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# CIVIC EPISTEMOLOGIES

## *Civic Epistemologies: Development of a Roadmap for Citizen Researchers in the age of Digital Culture* *Workshop on the Roadmap*

Introduction to the second draft version of the Roadmap

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Budapest, July 10, 2015

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## Background

The main objective of the Civic Epistemologies project is to produce a validated Roadmap for the use of e-infrastructures to support

- the participation of citizens in the research processes;
- the participation of creative industries in the exploitation of digital cultural content.

Based on the work done in the other workpackages, workpackage 3 will design the Roadmap.

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## Background

A first draft version of the Roadmap was compiled in January 2015. It provides an initial description of what a Roadmap for the use of e-Infrastructure to support citizen research could look like. It was presented early in the project (month 6) as an internal document for discussion and was also broadly disseminated with the aim to get as much feedback as possible from outside the project. Conducted actions:

- a workshop on the Roadmap took place in Leuven in February 2015 with partners and stakeholders, representing the wider cultural heritage community, researcher's, citizens associations, creative enterprises and e-Infrastructures beyond the consortium;
- a dedicated web space was developed and published online, where it is possible for everyone to download the latest version of the Roadmap and provide feedback and comments <http://www.civic-epistemologies.eu/outcomes/Roadmap>

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## Background

The second draft version aims to take a step further in constructing the Roadmap. This version takes into account:

- feedbacks received from stakeholder groups (including comments from the participants at the workshop in Leuven and comments gathered online);
- recommendations received at the 1st project's review in April 2015;
- outputs from activities carried out in the project from January to June 2015, with particular regard to the compilation of the deliverable D2.2 *Key characteristics and requirements of e-Infrastructure for citizen scientists in digital culture*.

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## Background

All this resulted in a decision

- (1) to give the second draft version of the Roadmap an improved structure;
- (2) to focus more specifically on the interaction between **digital cultural heritages, e-Infrastructure and citizen science**. The ambition is to find the shape or manner in which these elements can come together and connect.

The aim is that the Roadmap will lead to an implementation of an e-Infrastructure that will

- enable creation, access, use and re-use of DCHH content;
- provide learning resources;
- provide communication services to multidisciplinary research teams located in different geographic places;
- enable citizens to participate, together with cultural institutions and universities, in a range of research goals established at European level.

In this perspective, **creativity and arts can have a role as facilitator** for establishing a dialogue that brings together a range of different actors and citizens from across the society.

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## Background

Supporting actions to the Roadmap are:

- a Registry of resources;
- a common Strategic Research Agenda;
- one real-life pilot on Irish place names and place-based heritage research;
- two case studies: “‘Hidden’ Cultural Heritage: Inclusion, Access and Citizenship” and “Local Cultural Heritage: Inclusion, Access and Economic Development”;
- a study about the business models for the sustainability of e-Infrastructures.

In the second draft version, the analyses of information gathered so far by the Civic Epistemologies project is not fully carried out. More information will be obtained in the coming months. The presentation of requirements given by different stakeholder groups will be completed in the final version of the Roadmap (to be presented in deliverable D3.2 at the end of 2015).

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## Some Conclusions from the First Draft Version

(1) A ground breaking part of the concept that the Civic Epistemologies project is aiming to introduce, is the possibilities to customise the citizen science focus services provided by e-Infrastructure, i.e. tailoring the service portfolio and characteristics to the actual tasks and requirements.

However, even if the e-Infrastructure resources seems to be allocated in ways that could support citizen science activities quite well, the general conclusion must be that the market for those distributed services is still in its infancy, even if this market is developing quiet rapidly with a focus on the research domain.

(2) E-infrastructure services for citizen science and crowd sourcing are normally structured around development of tools, but need also to involve policy instruments necessary to achieve efficient intervention in the DCHH sector.

## Some Conclusions from the First Draft Version

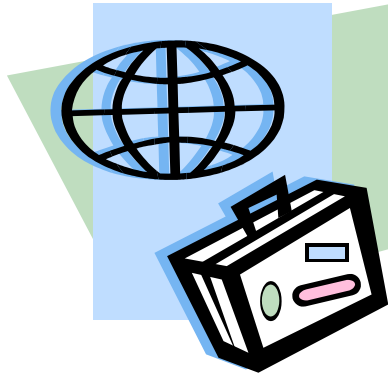
(3) We now that ICT are powerful drivers of creativity in a number of areas, but technical know-how is still often lacking. An important issue is, therefore, the level of maturity in the DCHH domain to handle distributed services for citizen science and/or crowd sourcing.

(4) E-Infrastructures can reach their maximum potential in serving the DCHH domain in practice only if the domain is prepared to exploit the opportunities offered by using e-Infrastructures.

From contacts with different stakeholders it is seems that parts of the DCHH domain is not yet taking full advantage of technologies to engage with wider audiences.



# The Second Draft Version of the Roadmap



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## An Improved Structure of the Roadmap

The second draft version of the Roadmap is organised as follows:

**Section 1 (Introduction)** - sets out the structure and the objectives of the document, and gives also an overview of work done to benefit from;

**Section 2 (The scope of the Roadmap)** – defines the challenges, objectives and targeted outcomes of the Roadmap;

**Section 3 (Stakeholders)** – presents and characterizes targeted stakeholder groups;

**Section 4 (State of the art)** – presents the current situation in terms of experiences in the domain of citizen science and crowd sourcing;

**Section 5 (Lessons learned)** – discusses a list of lessons learned gathered during the requirements analysis for the Roadmap;

**Section 6 (Gaps)** – highlights the gaps that are expected to be filled by the implementation of the Roadmap;

**Section 7 (Our vision)** – presents where we want to go;

**Section 8 (A tentative action plan)** – presents proposed actions;

**Section 9 (Recommendations)** – provides a list of recommendations for targeted stakeholder groups;

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## An Improved Structure of the Roadmap

**Glossary** – provides explanations of key terms used in the Roadmap;

**Abbreviations** – provides explanations about the acronyms used in the Roadmap;

**APPENDIX 1:** Pilot study on Irish place names and place-based heritage research  
- overview of the technical environment and of findings and conclusions;

**APPENDIX 2:** e-Infrastructures sustainability models;

**APPENDIX 3:** An initial Strategic Research Agenda for citizen science in digital cultural heritage and digital humanities.

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## Work Done to Benefit From

The Civic Epistemologies project has looked into other domains, to find out if there are experiences of distributed services in the DCHH domain that are transferrable to the field of citizen science.

Apparently, very little has been done so far, but digital preservation seems to be the domain in which distributed services offered by e-Infrastructure for the DCH sector that has been mostly explored. The need to offer concrete and robust support in digital preservation was identified by the INDICATE project and its “sister” project DC-NET. A succeeding project, DCH-RP, developed a Roadmap for preservation of digital cultural heritage content, mainly by using distributed services (e-Infrastructure).

The Europeana Cloud project also addresses the problem of storage and permanent accessibility of cultural data records.

An initiative with the aim to facilitate long-term access and use of European Arts and Humanities digital data is also DARIAH, the Digital Research Infrastructure for the Arts and Humanities, established as a [European Research Infrastructure Consortium \(ERIC\)](#) in 2014..

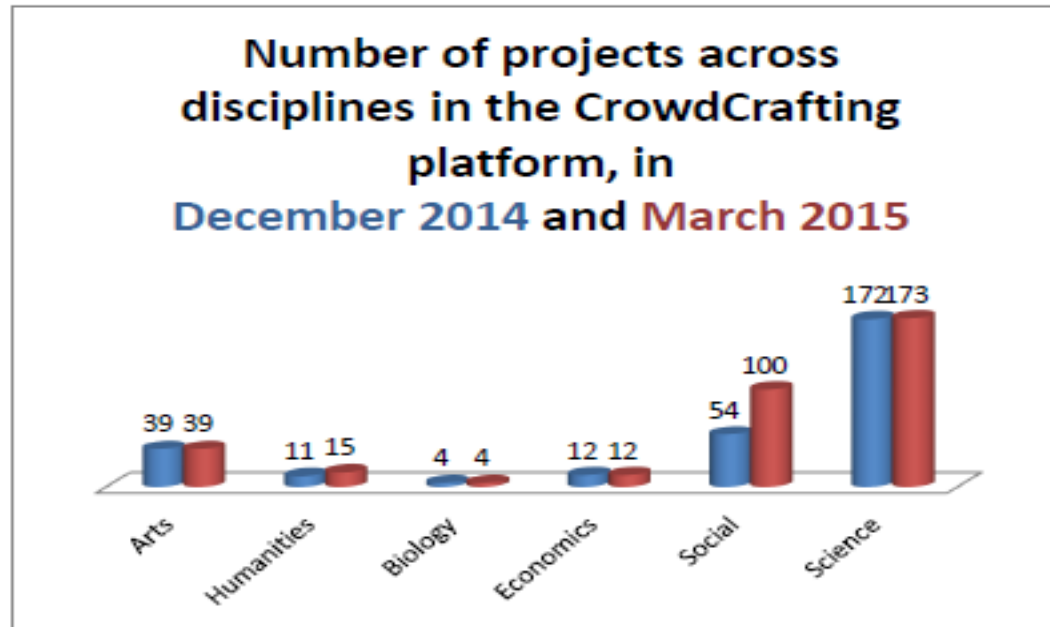
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## Work Done to Benefit From

The advancement of ICT, Internet and mobile technologies opens a new perspective for bringing together different communities interested in contributing to research. This has resulted in a rapid growth of the citizen science initiatives around the globe, and subsequently in an increased body of academic publications discussing various aspects of it. But – why are Humanities not using citizen science more actively?



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## Citizen Science in an European Context

Citizen science is well established in European funding programmes. In its 7th Framework Programme EU has supported several citizen science initiatives. Many of these projects are concentrated on environmental issues, but some are shaped at very specific tasks. A few are related to citizen science and the use of e-Infrastructure, the most well known probably being ScienceTalk. It is a so called Support Action with the aim to bring success stories of European e-Infrastructures to a wider audience through key dissemination activities.

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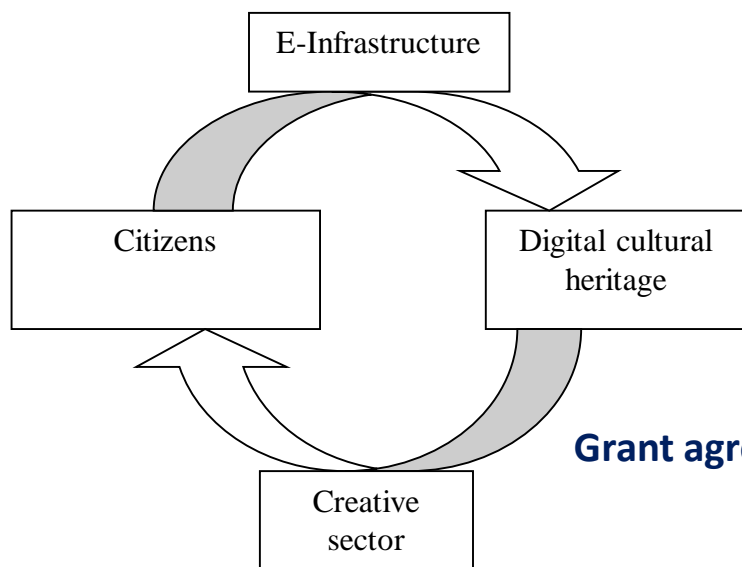
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## Main Challenges

The CIVIC EPISTEMOLOGIES project will with its Roadmap target towards use and usefulness of digital cultural heritage where citizens' engagement has a twofold benefit:

- for digital cultural heritage to be enriched by the citizens contributions;
- for digital cultural heritage to become more widely used and exploited (with the participation of creative industries).



E-Infrastructure have here an important role to play

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## Main Challenges

The proposed solution endorsed by the Civic Epistemologies project to get this “wheel” turning, is to empower the existing e-Infrastructures with new services, targeted to the needs of specific research domains.

The aim is to broaden the communities of users, including citizen scientists as an integrated part of the communities.

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## The Roadmap as an Instrument

The Roadmap is organized in building blocks addressing the following questions :

- WHY - overall objectives for making a roadmap
- WHO - who to address: target groups and/or user groups, stakeholders in general, members of society
- WHERE - where to go (specific objectives and goals for the roadmap to be a basis for requirements like improving access, enhance quality of holdings/collections, social enclosure or...?)
- WHEN - when shall these specific objectives and goals be reached (time line for implementing the roadmap)
- WHAT - what to produce: a roadmap, but what are the basic drivers and the added values of citizen research and crowd sourcing as a method and what are benefits of using distributed e-infrastructure
- HOW - how shall the roadmap be structured (address each targets groups and/or user group or be structured on general level)

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## Stakeholders

The following stakeholders are the key ones, identified by the Civic Epistemologies project, all with different roles to play:

**policymakers** to support institutional conditions and make necessary financial resources available;

**cultural heritage institutions and academic institutions** (e.g. the research communities) to identify clear protocols of interaction with citizen scientists and internally, as programme owners and decision makers on different levels, allocate budgets and implement good governance;

**e-Infrastructure providers** to plan for the future deployments;

**citizens activist organisations** to associate and organise activists into representative bodies.

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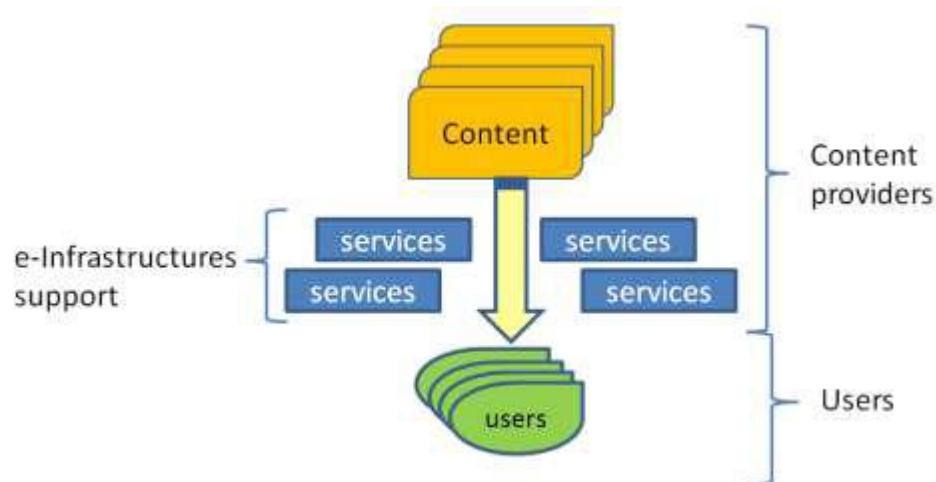
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## Stakeholders

An important aspect is that the academic institutions, in their role to identify the protocols for citizens' engagement, not only shall enhance the citizen's roles within communities of interest at local, national and potentially global levels, but also greatly increase the reach and impact of their research.

Similarly, the role of cultural heritage institutions should enter into a phase a change: from traditionally becoming just content providers, they will also become service providers like the e-Infrastructures, giving them an opportunity to explore new audiences and markets for DCHH.



## Stakeholders

There are also other identified stakeholders for whom citizen science can not be considered as a core activity, but whose contribution to the success of the Civic Epistemologies project can be highly relevant:

- artists;
- creative enterprises;
- funders of citizen science activities.

Artistic and creative practices in general contribute to the establishment of engagement processes. Artists can act as mediators between the cultural institutions and citizens, putting into place co-creation initiatives, which can take place both online and in the physical premises of museums, libraries and archives.

## Understanding Stakeholders Requirements

In order to define stakeholder's requirements, the Civic Epistemologies project has applied a mixed methods approach to understand different demands and expectations in the citizen science domain (cultural institutions, academic institutions, activist organisations, infrastructure providers):

- “desk study” exploring the existing body of knowledge featuring general examples of citizen science work as well as examples of citizen science integrated in the DCHH context;
- user studies aimed at investigating similarities and differences in requirements of various stakeholders; the methodology adopted is to combine a *web survey* with expert consultations within the project consortium with *focus groups* aiming to capture the opinions of different stakeholders (policy makers with a focus group held in Malta; citizen activist organizations with a focus group held in Sweden, and citizen scholars with a focus group held in Spain).

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## Understanding Stakeholders Requirements

- specific workshops aimed at catching user requirements - Malta in November 2014 (on requirements), Leuven, Belgium, in February 2015 (on the Roadmap), and now in Budapest in July 2015 (on CH institutions innovation).

*One of the questions to be discussed during the "Three groups discussion" is: Have the Civic Epistemologies project managed to define stakeholder requirements?*

*Yes*

*No*

*Good enough*

## Gaps

There will be chapter in the Roadmap highlighting the gaps that are expected to be filled in by implementing the Roadmap

- **The last mile** – an overview of those “tiny” details that are missing to reach the objectives
- **Need for a new mindset**
- **Engagement processes**
- **Training**
- **Technology gaps**
- **-E-Infrastructure services and tools for citizen science**

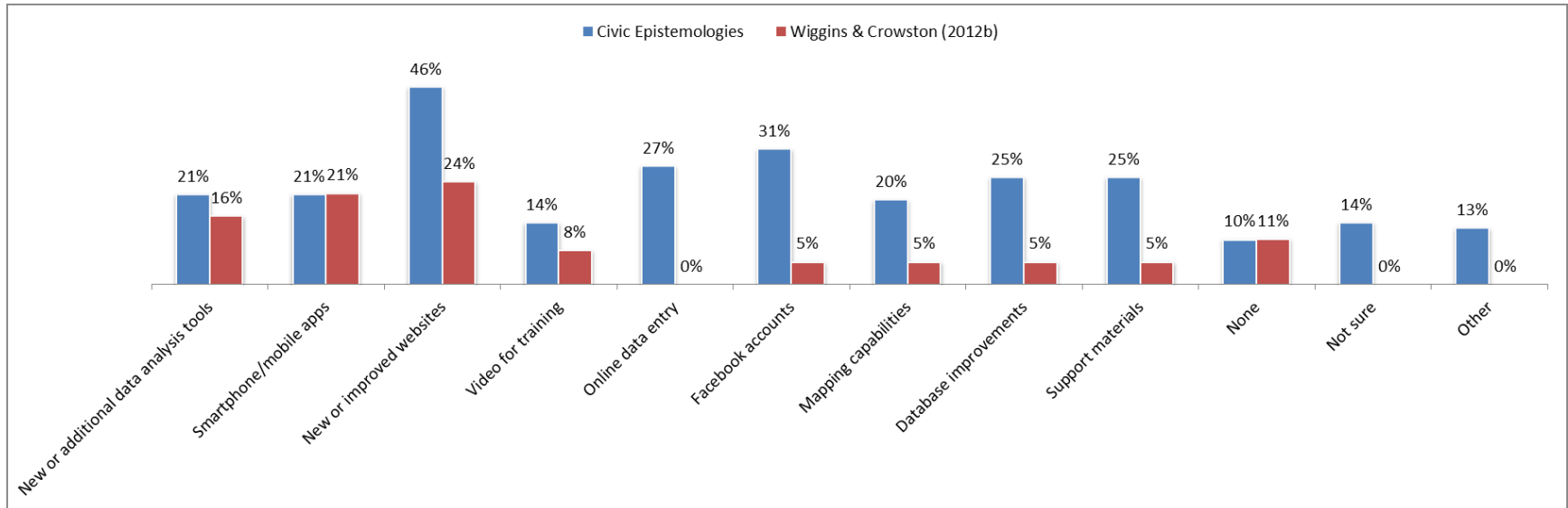
*Gaps is one of the questions to be discussed during the “Three groups discussion” later on.*

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# Comparison of technological tools in place according to CIVIC EPISTEMOLOGIES web survey and Wiggins and Crowston (2012)

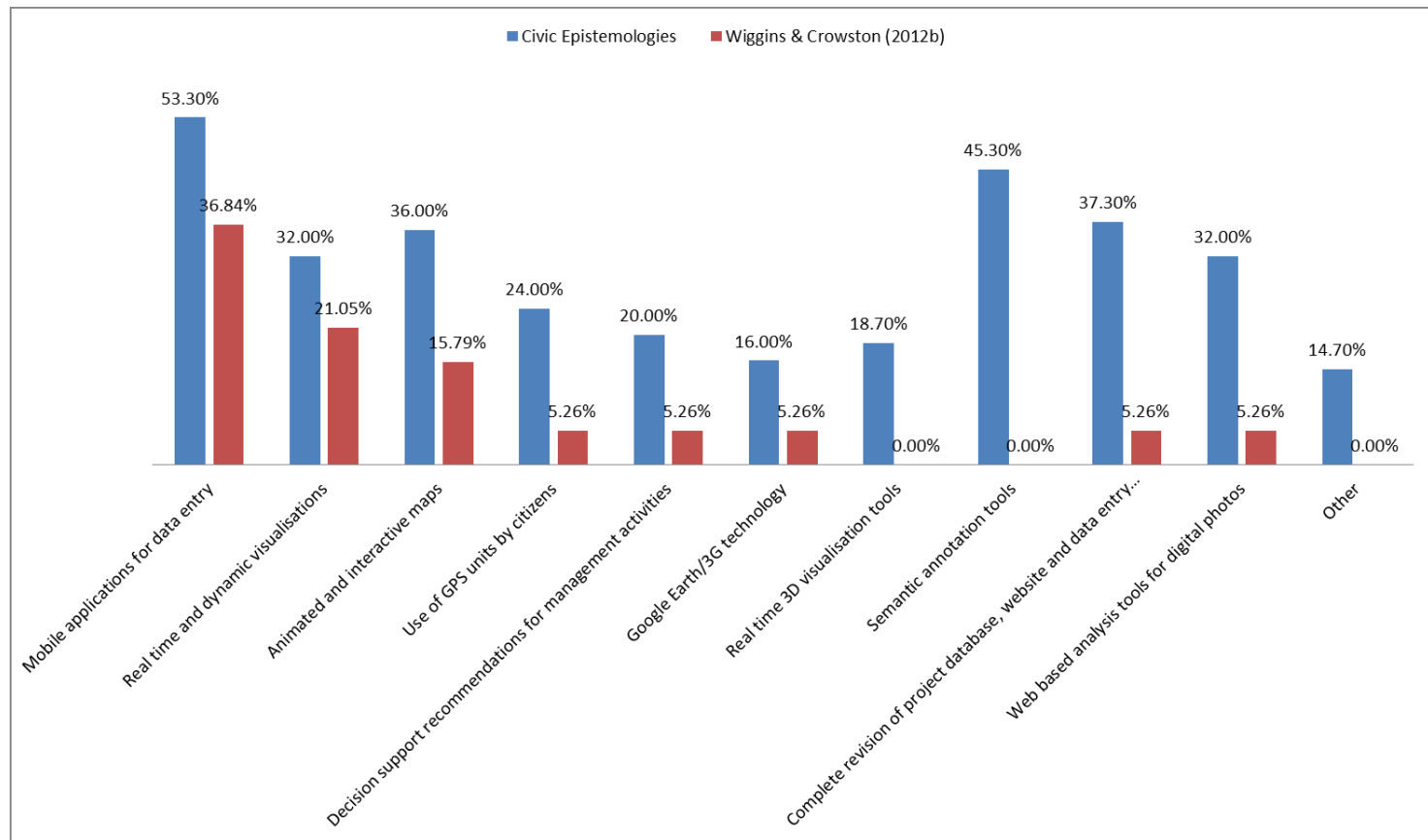


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***Tools which are currently lacking in institutions but would need to be deployed in the future according to CIVIC EPISTEMOLOGIES web survey and Wiggins and Crowston (2012b)***



## The Main Components of the Roadmap

### Selected areas for actions

***Empowering existing e-Infrastructures with new services:*** targeted to the needs of specific research domains;

***Tailoring new services to the requirements of each research community;***

***Improved interoperability:*** includes better integration of internal and external digital resources within the overall workflows for handling research data; in a way this is a set of measures to avoid building 'digital silos' within the organisation;

***Establishment of conditions for cross-sector integration:*** a key condition for maximising the efficiency of successful solutions, transferring knowledge and know-how; a scalable and modular approach to the e-Infrastructures deployment is needed that will allow serving research better and reduce costs of development;

***Governance models for infrastructure integration:*** a necessary condition for successful institutional participation in larger e-Infrastructure initiatives, and aggregation and re-use of digital resources;

***Artistic and creative practices as an instrument for engagement:*** this is an area which is still requiring to be valorise and exploited in terms of its potential for social innovation and cohesion.

For each area a set of prioritised actions will be suggested.

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## A Time Line

The CIVIC EPISTEMOLOGIES Roadmap should make it possible for each institution in the DCCH domain to define its own practical action plan with a realistic timeframe for the implementation of its stages.

- Short-term (2016- 2017)

The purpose of proposing a short-term action plan (2016) is to initiate the development of e-Infrastructure services on a level that will be self-sustainable and continue to progress on its own. This further progress is defined in terms of two further proposed time spans:

- Medium-term (2018-2019), i.e. two years after the end of the CIVIC EPISTEMOLOGIES project), and
- Long-term (2020 and beyond) for the logical continuation of the work.

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## An Online Forum

A Roadmap cannot be considered as a final step. It has on the contrary to be considered as a living document that needs to be continuously maintained, updated and improved as time passes, technology changes, new requirements have to be taken into account, and so on.

For these reasons, the Civic Epistemologies project plan to create a dedicated web-space where it is possible to download the last version of the Roadmap, but also where it is possible for everyone to provide feedback and comments, a kind of Forum dedicated to the use of e-infrastructure services and facilities for citizen science and crowd sourcing targeting the DCHH domain.

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## A Common Strategic Research Agenda

One of the tasks of the CIVIC EPISTEMOLOGIES project is to realise a Strategic Research Agenda (SRA) that is part of this Roadmap. The SRA aims to cover the following elements:

- E-Infrastructures technical evolution;
- The research goals of ICT technologies applied to DCHH;
- Digital Humanities research goals;
- Digital libraries development;
- Engagement with creative industry;
- Involvement of cultural institutions in cross-cutting research;
- A study of metadata enhancements that can allow citizen data input and data from (Do It Yourself) DIY-platforms to feed into museum and archival information systems.

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## E-Infrastructures Sustainability Models

The CIVIC EPISTEMOLOGIES project has also the task to develop a business model for the e-Infrastructure services needed to support civic epistemologies and citizen scientists, primarily based on the requirements collected in the project. A first attempt is presented in Appendix 2 to the second draft version of the Roadmap.

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## Recommendations

There will be a chapter in the Roadmap providing a list of recommendations aggregated around each targeted stakeholder group. For each group the general requirements for fulfilling a citizen science project are identified and connected to the three stages of a citizen science project (preparatory, deployment, and monitoring). The recommendations will be adapted to these requirements.

*Recommendations needed is one of the question to discuss during the “Three Groups Discussion” following this presentation*



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