis, use markers (circular stickers) to indicate the most interesting options/features from your point of view (red light – not interesting; green light – I will go for it). Discuss, if needed.
  - i. Select from there which scenarios fit better for co-designing a Pilot or adding features to it, in order to narrow things down and keep on working around it in groups.

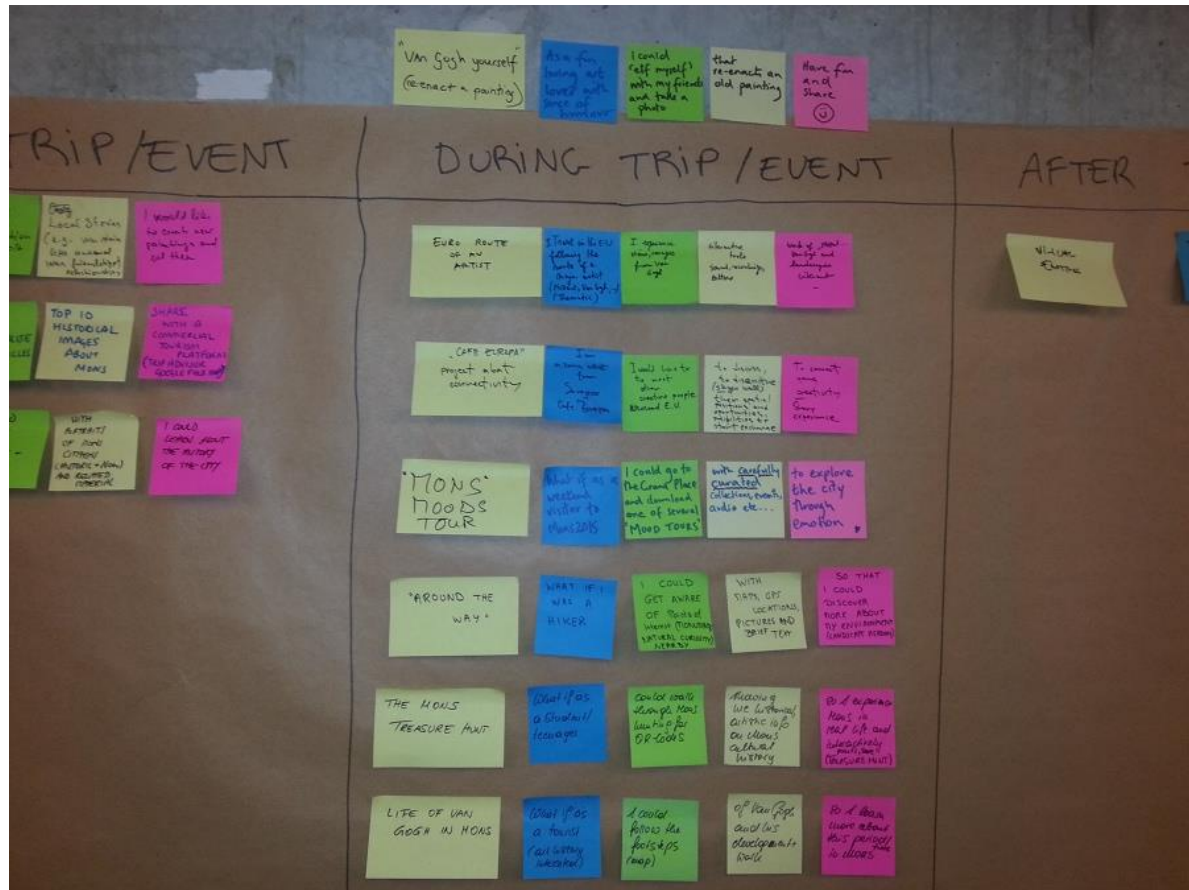


Fig. 7: Different scenarios related to tourism

## 5) Match Content with Personas

- Time: 60 minutes
- Uses: Connecting users, actions and content. Potential ideas and processes for Pilots. Rapid evaluation session. Narrowing down and evaluating options.
- Materials/technical needs: Cards with profiles of personas (image and brief description). Cards/screens with sources of content (picture, illustration, map, timeline, sound, video, postcard, inventory). Cards with actions (copy, send, compare, print, move, share, comment, geolocate, download, search). Printer (for extra content identified by participants during the activity). Several whiteboards, pens, post-its and blu-tack.
- Instructions:
  - a. Work in two or three small groups selecting cards with personas. Finish the description of “specialisation”, “technologies”, “likes” and “wants to know”, in order to have a more detailed description of the potential end user or end users.



- b. Select cards with samples of content and place them on the whiteboard as well as the selected personas and actions, in any order reflecting its uses. If you need other types of samples, search them from <http://www.europeana.eu/> and print a draft version with the printer. If you need other types of actions, write them down on a post-it.
- c. Draw connections between content and personas, trying to reflect the most relevant relationships or interactions related to cultural heritage within the Pilot concept (web or app). Try to agree if there are different possible paths or forks, repeating cards if needed.
- d. Use blue post-its if you need to reflect a specific technology or tool.
- e. Present the map to the rest of the group, highlighting the most remarkable interactions in the application.

## 6) Rapid Prototyping

- Time: 120 minutes
- Uses: Second layer of details to the co-design process. Online features and contents. Define a first version of a minimum viable product.
- Materials/technical needs: Printed icons and diagrams for wireframing offline. Online shared wireframing software<sup>96</sup>. Whiteboards and colour pens. Scissors and glue.
- Instructions:
  - a. As a continuation of the previous activity, in the same teams as before, do your best to define in 2-D, offline first, some details of screens the Pilot should have. In this phase designers and visual minds are needed. Use as many icons and diagrams as you need, starting from the featured ones, just cut and paste from the template sheets.
  - b. Think in chronological order, from the user's perspective: Where does the interaction start, what does the interface look like, what are the Europeana contents involved and how? Try to get as deep as possible into the layers of the application/website.
  - c. Optional: Create a user at <https://gomockingbird.com/> (or similar, allowing any user to modify it, if there is more than one computer in the team), replicate the wireframes online and save the results.
  - d. A final round of reflection and discussion for presenting the work done to others.

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<sup>96</sup> For example, <https://gomockingbird.com/>; accessed December 13, 2013.





**Fig. 8: Rapid design and prototyping activity for one selected scenario**

## 7) Presentations

- Time: 60 minutes
- Uses: Sharing progress and designs. Get feedback from more people. Validate a minimum viable product.
- Materials/technical needs: Projector and laptop, Wi-Fi. Wireframes/whiteboards with the work done. Voting board, with indicator of levels (usability, innovation, feasibility, engagement, “potential” in that specific theme or area, adaptability, “Europeanability”).
- Instructions:
  - a. Present briefly (10/15 minutes) the work done, using the wireframing and other outputs to guide the presentation.
  - b. Evaluate with the rest of the participants, using the voting boards. Allow time for questions and answers from participants for each indicator. What’s optimum? From there, what can others add or do?



**Fig. 9: Presentation of one co-designed idea using a diagram**

## 8) Implementation Planning

- Time: 60 minutes
- Uses: First definition and prioritisation of initial backlog. Linkages in each project and dependencies. Deployment and evaluation issues. Planning of next steps and implementation as needed.
- Materials/technical needs: Whiteboard with columns. Regular post-its. Camera.
- Instructions:
  - a. Following the presentation activity of the wireframe and design concepts of an application, start to define the backlog of things needed for the development. The types of input can be diverse (expressed in the least technical language possible): features, bugs, enhancements, issues, risks, technical work, knowledge acquisition...

- b. Establish priorities of what to develop simply by the order of items in the list.
- c. Choose a set of initial things to do in a sprint development of four weeks.
- d. Share online, copying the results using Trello<sup>97</sup> or a similar online Kanban system.



**Fig. 10: Discussions around specific tasks and issues for a potential Pilot**

## 9) Business Model Environment

- Time: 60 minutes
- Uses: Develop a shared understanding of the existing (economic, technological and market) environment to conceive stronger, more competitive business models. Share and visualise knowledge and experience from all participants.
- Materials/technical needs: Whiteboards, one devoted to each of the four main business environments (key trends, industry forces, market forces and macroeconomic forces). Regular post-its. Camera.
- Instructions:
  - a. Discussion of the business model environment concept developed by Alexander Osterwalder and Yves Pigneur.<sup>98</sup>

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<sup>97</sup> <https://trello.com/>; accessed December 13, 2013.

- b. Analyse, discuss and visualise the business model environment for the four main areas suggested in four separate groups.
- c. Present main outcomes to the group.
- d. Document the outcomes with pictures and a transcription of the whiteboards.

## 10) Business Model Canvas

- Time: 120 minutes
- Uses: Develop business models, the rationale of how an organisation creates, delivers and captures value, for each of the developed application.
- Materials/technical needs: Printed versions of the business model canvas by Osterwalder and Pigneur. Regular post-its. Camera.
- Instructions:
  - a. Discussion of the business model canvas concept developed by Alexander Osterwalder and Yves Pigneur<sup>99</sup>, including the nine basic building blocks (customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities, key partners, cost structure) that cover the four main areas of business (customers, offer, infrastructure and financial viability).
  - b. Analyse, discuss and visualise the business model environment for each of the developed applications in separate groups.
  - c. Present main outcomes to the group.
  - d. Document the outcomes with pictures and a transcription of the whiteboards.
  - e. Share an online copy of the results using Business Model Fiddle<sup>100</sup> or a similar online service.

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<sup>98</sup> <http://www.businessmodelgeneration.com/book>; accessed December 13, 2013.

<sup>99</sup> Ibid.

<sup>100</sup> <http://bmfiddle.com/>; accessed December 13, 2013.





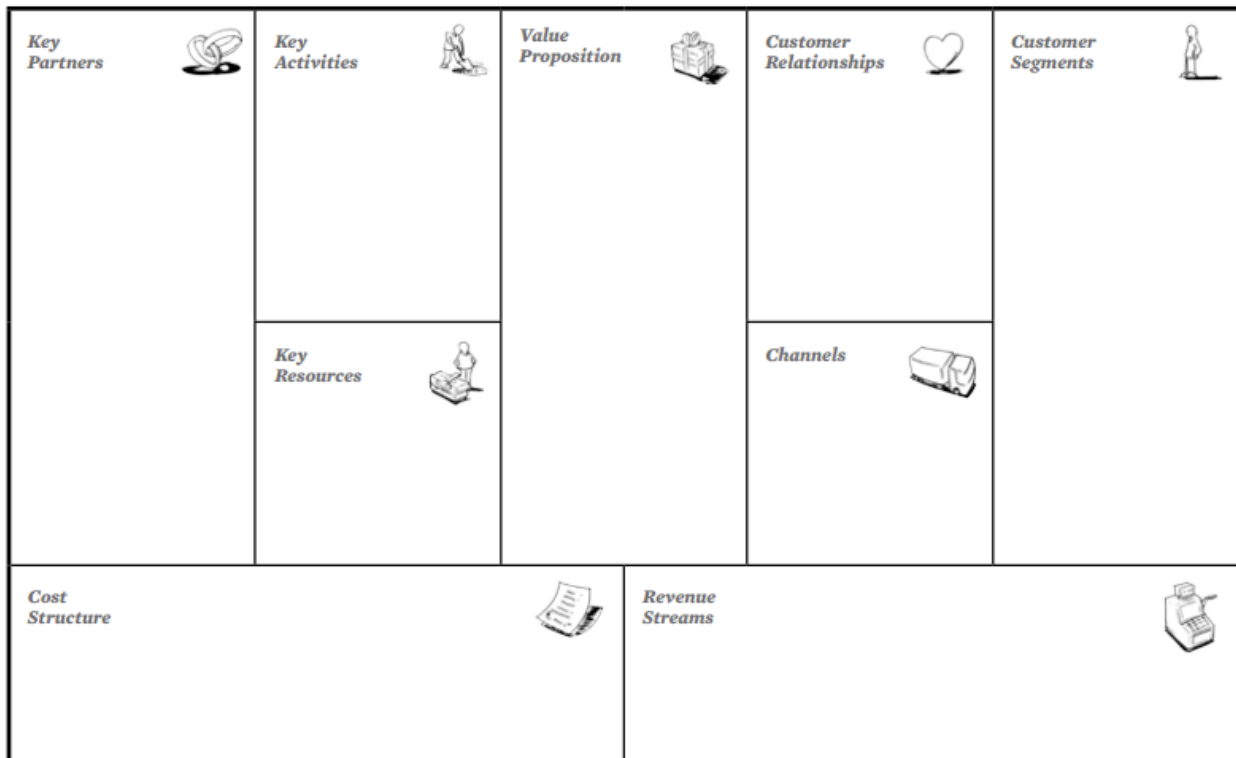
**Fig. 11: Business model canvas activity**

### **Methodological Approach to Business Model Development**

Following Osterwalder and Pigneur, “Business models are designed and executed in specific environments. Developing a good understanding of [the] environment helps you conceive stronger, more competitive business models.”<sup>101</sup> This was the reason why an analysis of the existing environment was seen as an important first step for the business model workshop. Only by understanding the complex economic landscape, the technological innovations and the market needs, one can effectively work on business models. To better analyse the business model environment, the four main areas suggested by Osterwalder and Pigneur to be discussed, visualised and mapped out are: market forces, industry forces, key trends and macroeconomic forces. Osterwalder and Pigneur consider that a business model can be best explained and used through nine basic building blocks that cover the four main areas of business: customers, offer, infrastructure and financial viability.

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<sup>101</sup> Alexander Osterwalder and Yves Pigneur, *Business Model Generation*, John Wiley & Sons, Hoboken, NJ, 2010, p. 200.



**Fig. 12: Business model canvas**

**The Nine Building Blocks:**

- 1. Customer Segments:** The different groups of people or organisations a business aims to reach and serve. The target audience for a business's products and services.
- 2. Value Proposition:** A business seeks to solve customer problems and satisfy customer needs with value propositions. The products and services a business offers.
- 3. Channels:** Value propositions are delivered to customers through communication, distribution, and sales channels. The means by which a company delivers products and services to customers.
- 4. Customer Relationships:** Customer relationships are established and maintained with each customer segment. The link a company establishes between itself and its different customer segments.
- 5. Revenue Streams:** Revenue streams result from value propositions successfully offered to customers. The way a company makes money through a variety of revenue flows.

**6. Key Resources:** The assets required to offer and deliver the value proposition to the customer segments.

**7. Key Activities:** The activities a business needs to perform in order to bring value propositions to its customer segments.

**8. Key Partners:** Some activities are outsourced and some resources are acquired outside the enterprise.

**9. Cost Structure:** The business model elements result in the cost structure. The monetary consequences of the means employed in the business model.

### 5.2.3 Methodological Approach to Agile Development

In the context of the Europeana Creative project, as an integral part of the process of developing the different Pilots related to specific areas, the project adopts and adapts the Agile principles<sup>102</sup> for decision-making and software development, as a continuation of the co-creation and business model workshops described above, elaborating further the designs generated and carrying the software development tasks.

As another modular component of the general services for the project itself, but also for further incubation spaces and contexts, the aim of this approach is to reinforce transparency and regular collaboration between team members of different areas (coding, product management, contents, evaluation and dissemination), as well as focusing on the minimum viable product and the progressive improvement from prototypes to stable applications. For that, the described adaptation of the Scrum framework<sup>103</sup> tries to define a set of procedures and recommendations in order to make the process adaptable in different conditions, mainly for when members of the team, collaborators and stakeholders are not based in the same place (like in this case and many other possible ones in the future), and also dedicated to other projects.

## Roles

### 1) Product Owner

- Responsible for the project backlog. Prioritising work around the project, knowing what is required and which requirements to prioritise.
- Actively involved in order to supervise the Pilot frequently and guide its development at every step.
- Defines priorities and requests during the development sprint.

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<sup>102</sup> [http://en.wikipedia.org/wiki/Agile\\_software\\_development](http://en.wikipedia.org/wiki/Agile_software_development); accessed December 13, 2013.

<sup>103</sup> [http://en.wikipedia.org/wiki/Scrum\\_%28development%29](http://en.wikipedia.org/wiki/Scrum_%28development%29); accessed December 13, 2013.

## 2) Scrum Master

- Responsible for supporting the development team, guiding them through the process.
- Facilitates the creation of the project backlog, focusing on its dependencies and deployment plan.
- Responsible for facilitating the Scrum meeting. Keeping it focused, timely and “on topic”.
- Idem with the regular Scrum meetings during the project sprint.
- Co-define calendar of sprints and checkpoints for the projects.
- Define Sprint Planning meeting as a recurring appointment before every sprint.
- Provide and monitor online collaborative tool (for product backlog, tasks “to do”, “work in progress”, “ready to be verified” and “done”).

## 3) Team (Developers and Content Providers)

- Participate in the sprint planning.
- Help to prioritise features.
- Develop or work on specific tasks.
- Report regularly, especially in case problems arise.



## SCRUM adaptation for eCreative pilots

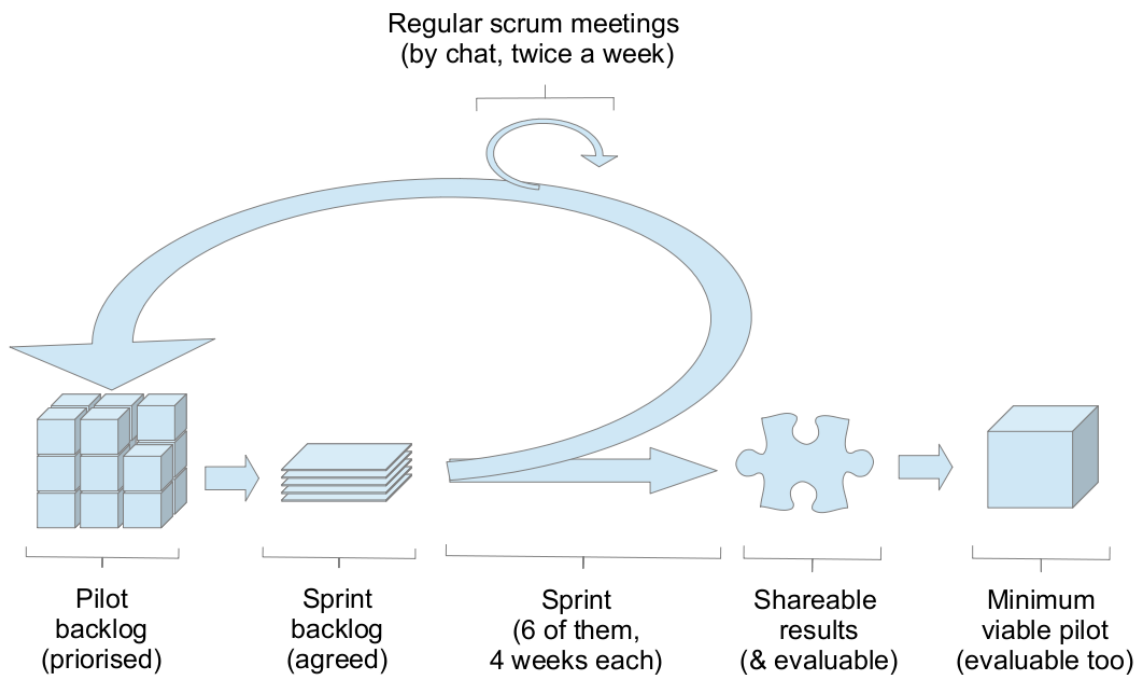


Fig. 13: Diagram showing Scrum adaptation for the Europeana Creative project

### Glossary

- **Backlog:** Ordered list of “requirements” or tasks for each project. It consists of features, bug fixes, non-functional requirements, etc. or whatever needs to be done in order to successfully deliver the Pilot.
- **Sprint:** Period of four weeks for developing defined requirements and tasks. It starts with a WP4 and WP1 meeting for agreeing on what to do next and finishes with another one for reviewing results. Then it starts again.
- **Sprint backlog:** List of work the development team in each project must address during the next sprint. The list is derived by selecting items from the top of the product backlog until the development team feels it has enough work to fill the sprint. This is done by asking “Can we also do this?” and adding items to the sprint backlog.
- **Regular Scrum meetings:** During each sprint, people working on requirements and tasks have to briefly inform about how they are doing and if there are any impediments blocking their work.

## Steps

1. **Define backlog (first week):** The project backlog is (re-)prioritised every four weeks with the list of things collectively decided as needed for the Pilot development. The tasks are defined separately (so they can stand alone as discrete, deliverable pieces of work). Anyone can add anything to it. However, only the Product Owner can prioritise things. The types of input can be diverse and should be expressed in the least technical language possible (content needs, features, bugs, enhancements, issues, risks, technical work, knowledge acquisition). Priority is determined simply by the order of items in the list. The product backlog evolution should be completely visible for anyone involved or interested in the Pilot. The definition of items and prioritisation takes place in the last activity of the co-creation workshop and is afterwards shared and updated online openly using an online platform (with admin access only for Product Owners and the Scrum Master).<sup>104</sup>
2. **Estimate sizes in backlog (first week):** If needed, participants can estimate the effort needed for each task, but not in units of time. Rather than asking “How long will it take?”, the question could be “How big is it?”. This should be taken as an approximation and not as a premature commitment. One suggestion would be to use the following conventions for indicating each “size” (like T-shirt sizes): S, M, L, XL, XXL, XXXL. The size of each backlog item should be negotiated as a team, with the main input from the Product Owner where needed. After that, the Product Owner has another quick look at the priorities, reallocating things if he/she thinks it is important.
3. **Sprint plan (I):** Requirements (first week). As the first activity for the sprint planning meeting (attended via Skype or similar by the whole team, developers and even end users / testers included, if possible) there is a need to:
  - a. Select target items from the backlog for the sprint: an objective that sums up the goal for the next sprint, from a section of items from the top of the product backlog that the team thinks can be achieved.
  - b. Clarify sprint requirements: The Product Owner presents each item and explains how he/she sees it working from a functional perspective. The whole team discusses the item in detail, asking questions about the feature in order to establish what it should do and how it should work.
  - c. The outcomes of this discussion are documented, writing requirements, feature by feature, before they are developed, in a way that is as lightweight and as visual as possible.
4. **Sprint plan (II):** Tasks (first week). In order to break the requirements into tasks and estimate the time required to complete them, the goal of the second part of the meeting is to select the backlog items which will be delivered:

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<sup>104</sup> Example: <https://trello.com/b/Qlf3lOtl/ecreative-history-edu-pilot>; accessed December 13, 2013.

- a. Calculating the available number of days/hours the team has to work on the sprint.
  - b. Breaking the requirements into tasks: design, development, unit testing, system testing, documentation, etc. Trying to define tasks as deliverables if possible.
  - c. Adding up all the tasks estimated from the product backlog to the “to do” one, in order to define the sprint backlog. If needed, it should be the “lower” items on the backlog that are removed from the sprint.
5. Regular calls during the sprint (second and third week). Each team member reports back to the rest of the team if they find impediments to progress or need inputs or feedback. Reports should be concise and focused, addressing questions like “What have we achieved since the last meeting?”, “What will we achieve before the next checkpoint?”, “Is anything holding up our progress (impediments)?”.
  6. Reviewing and repeating (fourth week). Sprint review meeting, open to all partners, demoing what has been completed (using Google Hangout or similar). This retrospective focus on the items delivered as committed, discussing what went well, what could have gone better and the general feedback from the team.

#### 5.2.4 Testing and Evaluation of Incubated Pilots

One substantial part of the Scrum Agile development framework is the testing of the developed software. In Europeana Creative, the applied adaptation of this Agile framework needs some modification compared to a classical in-house testing which is used normally for the Scrum approach. Therefore, the testing should be split into two different methods, also when considering other incubation and evaluation processes in the context of the Europeana Labs network as described in this document.

There should be both permanent testing carried out by the Pilot team during the development phases, and external testing administered by the labs or specific partners of the Europeana Labs network. The external testing ought to be done by online and offline evaluation. In both cases the experience of the users stands in the focus whereby the method of the think-aloud protocol<sup>105</sup> can deliver feedback needed for the iterations in the Scrum adaptation.

User Experience Design consists of several components like visual design, information architecture, information design, interaction design and usability. The latter is in the scope of external testing. Usability describes the experience of end users regarding a product. It shows their understanding of the functionality and the capabilities needed to use this specific product.

The Europeana Labs network should provide a testing package which allows the development team to get feedback on the front end from their defined target audience and refine their products accordingly. For each project, a number of usability tests with the prototype should be

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<sup>105</sup> See <http://www.usability.gov/how-to-and-tools/methods/running-usability-tests.html>; accessed October 17, 2013.

developed – at least two online tests and one offline test. For both kinds, a set of defined criteria should be applied.

### **Think-Aloud Protocol**

A common method to explore a core component of user experience is evaluating the usability by the think-aloud protocol. Adopted from cognitive psychology, thinking aloud is used to get data on cognitive processes of the test persons.<sup>106</sup>

In the beginning, the test persons will be asked several demographic questions and introduced to a specific task they have to solve with the product. The task will relate to the product's objectives and be written down on paper. As soon as the tester is starting his/her task, he/she will be asked to communicate his/her thoughts verbally and to describe which step will be his/her next and what kinds of problems occur from his/her point of view. The evaluator will motivate the tester to practice thinking aloud, record the test and give support when needed. After finishing the given task, the test users need to participate in a short semi-structured interview where they can describe their experience and the interviewer has the chance to ask specific questions on issues raised in the test scenario.

### **Online Tests**

In general, the online tests are structured in the same way with the exception that test person and interviewer are locally separated. This fact creates certain difficulties regarding the possibilities of observing the behaviour of the person running the test. Independent from that, the most important information can be captured by screen-sharing, thinking aloud and recording of the session. To broaden the scope, an additional offline testing is mandatory.

### **Offline Tests**

All Pilots ought to be tested offline in the co-creation labs from the project partners (Future Classroom Lab, YOUCOOP CoLaboratory, Aalto Media Factory and i-Matériel.Lab) by using their infrastructure. In such spaces, ideal conditions for offline testing are provided. The evaluator can observe the test persons and react to specific problems during the tests. To reach the test objectives, the labs shall offer facilities including the hardware for a one-day evaluation with a minimum of five test persons. WP6 will contact the relevant co-creation labs (hubs) to discuss possible dates and necessities for the evaluation tasks.

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<sup>106</sup> See Riitta Jääskeläinen, "Think-Aloud Protocol", in: Yves Gambier and Luc van Doorslaer (eds.), *Handbook of Translation Studies. Vol. I*, John Benjamins Publishing Co., Amsterdam, 2010, pp. 371–373.

## Usability Criteria

During the evaluation itself, several usability criteria will be used as indicators. These criteria need to be adopted according to the type of product (app, website, game, etc.) and the actual development stage of the prototype. The main goal is to explore the usability regarding the following indicators.

## Usability Indicator<sup>107</sup>

**Table 1: Usability Indicator**

Criteria	Explanation
<ul style="list-style-type: none"> <li>Starting screen</li> </ul>	The test person has a positive first impression and is willing to start using the product. It is clearly visible what kind of actions can be initiated. The screen displays the purpose of the application and raises awareness on the value proposition.
<ul style="list-style-type: none"> <li>Accessibility</li> </ul>	The application's pricing is transparent. The test person can easily access the content. The user control and navigation matches the requirements of the application and its hardware. Important fields to fill in are labelled with terms that match the real world.
<ul style="list-style-type: none"> <li>Navigation</li> </ul>	The status within the application is visible and test persons are aware of it. The navigation is consistent and standardised. Test persons can recognise easily how to navigate to a desired destination. Links and buttons are described in a manner that allows test persons to identify the purpose clearly.
<ul style="list-style-type: none"> <li>Design and layout</li> </ul>	The design follows aesthetic criteria, addresses the target audience and is consistent through the whole application. Relevant content is identifiable and displayed accordingly.

<sup>107</sup> See <http://www.nngroup.com/articles/ten-usability-heuristics/> and <http://userium.com/>; accessed October 20, 2013.

<ul style="list-style-type: none"> <li>• <b>Efficiency</b></li> </ul>	<p>The application can be used by a broader audience than the target group. Expected objectives can be reached by the application.</p>
<ul style="list-style-type: none"> <li>• <b>Help options</b></li> </ul>	<p>During the use of the application the test person is provided with hints (e.g. error prevention), search and help options.</p>

The indicators can be extended if the testing requirements change or need a specific modification. Gathered feedback will be reported to the Product Owners to help them improve their products.

### 5.2.5 Use of Labs for Hosting Thematic Challenges

The Europeana Labs network provides access to potential venues to support the Challenges planned in the Europeana Creative project. Depending on the Challenge themes, several physical events will be realised to support the incubation of the Challenge winner’s products. Especially during the development phases, face-to-face meetings can be helpful to solve certain problems that occur. Another option is the use of the labs as a testing environment as described in section 5.2.4. There are several points which have to be kept in mind before using the labs.

#### Dates

Open labs are usually busy places with a high degree of use, which means their service is not ad hoc or permanently available. Many of the labs have public calendars where potential dates can be searched for and reservations can be made in advance.

#### Infrastructure and Space

Some of the partner labs in the Europeana Creative project are highly specialised in a specific topic (e.g., European Schoolnet’s Future Classroom Lab). The labs cannot fulfil the requirements of each product developed in the Europeana Creative project and beyond. Therefore it is recommended to clarify in advance what kind of environment and infrastructure will be needed (e.g., tablets, desktops, digital whiteboards). The available space and capacity for hosting people is a second aspect to be aware of.

#### Target Audiences

As mentioned above, most of the labs are specialised in different themes and have specific target audiences and networks who use the labs. Potential clients of the labs need to be aware of this when wishing to involve users of the labs in evaluation and testing activities.

## 6. Connection to Online Incubation via Europeana Labs

### 6.1 Overview of Development and Goals of Europeana Labs

The physical co-creation spaces (hubs) will be backed by an online “Open Culture Lab” (D1.2) that will bring together the application gallery, technical services, case studies, example code and content for experimentation needed by creative re-use projects. This task represents an initial specification/building phase to establish a compelling framework, but also an ongoing effort to populate the online lab environment with the services, case studies, code examples and other resources needed to support real-world applications and services built on cultural heritage.

These various requirements suggest, then, that the audience for Europeana Labs (the name given to the online platform) is strongly biased towards creative industries as broadly defined, and specifically to those people and organisations who can make use of the metadata and associated cultural and scientific content of the Europeana repository. The working definition of the audience for the site has been described internally as, “those with the interest and capability to re-use the content, data or code of Europeana”. The overarching mission of the site is therefore to facilitate this process of re-use for those with an interest and capability to do so. If this were written as a single generic mission statement, it could be:

*Europeana Labs connects those with the interest and capability to re-use digitised cultural heritage with the tools and data that they need.*

This audience would of necessity include software developers working in various sectors, but also those organisations for whom presentation or analysis of cultural heritage is part of an organisational mission and for which there is technical capacity available.

### Content

Various parts of the Description of Work list specific areas of content for the Europeana Labs. The following are mentioned by name at various points:

- “application gallery”
- “technical services”
- “case studies”
- “example code”
- “content for experimentation”
- “software services”
- “API documentation”

- “working software demonstrations”
- “reference implementations”

Given its role in the project, however, it would be reasonable to make the assumption that the Europeana Labs should also include the following content areas, at minimum:

- best practice methodology for co-creation workshops;
- locations and details of the physical labs in the Europeana Labs network;
- inventory of services offered by the Europeana Labs network as part of their incubation model;
- related projects and resources.

Many of these areas of content have strong overlaps with existing products or areas of products maintained by Europeana. This was a deliberate choice – the strategy will be to migrate the content and tools needed from their various current platforms and put them in a common place with consistent branding, straightforward maintenance and a community-driven focus. As such, the following areas of existing content will be moved to the new Europeana Labs website (and adapted) and then their existing URLs redirected:

- The majority of the EuropeanaLabs website (<http://europeanalabs.eu/>), including the product roadmap, source code repositories and various kinds of technical documentation.
- Much of the “Re-use Data” section of Europeana Professional (<http://pro.europeana.eu/web/guest/re-use-data>), including “API Services”, “Linked Open Data”, “Case Studies” (of API implementations, hackathon prototypes, LOD and EDM), “Hackathons” and “ThoughtLab” (including its various subtopics).
- The API documentation section of the Search product (<http://europeana.eu/portal/api-introduction.html>), including sample code and libraries.
- Visualisation of resources such as the “FLOSS Inventory” [https://docs.google.com/spreadsheet/ccc?key=0Ag\\_7rVJwt0CpdFRJOEJxdEk4ZEMxQ0...](https://docs.google.com/spreadsheet/ccc?key=0Ag_7rVJwt0CpdFRJOEJxdEk4ZEMxQ0...) and the “R&D Mindmap” <http://pro.europeana.eu/web/network/europeana-tech/-/wiki/Main/Semantic+act...>.
- Users should be able to browse easily through the resources and find related information (deliverable, source code).

These migrated content areas will make up much of the technical content already defined for the Europeana Labs, though some of the existing content will necessarily be combined, split, re-written or re-formatted.



Based on this analysis, it seems that much of the content of the Europeana Labs would be static, in that it would change only slowly over time. However, there would be a large number of potential contributors of content to the website, so this should be taken into consideration. There is also a clear need for some specific API-driven interactive functionality, such as content browsing, and this should be installed in as simple and clean an environment as possible to encourage re-use. The dynamic elements of the site (potential blog/news/announcement entries, for example) would seem to be mostly explicitly created, rather than database-generated pages. Technical demonstrators might also require some flexibility on templating, since many demos will not run cleanly (or be attractive and useful) in complex CMS-driven environments.

## 6.2 Touchpoints between Clients of the Hubs and Europeana Labs

The Europeana Creative project serves as an initial proof of concept and activation of operational and inspirational Pilots for re-use or replication or as the base for future developments in the context of the creative industries. As such and in coordination with the four partners' physical labs (for incubation and evaluation), one of the main outputs will be the Europeana Labs online platform. Europeana Labs will encourage the generation of new technological developments as tools to make the best possible use of digitised cultural and heritage content. For this reason, the interconnection between the digital and offline environments is one of the keys for success and should be considered from different perspectives.

Another potentially interesting characteristic to explore concerns the way this platform relies on open standards and code, which could also make the Europeana Labs a “living” tool where contributors help to gradually improve it and expand its features. In relation to that, given the possibility of specific sessions hosted by some of the hubs for explaining the technology behind the platform and its openness, especially oriented to open-source communities of practice, some activities could be dedicated to the access of source code via the GitHub repository, and even to contributing to it from a technical or editorial point of view. Also in that context, following the services oriented to incubated Pilots, the hubs could also represent a clear ally in testing and evaluating the platform itself.

Finally, another synergy derives from the services offered to incubated applications and other tools generated via the project – the physical lab should work as a special dissemination point for the Europeana Labs, once the first versions of the platform are online and accessible. This means identifying and contacting agents in the creative industries and heritage institutions, apart from the development communities already mentioned, who could explore and be aware of the potential interest for their activities and goals. Those demo sessions, ideally, will also contextualise the platform in relation to specific themes and examples contained in it, in order to be able to raise more interest from those agents not only for its technical possibilities but also for the type of content related to specific examples.