Deliverable D6.1 – Use Cases and Pilots
Definition of Methodology

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Summary

This document defines the overall approach and framework of OpenUP's Use Cases and Pilots Work Package (WP6) as well as the pilot specific methodologies to be applied. The EU-funded project OpenUP (http://openup-h2020.eu) addresses key aspects and challenges of the currently transforming science landscape and aspires to come up with a cohesive framework for the review-disseminate-assess phases of the research life cycle that is fit to support and promote open science. The goal of WP6 is to implement, test, and verify the outputs and frameworks defined in the Work Packages dedicated to Peer Review (WP3), Innovative Dissemination (WP4), and Impact Indicators (WP5).

The common framework defined in this document, which includes common pilot study criteria, structure, and community involvement approach, will ensure a certain comparability of the pilot findings and alignment to the overall goals of the work package. The purpose of the pilot studies is to test and/or evaluate the applicability of a given process/tool in a very specific community and environment or context. The pilot specific methodologies describe the current status of negotiation and coordination with the involved communities. Finally the document defines the pilot study coordination and risk mitigation strategy in context of the pilot studies, as well as responsibilities of the WP Lead and the Pilot Leads.

1. Introduction: OpenUP Use Cases and Pilots

The goal of OpenUP's 6th work package is to implement, test, and verify the outputs and frameworks defined in the Work Packages dedicated to Peer Review (WP3), Innovative Dissemination (WP4), and Impact Indicators (WP5). To that end, during the course of 2017, it is foreseen to implement seven pilot studies in specific settings and in close collaboration with various research communities. The seven pilots are attributed to three Use Cases, which correspond to the OpenUP pillars (see Table 1). The H2020 project OpenUP addresses key aspects and challenges of the currently transforming science landscape and aspires to come up with a cohesive framework for the review-disseminate-assess phases of the research life cycle that is fit to support and promote open science[1].

Table 1. OpenUP Use Cases and Pilots

Innovative peer review applied to specific contexts (WP3)	Innovative dissemination of research output in specific contexts (WP4)	Measuring impact of research output applied to specific contexts (WP5)
Pilot 1: Open Peer Review for Conferences	**Pilot 4:** Transferring the research lifecycle to the web (Open Science Repositories)	**Pilot 6:** Reflexivity of metrics on medical research and dissemination practices
Pilot 2: Open Peer Review for Research Data	**Pilot 5:** Addressing & reaching businesses and the public with research output	**Pilot 7:** Piratical demand as a form of impact indicator and reaching unexpected audiences
Pilot 3: A data journal for the Arts and Humanities		

The aim of the pilot studies is to test and/or evaluate selected approaches to innovative peer review, dissemination, and impact measuring, which are applied to specific research areas and communities. The goal is to evaluate the tested methods applied to the specific settings and research communities, and to identify working practices, developing standards, and remaining gaps. To achieve this, the OpenUP team is currently striving to involve and commit interested and engaged research communities from arts & humanities, social sciences, energy, and life sciences. Together with these communities, the OpenUP team will apply and test technical and processual solutions identified in the framework research of WP3-WP5. Specific requirements as well as settings by the stakeholders will be addressed as well.

To cover as many areas and application contexts as possible, the pilot studies have been designed to follow a similar structure and common criteria while operating rather independently from each other. Pilot design, scope and methodologies have been chosen to ensure well-balanced and highly relevant outcomes in terms of quality and quantity within the scope of this CSA.

The results of the pilots will be evaluated individually using appropriate methodologies, which are outlined in the pilot methodologies below. The insights gained from the evaluation of the individual pilots will feed back into the WP3-WP5 framework studies and provide useful input for the policy recommendations produced in WP7. Beyond that, WP6 strives to produce success stories and good practices that can further support other communities to apply new Open Science methods. In addition, WP6 strives to shed further light on remaining gaps and issues in context of particular implementations of Open Science approaches. First interim results will be provided in D6.2, which will be released in project month 18 (November 2017). The final evaluation reports will be included in the final deliverable (D6.3 Final Use Cases Evaluation Report).

Key factors influencing the successful implementation of the pilots are the available resources

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[1] P. Kraker, E. Lex, OpenUP: OPENing UP new methods, indicators and tools for peer review, dissemination of research. Open Science Conference, October 2016. Retrieved on 2017-04-24 at https://www.open-science-conference.eu/wp-content/uploads/2016/05/04_Kraker_Lex_-_OpenUP_OPENing_UP_new-methods_indicators_and_tools_for_peer_review_dissemination_of_research.pdf

(manpower, budget, and time) and the commitment of the involved communities outside the project. These factors are being taken into account and addressed in the overall WP6 framework consisting of 1) common pilot study criteria and a related checklist, 2) a community involvement strategy defining a common procedure, as well as 3) individual pilot study methodologies aligned with the overall aims and goals of WP6.

2. Definition of Methodology

During the proposal phase, the project consortium defined seven community-driven pilot studies with the purpose to address a number of specific questions related to the applicability of novel approaches in peer review, dissemination, and impact assessment. During the first half year of the project, when the first round of preliminary results of the WP3-WP5 became available, the work package team already conducted a first assessment of the pilot studies that were projected during the proposal phase, and started reaching out to potential communities to be involved in the pilots. All pilot studies were reviewed to reflect the hitherto defined key questions, roles, and processes involved, as well as related key challenges and opportunities in the specific context of the pilots. Common criteria and a framework, to which all pilot studies will adhere to, were agreed upon.

For most of the pilot studies, this review only yielded minor changes with respect to the projected scope in the DoA. Only in case of Pilot Study 6 the pilot description has been completely revised to better address the common pilot study criteria. Also the scope of Pilot Studies 2 and 4 has been slightly shifted in respect to what was defined in the DoA (see methodology descriptions below).

The results from the revision and refinement process of the methodological approach are reported in this document. In the following chapters the overall methodological approach of OpenUP's use cases and pilots as well as the particular methodologies of the individual pilots are defined.

2.1. Common Framework of the Pilot Studies

At the first OpenUP project meeting in Amsterdam (June 2016) the team agreed that all pilots will follow a similar structure and a common framework to enable integration of the expected results. The ultimate goal is to consolidate all WP6 results to produce a synthesis of the key results and lessons learned. The pilots follow a particularistic approach (instead of addressing more generic questions): the individual pilots are designed to be implemented in very specific application contexts and communities, and are not supposed to deliver answers to the general practicability of open peer review, innovative dissemination or impact measurement approaches. This decision was taken to support a successful community involvement; it is more appealing and engaging for the involved communities if they can address currently burning questions related to emerging Open Science practices that apply to their specific research field. In addition, this approach allows for a deep understanding of advantages and factors of success as well as barriers and trade-offs of the respective Open Science practices. Furthermore, this format fits with the budget and manpower of the CSA.

The chosen approach implies that each pilot follows a specific methodology and will have distinct results and findings, but will adhere to a common framework. The common framework will ensure a certain comparability of the pilot findings and alignment to the overall goals of the work package. The resulting pilot study criteria, a concerted structure and timeline of the pilots is described in this section. Other aspects that have been defined are a common community involvement strategy and how to address gender and diversity in the frame of WP6.

2.1.1. Pilot Study Criteria and Structure

The WP members agreed on a set of common criteria to which all OpenUP pilot studies adhere to. The pilot study:

- addresses a key question defined/identified by WP3/4/5
- involves a committed research community from arts & humanities, social sciences, energy, or life sciences
- involves representative stakeholder groups of the identified key stakeholders (researchers,

publishers, funders, institutions, industry, public)
- evaluates the applicability of technical and processual solutions identified in WP3-WP5 in a specific context (particularistic approach)
- evaluates the opportunities and potential of the tested approaches to provide solutions to key challenges

Based on this list of criteria a checklist has been prepared and filled in for each pilot (see Annex 1). The purpose of the checklist is to support the Pilot Leads to adhere to the commonly defined criteria, but also to maintain an overview of the various aspects of the individual pilots and how they correlate in the context of the WP6 framework.

The pilot studies are structured in two main steps or phases that will lead to interim and final results. This structure is reflected in the sub-task structure of each pilot (see Table 2). The start and end dates may vary between the pilots and mainly depend on key activities, events, or project timelines by the involved communities or other interdependencies. A categorisation of the individual pilot studies is provided in Table 3.

Table 2. Concerted Pilot Study structure and timeline

Pilot Study phase	Sub-task	Approx. start/end dates
Preparatory phase	Re-define projected pilot study to reflect the hitherto defined/identified key questions, roles, etc.	M8-M12
	Engage with the addressed and involved communities	M8-M12
	Identify methodologies and settings (D6.1)	M9-M11
Implementation Phase 1	Pilot Study on-going & interim evaluation (D6.2)	M12-M18
Implementation Phase 2	Final Pilot Study implementation phase & final evaluation (D6.3)	M19-M25

Table 3. Categorisation of the OpenUP Pilot Studies

Category	Short description	OpenUP pilots
Design study	Evaluation of technical and conceptual feasibility of existing data lifecycle management and quality evaluation applied to Social Sciences and the Humanities.	Pilot 2, Pilot 3
Pilot implementation	Implementation and application of specific peer review, dissemination, and impact measuring technologies or processes in specific research areas and contexts.	Pilot 1, Pilot 4, Pilot 5, Pilot 6
Statistical analysis	Investigate if piratical demand can give additional insight into the impact of scholarly publications.	Pilot 7

2.1.2. Community Involvement

Community involvement is a key success factor of this WP. To ensure successful pilot study implementations, the work package team addressed community involvement early on. Potential communities to be involved in the pilots have been identified and selected from four designated research areas (arts & humanities, social sciences, energy, life sciences). A full list of communities and platforms identified during the first project year is documented in MS13: Community Involvement.

To support a successful community involvement and participation in the pilot studies and address related risks (see Risk Management) the work package team defined a **Community Involvement Procedure**, which has been synchronised with related strategies and activities by the WP2 team (Outreach and Exploitation). The Community Involvement Procedure defines four community involvement stages (see Table 4) as well as a timeline and guidelines to support the Pilot Leads with this task (see Table 5). The procedure is described more in detail in the supplement to MS13.

Table 4: Community Involvement Stages

Stage	Action
Stage 1	Reach out to communities within the reach of the pilot leading organisation (i.e. through their personal networks, in their countries of residence).
Stage 2	Reach out to communities within the reach of the OpenUP consortium partners (i.e. through their personal networks, in their countries of residence).

| Stage 3 | Actively contact communities beyond the direct OpenUP consortium contacts (e.g. projects, activities, networks) |
| Stage 4 | Publish a call for participation to find other interested communities |

Table 5: Timeline, Community Involvement Stages and Guidelines

Period	Community Involvement Stages and Guidelines	Deadlines
January - February 2017	**Identify a community to be involved in the pilot** All pilot leading organisations are involved in and part of various networks of researchers and Open Science activists. For some of the pilot leads, the communities to participate in the pilot study are within their direct reach. If the pilot leads find a committed community corresponding to the criteria above within their own networks, it is not required to move beyond the first community involvement stage. If a pilot leading organisation struggles to find a fitting community by the end of February, the pilot leading organisation must proceed to the next community involvement stage. A transparent and open communication with the already contacted community contacts about all the steps to be taken is recommendable to avoid any misunderstandings. During this period it is strongly recommended to reach out to at least one research community, which has a reliable and committed contact person who is seriously taking part in the negotiations.	28 February 2017
March 2017	**List of communities to be involved is completed (MS13)** All pilot leading organisations have identified the communities to be involved and negotiations are underway or completed. Some of the pilot leads might struggle to already get the full commitment from their community contacts by the end of March. If this is the case, the pilot leading organisations are strongly recommended to proceed to Stage 4 and reach out to further potential partners for the pilot study. To avoid any misunderstandings, it is strongly recommended to transparently and openly communicate to the community that is being negotiated with about all steps to be taken and the rationale behind them. At that point, it is really important to be in contact with at least one research community, which has a reliable and committed contact person who is seriously taking part in the negotiations.	31 March 2017
April - May 2017	**Communities to be involved in the pilot engaged and committed** From April to May 2017 the pilot leads will intensify the contact with the communities and get their full commitment by the end of May. The pilot leading organisation have time until May 2017 to get the full commitment from the communities. If they still struggle with this, they must proceed to Stage 4 to reach out for further potential partners for the pilot study. May 2017 is the official start deadline for all pilot studies.	1 May 2107

Since the successful implementation and evaluation of the pilots is highly dependent on active participation and contributions by communities who are not directly tied to any obligations towards OpenUP, an important risk to be addressed in context of WP6 is that committed community partners may resign from their participation in the OpenUP pilots. By adopting the Community Involvement Procedure, the project partners strive to mitigate this risk. Next to the timeline and involvement stages outlined above, the procedure defines various community engagement levels and suggests approaches to create a win-win situation for both OpenUP and associated community contacts. This way the OpenUP consortium hopes to motivate and bind the communities to the OpenUP activities. Crucial factors in this context are good communication between OpenUP and the communities, and coordination and flexible adaptation of the pilots to respond to the communities' needs, pressing issues or interests. In terms of

visibility and transparency of the collaborations between OpenUP and the individual communities, another important issue that will be addressed is responding to the communities' requirements in terms of confidentiality and privacy.

2.1.3. Gender and diversity

Opening up the research process is meant to make academic research more inclusive and transparent. By following this approach we aim at enhancing the quality of academic research as well as its legitimacy. In a broader sense, opening up research is part of democratization of research and emancipation of research subjects and citizens generally.

However, openness in itself does not guarantee inclusion. Take Wikipedia as an example. Wikipedia is radically open: anybody can contribute to existing lemmata and open new ones. In reality, participation is heavily skewed. In most languages, more than 80% of the contributors are male, the lemmata are favouring male interest, and the rules and tone of the interactions are less than encouraging as novices report[2,3]. Similarly, research blogs are men-dominated[4]. Openness in fact triggers the growth of informal rules and spontaneous organization[5]. Again, Wikipedia is a good example: an elaborate system of moderation has grown and participants are now differentiated according to ranks and rights, especially when it comes to conflict resolution. A growing number of lemmata are not open to everybody's contribution.

Sex differences - differential participation of men and women - turn into gender differences when men or women are excluded due to their gender, and when masculinity or femininity norms prevail (n.b. masculinity can also put men in a difficult position). Next to gender, inequality is often based on racial, cultural, class, and age difference.

We are fully aware of the positive and negative potential of OpenUP for inequality and want to maximise the first and minimise the latter. Where applicable, the design of the pilots attends to inclusion through stakeholder recruitment, layout and design, or moderation. In general we will adhere to the H2020 gender equality principles[6]. When choosing potential candidates for interviews or workshops, we will aim to ensure equal gender distribution. Design and evaluation of the individual processes/tools to be tested will take into account gender and diversity aspects (e.g. related sex-, gender-, or diversity-sensitive topics/issues; significant differences in user feedback, requirements, or behaviour). Moreover, the pilots will monitor and analyse issues related to gender or diversity[7]. E.g. we will analyse if gender and/or diversity significantly influence participation and experiences by the collaborators in the pilots. Relevant quantitative and qualitative indicators (e.g. number of female/male participants, drop-out, or no-show, as well as user/participant feedback) will be considered. Lessons learned, significant implications, and impact of gender and diversity on the tested Open Science approaches in context of the OpenUP pilot studies will be analysed in D6.3 (Final Use Cases Evaluation Report).

2.2. Pilot Specific Methodologies

The individual pilot studies are unique in their application context and setup, and therefore have tailored methodologies. The purpose of the pilot studies is to test and/or evaluate the applicability of a given process/tool in a very specific community and environment or context. The purpose of the studies is not to draw general conclusions about the applicability of the tested processes/tools in the scientific

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[2] B. Collier, J. Bear, Conflict, criticism, or confidence: an empirical examination of the gender gap in Wikipedia contributions. In CSCW '12, Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work, 383-392

[3] Isob et al. 2014

[4] H. Nguyen, Gender differences in commenting of science blogs. Master thesis in the International Information and Knowledge Management Master's Programme, Åbo Akademi University. Åbo 2016

[5] J. Uitermark, Longing for Wikitopia: The study and politics of self-organisation. In Urban Studies, Vol 52, Issue 13, 2015, 2301 - 2312

[6] https://ec.europa.eu/programmes/horizon2020/en/h2020-section/promoting-gender-equality-research-and-innovation

[7] http://eige.europa.eu/gender-mainstreaming/methods-tools/gender-monitoring

community in general.

The individual pilot methodologies defined in this deliverable describe the current status of negotiation and coordination with the involved communities. As explained above (see Community Involvement) the successful implementation and evaluation of the pilots is highly dependent on active participation and contributions by communities external to OpenUP. In this context, the OpenUP team is currently putting considerable effort into coordinating and adapting the individual pilots to the communities' possibilities and needs. Some of the Pilot Leads are still in the negotiation process with the communities. The team agreed on a common timeline and strives to finalise the negotiations by the beginning of May, when the first pilot implementation phase officially begins. In some cases, depending on the resulting agreements in terms of common approach and methodologies to be applied, the hereinafter described methodologies might be updated at a later stage.

## 2.2.1. Pilot 1: Open Peer Review for Conferences

Aim and scope of Pilot 1 is to evaluate the concepts of open peer review for conferences. The pilot study will test open peer review workflows and tools identified in the framework study done in Task 3.1. It is foreseen to do this using an existing conference setting, which did not use an open peer review process for their submissions until now.

By using and adapting existing conference management systems (CMS), an **open peer review workflow** including the following elements/steps identified in WP3 will be tested:

- **Open Report**: Review report is published alongside the publication
- **Open Identity**: Authors and reviewers are aware of each other's identity
- **Open Participation**: A larger community is involved in the reviews
- **Open pre-review**: early versions of material are public before the review
- **Open final-version comments**: commenting online possible after the verdict

The exact mixture and degree of openness to be applied is currently being negotiated with the conference organising community. The organisers as well as the involved stakeholders (appointed reviewers, submitting authors) need to feel comfortable with the chosen approach. However it is planned to apply as much openness as possible to fit the aim and scope of the pilot study.

Figure 1. Comparison of traditional peer review and an exemplary variation of the open peer review process
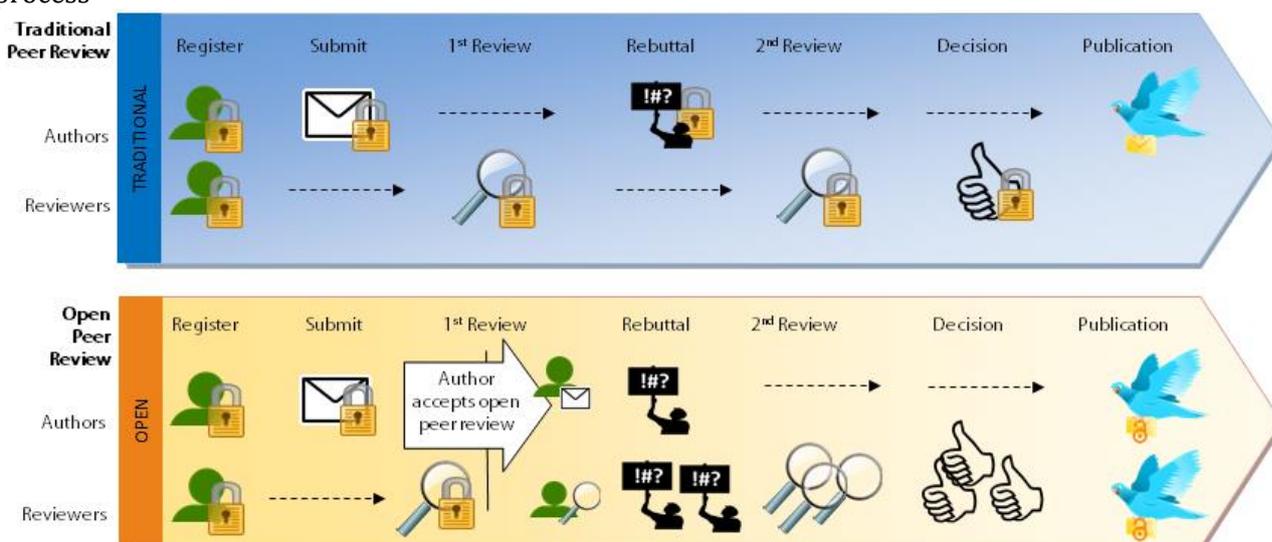
Two communities have voiced their interest in hosting the pilot. The Pilot Lead is currently investigating if either one or both conferences can be involved for Pilot 1. This depends on actual applicability and timing constraints imposed from the conference submission and review timelines.

- **eHealth 2018**, April 2018 - Student Competition: About 15-20 paper submissions and about 30-40 reviewers
- **2nd European Machine Vision Forum (EMVF)**, September 2017 - Submission of

Contributions (Talks & Posters)

The logistic work of conducting the peer reviews needs a suitable CMS. Multiple open source CMS software solutions were evaluated within the preparation phase of Pilot 1 in cooperation with WP3 (Task 3.1). Table 6 shows a summary of the evaluated CMS. Based on the maturity, relevance, and timeliness the software HotCRP was selected as the best fitting for the pilots. The software is well documented and allows the integration into other CMS systems (e.g. EasyChair). Any necessary changes to HotCRP will be released open source so that future conference organisers can directly benefit from the results of OpenUP. This will also add incentives to use an open peer review process for a conference as the necessary toolkit is available for free.

Table 6: Summary of evaluated CMS

Name	URL	Last Commit or Release	License	Programming Language
SCALEreg	https://github.com/herlo/scalereg	2009-09-05	GPL	Python/Django
Pentabarf	https://github.com/nevs/pentabarf	2010-04-06	GPL	Ruby on Rails
ConMan	https://github.com/herlo/ConMan	2010-08-06	GPL	Python/Django
Summit	https://launchpad.net/summit	2012-03-07	AGPL	Python/Django
Open Conference Systems	https://pkp.sfu.ca/ocs	2014-05-28	GPL	PHP
OpenConferenceWare	https://github.com/osbridge/openconferenceware	2016-04-24	MIT	Ruby on Rails
Symposion	https://github.com/pinax/symposion	2016-05-17	BSD3	Python/Django
Crowducate	https://github.com/Crowducate/crowducate-platform	2016-11-12	AGPL3	meteor.js
A Conference Toolkit	https://github.com/book/Act	2017-01-26	Artistic	Perl
Zookeepr	https://github.com/zookeepr/zookeepr	2017-02-17	GPL	Python/Pylons
HotCRP	https://github.com/kohler/hotcrp	2017-03-23	BSD-like	PHP
Junction	https://github.com/pythonindia/junction	2017-03-26	MIT	Python

Documentation on the adapted CMS software as well as initial feedback from EMVF and a status report for eHealth 2018 will be included in the interim report (D6.2).

After the conference **acceptance, perceived usefulness, and impact** of the changes in the review process will be evaluated by means of a survey. Authors, reviewers and conference organisers will be asked to evaluate the differences in perceived benefits. For groups with a small number of participants (e.g. the conference organisers) it is foreseen to conduct short interviews. Gender and, if applicable, diversity will be considered in the evaluation of user feedback. The feedback from both conferences will be analysed and reported in the final deliverable (D6.3).

2.2.2. Pilot 2: Open Peer Review for Research Data

The objective of the pilot is to investigate the applicability of peer review/open peer review to datasets in disciplines related to **Social Sciences**. The pilot study aims at identifying strong and weak elements in the process of dataset review and validation, and outline best practices that facilitate transparency of the process as well as data diffusion, reliability and reuse.

In an initial phase the team will analyse current **dataset management and diffusion practices** in the

Social Sciences. In particular, the team will look at

- Types of datasets produced;
- Types of dataset providers;
- Modes of diffusing/publishing datasets;
- Modes of validating datasets.

This analysis will provide insight into the general context of dataset lifecycle management in the Social Sciences and identify specific characteristics as well as problematic issues. Next to desk research the team is planning to actively exchange knowledge with some communities from the Social Sciences areas to test their willingness to participate in the pilot. At the moment two communities have voiced their interest. The first one is the Human Mortality Database (HMD), which was created to provide detailed mortality and population data to researchers, students, journalists, policy analysts, and others interested in life expectancy and related social implications. The second community is Unidata Bicocca Data Archive, which supports the diffusion of some data produced by the Italian official statistical office and is also part of CESSDA, a Pan-European Research Infrastructure in Social Sciences. Parallel to these activities, further investigations are carried out to check the presence of data journals in Social sciences.

Based on the desk research as well as on the knowledge exchange with the above-mentioned communities, a pre-defined set of inclusion criteria will allow the selection of the pilot communities to be involved. A first list of criteria has been already identified, as following:

- A community that provides open access to a data repository and/or data journal;
- A community that provides a data repository and/or publish a data journal focused on a very specific topic;
- A community that collects a specific type of dataset in a identifiable subfield of social sciences;
- A community that involves well-defined profiles of both data providers (data contributor, data manager, etc.) and data users (belonging to different communities could be a plus);
- A community that manages a number of datasets large enough to provide useful information about users.

Based on further insights gained through the desk research and exchange with the communities, inclusion and exclusion criteria may be refined. A first screening of potential other communities to be addressed has been done and documented in MS13 (Community Involvement). The results from the analysis of current dataset management and diffusion practices in Social sciences will be included in the interim report (D6.2).

In a second phase it is planned to conduct **interviews and a survey** taking into account both perspectives by **data providers/journal publishers and data users** from the Social Sciences area. An interview schema taking into account both perspectives will be specified. In a first step, the team will identify the data provider/journal publisher stakeholder profile/role to be interviewed, and the topics of the semi-structured interviews. In terms of data users, the team will specify the survey sample and its size, and set up the survey. The study will be designed taking into account gender balance as well as gender sensitive issues. Moreover, interviews with data users will also deal with the workflow of data validation adopted. Other than anticipated in the DoA, we will not be able to implement the workflow. However, depending on the community chosen, particular attention will be put on the process of data validation in terms of Data Management Plan and/or quality assessment. This will allow us to test and compare the workflow provided in Task 3.1 (deliverable D3.2).

In the final evaluation phase, the interviews with the data providers/journal publishers and the survey with the data users will be run and the results analysed. The team will produce a qualitative analysis of the interviews and the survey on the **applicability of (open) peer review to dataset** in view of the identification of best practices that support data validation. The results of the analysis will be included in the final evaluation report (D6.3).

2.2.3. Pilot 3: A data journal for the Arts and Humanities

The main goal of this pilot is to define a framework for a data journal in the **Humanities** and to provide

a related action plan. The pilot will investigate how quality assessment and (open) peer review can be applied to research data in the Humanities. Together with the Digital Humanities community (DARIAH-EU and national nodes, etc.) a concept of a data journal, a workflow to develop a data journal, and practical guidance for the implementation will be developed. Based on existing e-Infrastructures and overlay publication platforms (e.g. Episciences, OpenAIRE) the pilot will analyse and demonstrate the feasibility of basic workflows that will combine the publication of data with commenting and reviewing systems. In addition, dissemination, usage and citation metrics will be explored and refined based on feedback of the community.

In a first phase the OpenUP team will analyse and review work already completed in this area with regard to **research data management in the Humanities**, e.g. existing reports on infrastructures, data collection and archiving methodologies, surveys conducted among Humanities researchers. This will be done in close cooperation and exchange with the DARIAH community (DARIAH-EU, DARIAH-DE). DARIAH is a pan-European infrastructure for arts and humanities scholars working with computational methods. It supports digital research as well as the teaching of digital research methods. It is a network connecting several hundreds of scholars and dozens of research facilities in currently 17 European countries, the DARIAH member countries. In addition DARIAH has several cooperating partner institutions in countries not being a member of DARIAH, and strong ties to many research projects across Europe.

The main objectives of the initial phase are (1) to determine the current requirements from stakeholders (primarily researchers) based on surveys conducted on data management activities and customs within Humanities, (2) map out the Humanities data field, and (3) try to define context and terms. The results from the first phase will be included in the interim report (D6.2).

Following the completion of the initial analysis it is foreseen to conduct interviews with a specific stakeholder group involved in the area of data journal publishing. Special attention will be put on (1) **infrastructure and technological requirements** to run a data paper, and (2) **scholarly communication processes** involved, such as review of papers and assessment of impact. We will aim to ensure equal gender distribution when choosing potential candidates for interviews.

These sources of information will then be combined and assessed to provide an overview report on the current situation and the prerequisites of running a data journal. Finally, a framework of a data journal is developed in consultation with DARIAH experts. The framework will include basic research flows in relation to research data management in the Humanities, dissemination, review, and assessment tools preferred by researchers in this field. Here, research executed in WP3 on peer reviewing the research flow (D3.2) can be incorporated to get a more complex picture on research processes in working with data.

The final report will provide a **framework and action plan** for developing a data journal catered primarily towards the DARIAH network of Humanities researchers. It will also contain information pertaining to weaknesses and gaps that exist with respect to the current situation. The final report will be included in D6.3.

2.2.4. Pilot 4: Transferring the research lifecycle to the web
In this pilot, we address the question whether data analysis and data collection in **qualitative research** can be transferred to **open online groups**, in which potentially both academics and non-academics can participate. A special focus will lie on mechanisms to reach out to and **engage citizens** in qualitative research processes.

In the original proposal, we were aiming to do this in the frame of designing a research question online and openly. Since then we have slightly shifted the focus to the **data-analysis and data collection** part of the research lifecycle for two reasons. First, since the original proposal it became clear that without having a good collaboration tool in data analysis and collection, the collaborative effort to devise a research plan would be hard to follow up. Second and related, prior to the OpenUP project start the pilot leading partner UvA have worked on an open source **prototype software** (OpenOnlineResearch) that could help overcoming this issue. First experimentation with the software showed its potential in this

context[8]. By applying and further developing the software in context of this pilot study we hope to gain further insight into working practices and address current challenges/gaps of open online collaboration approaches applied to qualitative research. Regardless of this shift in the part of the research lifecycle, the aim and question of this pilot remain unchanged.

The pilot will enable citizens to gather and analyse data online and openly by means of a model investing in social moderation (as Wikipedia has successfully illustrated). This will be assisted by a team of academics and the previously mentioned tailor-made software. The research topic that has been defined for this pilot study based on the previous research experience of the Pilot Lead is **global spread of depression diagnosis and treatment**. The leading question that will be investigated in cooperation with the citizens is when and how sadness is medicalized in everyday life across the globe. In this context citizens will be enabled to share and interpret observations, and to co-author a final report.

In a first step we will further develop the OpenOnlineResearch software. In a second step, it is foreseen to engage citizens through the Coursera[9]. Coursera host a vast range of Massive Open Online Courses (MOOC's). Our pilot will be the first **Massive Open Online Research (MOOR)** in Coursera. Coursera is an excellent platform to reach motivated (non-)academics worldwide. It serves more than 35 million participants from all over the world[10]. Access to the Coursera community is guaranteed since UvA is already running successful courses in Coursera. In the WP6 interim report (D6.2) a course outline for Coursera and a testable and tested prototype will be provided.

Throughout the pilot we will attend to diversity and inclusion. We aim to include citizens with different national, cultural, class, race, age and gender backgrounds. We also aim to include interested non-academics. Coursera is well suited to potentially include diverse participants. At present, Coursera has about 24 million participants worldwide. We looked at several health related courses in Coursera (our pilot will use mental health as a case), which all attract thousands of participants. Participants with an interest in (mental) health and research methods will be altered about our course by Coursera.

The pilot relates to WP3 and WP4 through the issue of dissemination. While our tool is primarily meant for collaboration in the analysis and data collection phase, it has strong links to dissemination: the expected scale - MOOCs attract thousands of participants - brings diverse citizens in contact with social scientific research. As a part of Coursera, participants will learn about qualitative social science. In addition, we will prepare media outreach activities and position our research as the first and largest global open online research on depression, which has a fair chance of attracting academics, students, mental health professionals, patients and their relatives. Moreover, the pilot relates to WP3 and WP4 in its focus on the social sciences and extends the ideas about open science from "peer review" and "dissemination" to data-analysis and collection. All steps in the pilot are **evaluated according to user experiences**.

Working towards the MOOR in Coursera we will go through two basic phases with the following questions:

1. **Test the prototype and further develop it.**
    a. Do students contribute useful data and meaningful interpretations in an online tool?
    b. Do they understand the interface?
    c. Do participants engage with each other and merge interpretations?
        i. How do they experience this?
        ii. Does this happen often?
        iii. Does this enhance the quality of the interpretations?
    d. How active are participants?
    e. How do participants experience the collaboration?
    f. When and why is moderation needed?
2. **Use the software within Coursera**

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[8] The results from this project are published here: http://www.qualitative-research.net/index.php/fqs/article/view/2388/4039
[9] https://www.coursera.org/
[10] See https://www.class-central.com/report/moocs-2015-stats/

a. Who participates in the MOOR? Does the software enable diverse groups to participate? Who is included and who is excluded?
b. When and why do participants drop out?
c. Do participants contribute useful data and meaningful interpretations?
d. Do diverse participants take on different roles?
e. When and why is moderation needed?

The user experience evaluation as well as lessons learned from the pilot study will be included in the final evaluation report (D6.3).

2.2.5. Pilot 5: Reaching businesses and the public with research output

The goal of the fifth OpenUP pilot study is to analyse and test how disseminated research results from the **Energy** area can be made more interesting, appealing, and usable for target audiences beyond the research community. In this pilot we are particularly addressing **businesses** and the **general public**.

The pilot implementation and timeline is closely linked to Task 4.4 (Skill profiles for research communication to businesses and the public). The sub-tasks of organising a targeted workshop to elicit requirements from stakeholder groups and defining communication standards and required skills for achieving the expected impact will be done in context of Pilot 5.

It is foreseen to do this pilot study in close cooperation with the Austrian sub-project of the European smart city project SmarterTogether. The project will implement smart solutions within the fields of refurbishment, energy, mobility, and information and communication technologies in the central part of the south-eastern district of Simmering in Vienna. In context of the pilot, SmarterTogether is particularly interested in reaching and involving their key stakeholders concerned with the renovation of a building in Simmering.

In a first step we will define the **needs and interests** of these stakeholder groups. Leading questions to be addressed in this context are:

● What information do they want/need from Energy research?
● In which structure/format should the information be to be understandable and useful?
● Via which communication channels do they expect/prefer to receive this information?

Currently it is foreseen to follow two approaches to gather needs and requirements by both stakeholder groups in question.

● Organise a **dedicated workshop with 5-10 stakeholders from the business sector** to elicit their requirements in terms of communication and format of research outputs. It will be explored if the SmarterTogether project stakeholders can be involved. In a max. 1,5-2 hours workshop the participants will answer selected questions from the question matrix and give feedback on their expectations and needs in terms of content, structure, format, and channels of science information. This activity is done in context of Task 4.4 and will inform the basis for the guidelines for producing and sharing research dissemination material tailored to business stakeholders. Currently it is planned to hold the workshop in June 2017.
● Conduct **short interviews with 2-5 SmarterTogether consortium members** to collect information about their know-how and experience in terms of communicating and interacting with general public stakeholders from the smart-city area. The questions will be derived from the question matrix in the appendix. Goal is to determine the expectations and needs in terms of content, structure, format, and channels of science communication by the general public stakeholders. This input will inform the basis for the guidelines for producing and sharing research dissemination material tailored to stakeholders from the wider community. It is foreseen to conclude the interviews by the end of September 2017.

The team will strive to achieve gender balance by equally including men and women into the groups of workshop participants and interview partners. A simple **question matrix** with a set of questions adapted to the different stakeholders will form the basis of the workshop and interviews. The current version of the question matrix will be refined (see Appendix). It will be investigated if questions related to gender dimensions of science (e.g. if science is experienced to be male dominated) are relevant in this

particular context.

The results of the workshops and the interviews will be analysed and condensed to produce **science communication recommendations and guidelines** (incl. a list of communication channels, strategies, and standards) for reaching businesses and the general public in the Energy research area. The analysis will also include gender-specific aspects that should be considered in this context. Draft recommendations and guidelines will be included in the interim report (D6.2).

In a second step it is foreseen that the provided recommendations and guidelines will be applied and tested by the smart city & Energy community. Based on the provided recommendations and guidelines the Energy research community will produce targeted dissemination content and formats tailored to its stakeholders. The OpenUP team will provide knowledge and guidelines to tailor SmarterTogether's dissemination strategy and material to the targeted stakeholders.

For the final evaluation of the pilot study the achieved attention and/or impact through the previously identified channels will be analysed by means of Altmetrics. In this context it will be explored if Altmetrics can be used as a meaningful indicator for assessing impact in specific stakeholder groups. This task is strongly linked to WP4 and WP5, in particular to Task 4.3, in which practices regarding innovative dissemination of research results will be validated. To complement this with a qualitative analysis, it is foreseen to ask the stakeholders involved in the workshops and interviews to review the produced dissemination materials and give additional feedback in a small survey about their quality, appeal, usability, and visibility. The evaluation questionnaire will be defined at a later stage.

The pilot results will be critically evaluated against their achieved impact and the feedback by the involved stakeholders. Opportunities, gaps, and risks of novel approach in Energy area will be analysed. To which extent conclusions can be applied to other areas & dissemination contexts will be evaluated in the final report (D6.3). The final results will deliver substantial input for the WP4 report, which will propose a profile description defining an emerging role of open science communication (D4.2), and input to the WP7 policy recommendations regarding skills for innovative research dissemination.

2.2.6. Pilot 6: Reflexivity of metrics on medical research and dissemination practices

The scope and aim of this pilot study have been completely revised compared to what was proposed in the DoA to better comply with the common pilot criteria. The newly set goal of this pilot is to engage with two research communities regarding the use of social media tools and altmetrics in order to trigger reflexivity and culture of appreciation towards open science. The pilot is based on theoretical contributions of the sociology of valuation which assumes that scholars use certain channels of communication, which they perceive as valuable but at the same time attribute value to these channels. We believe that through this process, we can observe what in the literature is termed the evolution of orders of worth. Furthermore, the use of new dissemination practices is related to the question of how much a culture of appreciation has been established that rewards usage of these channels. Based on these considerations, we plan to explore the practices of two communities in the biomedical field, **Translational Research** and **Synthetic Biology**. Both research communities appear to be highly responsive towards social media and societal outreach. In the Appendix, we provide some information about these communities which is related to our questions.

To achieve the goals of the pilot (see above), we plan to trace **concrete practices of dissemination and use of metrics** in these communities. In this respect, the pilot can draw upon existing research that has been conducted in Task 5.1. Studies on Altmetrics that have been reviewed in this WP indicate that both communities are highly open towards new forms of science and use of Altmetrics, and are actively trying to promote their research among different audiences both within and outside their respective fields. We can also build upon the results of the survey in OpenUP, which indicates certain patterns and motives of how Altmetrics is perceived.

After having systematically reviewed these results, it is foreseen to involve the stakeholders of both communities in **interviews and meetings** by confronting them with structural patterns of dissemination via Altmetrics and new forms of scholarly communication in a first step. We will make on site laboratory studies to learn more about research and dissemination practices how they might

interfere with cultures of appreciation for open science and social media use. These involvements will take place through meetings with scholars and research managers at these sites. Researchers at these sites will be asked for their involvement and attitudes towards these instruments. When choosing potential candidates for interviews we will aim to ensure equal gender distribution. The results of this work will inform a first **community profile on Altmetrics** which will be reported in D6.2.

In a second step, researchers in the communities will be requested to report their social media and Altmetrics activities on a day to day basis so that **in depth material of Altmetrics usage** can be collected. These data can be either collected through the form of a diary or electronically harvested via cookies. For both of these data collection activities agreements of the institutions are needed. Questions related to the analysis of these data are: What does self-tracking do? Do scholars in the respective fields communicate their 'scores' to outsiders? How might they do that? How do believers and nonbelievers differ in their practices? How do they negotiate the value of these types of dissemination?

The data will be analysed based on these questions and interpreted from the provided theoretical perspective. The analysis will also consider if there are gender-specific differences in the dissemination and self-tracking practices. Practices of dissemination in the two fields could possibly be discussed with stakeholders of the two communities via workshops. The results of these activities will enable us to **critically evaluate the applicability of the activity in this specific context** (D6.3). Criteria for the evaluation of the activity are: Contribution of participants and degree of involvement, but also the scientific gain. Furthermore the evaluation will cover the potential of the approach for informing about the suitability of specific metrics for the selected communities.

2.2.7. Pilot 7: Piratical demand as a form of impact indicator and reaching unexpected audiences

The Scope of the pilot is to conduct a **quantitative, statistical and econometric analysis** of large scale datasets on the supply of and demand for scholarly works on various illegal platforms, such as Sci-Hub or Library Genesis. The pilot will try to model which works-specific factors may explain the availability and illegal demand for individual works (e.g. price, legal availability). The pilot will also build macroeconomic models, using GDP per capita, investment in tertiary education, etc. to explain the country level use of illegal materials. In this context, the pilot will investigate if piratical demand can give additional insight into the impact of scholarly publications, and which lessons learned can be taken home for the current scholarly publication and impact assessment systems. In particular, the pilot will add to Task 5.1. by exploring how piratical demand can be included in the Altmetrics impact indicators and Task 5.2. by amending the taxonomy of dissemination by piratical channels.

The data underlying this study is provided by the illegal librarian communities, which allows only for an indirect community involvement in the particular case of this pilot. The illegal nature of such an activity prevents more direct forms of involvement. UvA has a long term working relationship with some of these services, and within the context of this relationship periodically receives detailed information on the use of these piratical scholarly text collections. A detailed understanding of the per country downloads will help OpenUP better understand the nature of their use, "openness" and connection to the broader community impact.

Following **input data** will be used:

- transaction data from piratical services:
  - Library Genesis
  - Sci-Hub
  - #icanhazpdf requests on Twitter
- document metadata from OCLC
- library availability data from OCLC
- market price and availability data from Amazon.com and other online merchants
- macroeconomic indicators from UN, OECD and World Bank sources
- other yet undefined datasets (such as Altmetrics data from other WPs)

The pilot has already started collecting the data. Additional data scraping will end by April. Analysis

takes place between May and September 2017.

The pilot relies on the statistical analysis of the aforementioned datasets. The analysis will use the following software tools:

- various python packages for data scraping, data cleansing, and processing
- R for analysis
- yet to be defined software tools for data visualization

The data will be analysed using **advanced statistical modelling methods**, such as zero inflated negative binomial regression models, and geospatial models to explain the impact of legal (un)availability of scientific works (such as library availability, electronic availability, price), and macro-level country characteristics (such as spending on research, and tertiary education, GDP/capita, IP trade balance) on illegal demand. The results of the quantitative analysis will shed light on any potential failures or shortcomings on the legal access channels (markets and libraries) that drive people to use the black markets. The findings may be used to assess how important the illegal traffic of scientific works is.

Since the data does not include any information about gender, historical, or social dimensions and the budget does not allow conducting an additional survey to collect this data, these aspects will not be relevant for this study.

A preliminary microeconomic model on the illegal supply and demand of books will be provided in the interim report (D6.2). The final **microeconomic model** (accepted for publication in a peer reviewed journal) and a final **macroeconomic model of country level usage** (accepted for publication in a peer reviewed journal) will be included in the final report (D6.3). The findings will be made available in a web-based, interactive format.

2.3. Pilot Study Coordination

A strong coordination of the individual pilots is vital to make sure that their progress meets the targeted overall goals, and that results and required inputs to the deliverables are delivered in due time. To coordinate the required input and deadlines for the WP deliverables a detailed deliverable management plan has been defined (see Appendix).

The **WP Lead** (AIT) is responsible for the pilot study coordination and for providing the initial and final drafts of the WP deliverables. The **Pilot Leads** are responsible for defining the individual pilot methodologies, implementing the pilots, as well as engaging and coordinating with the involved communities. The Pilot Leads are also responsible for delivering regular status updates and input on methodological steps and (interim) results for the WP deliverables.

In monthly coordination calls, which are being minuted, the progress of the pilots is being monitored. In addition to the monthly calls the Pilot Leads are required to deliver short progress reports on the project wiki on a regular basis.

2.3.1. Risk Management

Identified and raising risks as well as their probability and impact are being monitored and regularly updated (see Table 5). Risk mitigation strategies are in place and according measures are being taken by the WP team.

Any occurring issue or risk will be discussed and addressed in a timely manner. The WP6 coordinator as well as the pilot leads will discuss and strongly support each other in case of any occurring risks related to community involvement or the pilot study implementation.

Table 5. Risks related to the implementation of WP6 after mitigation

Description of risk	Risk-mitigation measures	Probability	Impact
Low mobilization of stakeholders and communities to proactively participate in and contribute to the WP6 activities	Thanks to previous work by OpenUP partners in Open Science and other research areas, strong links and networks are already established. The established and active networks reduce this risk considerably. To further mitigate this risk a Community Involvement Procedure (supplement to MS13), which offers guidelines and support to the OpenUP partners, has been defined by the WP team.	L	L
Committed community partners involved in the pilot(s) resign from their participation	To mitigate this risk a Community Involvement Procedure defining various engagement levels and suggesting approaches to create a win-win situation for both OpenUP and associated community contacts has been adopted by all project partners. To motivate and bind the communities to the OpenUP activities the OpenUP team puts effort into establishing a good communication basis between OpenUP and the communities. The team strives to respond to the communities' needs, pressing issues, and interests by coordinating and flexibly adapting the pilots in close collaboration with the communities.	L	M
Evaluation of use case fails to meet the requirements due to poor implementation	To mitigate this risk the consortium will evaluate the approaches and technologies to be used against their applicability to and practicability in the specific use cases. The methodological approach of the individual pilots as well as their implementation strategies will be carefully monitored, assessed, and if necessary revised. By establishing a good communication and collaboration basis with the communities, the OpenUP team will make sure to align and achieve a common understanding of the pilot goals and methodologies. Beyond that the OpenUP team will define roles and tasks by the involved communities as well as the OpenUP partners in the methodology definition (D6.1).	L	L
Evaluation of use case fails to meet the requirements due to missing engagement by selected community	The communities to be involved in the use cases have been selected according to their openness to adopt new methods and their availability & engagement with the project to ensure broad participation in the case studies. To further mitigate this risk, a Community Involvement Procedure, which defines various levels and related incentives for the communities to be involved, has been defined by the WP team. By closely communicating and coordinating with the communities, the OpenUP team strives to motivate and bind the communities to the OpenUP activities.	L	M

3. Outlook: Synthesis & Lessons Learned

First interim results will be provided in D6.2, which will be released in project month 18 (November 2017). An overview of the expected interim results from the pilot studies that report will include is provided in Table 6.

Table 6. Overview of expected interim results per pilot study

Pilot study	Interim results
Pilot 1	Adapted CMS software; initial feedback from EMVF; status report for eHealth 2018.
Pilot 2	Results from the analysis of current dataset management and diffusion practices in Social Sciences.
Pilot 3	Results from desk research and initial survey on research data management in the Humanities.
Pilot 4	Course outline for Coursera and a testable and tested prototype.
Pilot 5	Draft recommendations and guidelines for reaching stakeholders from the business sector and the general public in the Energy area.
Pilot 6	First Synthetic Biology and Translational Medical Research community profiles on Altmetrics.
Pilot 7	Preliminary microeconomic model on the illegal supply and demand of books.

The final evaluation reports from the individual pilots will be gathered in the deliverable D6.3 Final Use Cases Evaluation Report. The final step will be to consolidate all WP6 results to produce a synthesis of the key results and lessons learned from the pilots. The report will summarise implications and lessons learned from the three key areas of OpenUP: innovative peer review, dissemination, and impact measurement. A gender-sensitive evaluation[11] will analyse experiences and challenges related to gender and diversity in context of the pilots.

The insights gained from the evaluation of the individual pilots will, on the one hand, deliver further input on working practices, developing standards, and remaining gaps that will be incorporated into the WP3-WP5 framework studies. As such, the pilots play an important role in the project. On the other hand, the pilot studies are also expected to provide useful lessons learned and good/best practices to be added to some of the policy recommendations produced in WP7. In terms of awareness raising and community support, the pilot studies strive to document resulting success stories and working practices, which can become a useful resource for other communities who want to apply not yet well known Open Science methods. Finally, OpenUP hopes to inspire and equip the communities directly involved in the pilot studies with knowledge and methods to adopt the tested Open Science practices beyond the duration of the project.

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[11] http://eige.europa.eu/gender-mainstreaming/methods-tools/gender-evaluation

I. Appendix

I.I. Pilot Criteria Checklists (Status: March 2017)

I.I.I. Pilot 1: Open Peer Review for Conferences

Pilot Study information	
Pilot study number and name	Pilot Study No 1: Open Peer Review for Conferences
Leading organisation	AIT
Pilot Lead	Oliver Zendel
Email address	Oliver.Zendel@ait.ac.at
Checklist date	2017-03-27

Scope and currency of the study	
☒	The pilot study addresses a key question defined in WP3.
	Key challenge to be addressed: Open Peer Review
	Approach: Apply open peer review concepts to a small/medium sized conference
	Reference document(s): D3.1 Practices evaluation and mapping
	Further comments: Two communities have voiced their interest in hosting the pilot. The Pilot Lead is currently investigating if either one or both conferences can be involved for Pilot 1. This depends on actual applicability and timing constraints imposed from the conference submission and review timelines.

Involved research community	
☒	The pilot study involves a committed research community from
	☐ arts & humanities
	☐ social sciences
	☐ energy
	☒ life sciences
	Research area: eHealth OR Machine Vision
	Name of community: eHealth 2018, student competition OR 2nd Eur. Machine Vision Forum
	Involved organisations, projects, institutions, etc.: AIT, MedUni Wien, MedUni Graz, etc.
	Website: http://www.ehealth2016.at/student-contest/ - http://emva-forum.org/

Involved stakeholder groups	
☒	The pilot study involves representative stakeholder groups of the identified key stakeholders: ☒ researchers

☒		publishers
☐		funders
☐		institutions
☐		industry, SMEs
☐		general public

Key stakeholders involved: conference organizers, authors, reviewers, publishers
How are the stakeholders involved: conference organizers, authors and reviewers get hands-on experience and guidance for open peer review at next year's conferences

Application context of solutions to be tested	
☒	The pilot study applies technical and processual solutions identified in WP3 in a specific context.
	Technical solutions to be tested: open source CMS software HotCRP integrated with other CMS systems (e.g. Easy Chair)
	Processual solutions to be tested: open peer review workflow
	Specific application context: small-/medium-sized conference
	Further comments: none

Evaluation	
☒	The pilot study evaluates the applicability of the tested solutions in a specific context.
	Methodology: concepts are directly applied to a conference setting; analysis of acceptance, perceived usefulness, and impact of changes in review process
	Reference document(s): Methodology and timeline defined in D6.1 Use Cases and Pilots
☒	The pilot study evaluates the opportunities and potential of the tested approaches.
	Approach: User questionnaires, small interviews
	Reference document(s): (Interim) results will be published in D6.2 Interim Use Cases Evaluation Report and D6.3 Final Use Cases Evaluation Report
	Further comments: D6.2: Initial feedback from EMVF and status report for eHealth 2018; D6.3: Complete feedback from both EMVF and eHealth

I.I.II. Pilot 2: Open Peer Review for Research Data

Pilot Study information	
Pilot study number and name	Pilot Study No 2: Open peer review for research data in social sciences
Leading organisation	IRPPS-CNR
Pilot Lead	Daniela Luzi
Email address	daniela.luzi@irpps.cnr.it

Checklist date	2017-03-24

Scope and currency of the study	
☒	The pilot study addresses a key question defined in WP3.
	Key challenge to be addressed: investigate the applicability of peer review/open peer review to datasets in disciplines related to Social Sciences
	Approach: · Provide insight into the general context of dataset lifecycle management in Social Sciences highlighting specific characteristics and problematic issues. · Investigate data validation from the point of view of data providers/journal publishers and data users and for each group of stakeholders run interviews and surveys. · Qualitative analysis of interviews and surveys.
	Reference document(s): Task 3.4 Peer review in novel context
	Further comments: At the moment two communities have voiced their interest to participate in the pilot (see below).

Involved research community	
☒	The pilot study involves a committed research community from ☐ arts & humanities ☒ social sciences ☐ energy ☐ life sciences
	Research area: Demography OR Social Sciences
	Name of community: The Human mortality database (HMD) OR Unidata Bicocca Data Archive
	Involved organisations: University of California, Berkeley (USA); Max Planck Institute for Demographic Research (Germany); French Institute for Demographic Studies (INED) - University of Milan Bicocca (IT)
	Website: http://www.mortality.org/ - http://www.unidata.unimib.it/?lang=en

Involved stakeholder groups	
☒	The pilot study involves representative stakeholder groups of the identified key stakeholders: ☒ researchers ☒ Publishers/ Data provider ☐ funders ☐ institutions ☐ industry, SMEs ☐ general public
	Key stakeholders involved: HDM and Unidata Bicocca Data Archive
	How are the stakeholders involved: Interviews for data providers and surveys for data users

Application context of solutions to be tested	
☒	The pilot study applies technical and/or processual solutions identified in WP3 in a specific context.
	Technical solutions to be tested: none
	Processual solutions to be tested: Guidelines defined in task 3.4
	Specific application context: Data sharing in social sciences and their validation
	Further comments: none

Evaluation	
☒	The pilot study evaluates the applicability of the tested solutions in a specific context.
	Identification of best practices in the validation of dataset in Social Sciences; test of validation criteria both in pre-publishing and post-publishing.
	Reference document(s): Results will be included in the interim report (D6.2)
☒	The pilot study evaluates the opportunities and potential of the tested approaches.
	Capture trends and needs of the different stakeholders on dataset validation/peer review to be addressed in Social sciences and, if possible, consider their applicability in other contexts
	Reference document(s): Results will be included in the final evaluation report (D6.3)
	Further comments: none

I.I.III. Pilot 3: A data journal for the Arts and Humanities

Pilot Study information	
Pilot study number and name	Pilot Study No 3: A data journal for the Arts and Humanities
Leading organisation	UGOE
Pilot Lead	Edit Görögh
Email address	goeroegh@sub.uni-goettingen.de
Checklist date	2017-03-27

Scope and currency of the study	
☒	The pilot study addresses a key question defined in WP3.
	Key challenge to be addressed: Investigate how quality assessment and (open) peer review can be applied to research data in the Humanities
	Approach: Define a framework & action plan for a data journal in the Humanities
	Reference document(s): D3.1 Practices evaluation and mapping
	Further comments: none

Involved research community	

☒	The pilot study involves a committed research community from
	☒ arts & humanities
	☐ social sciences
	☐ energy
	☐ life sciences
	Research area: (Digital) Humanities
	Name of community: DARIAH-EU, DARIAH-DE
	Involved organisations, projects, institutions, etc.: UGOE
	Website: http://www.dariah.eu/

Involved stakeholder groups	
☒	The pilot study involves representative stakeholder groups of the identified key stakeholders:
	☒ researchers
	☒ publishers
	☐ funders
	☒ institutions
	☐ industry, SMEs
	☐ general public
	Key stakeholders involved: DARIAH network
	How are the stakeholders involved: Conduct interviews with a specific stakeholder group involved in the area of data journal publishing

Application context of solutions to be tested	
☒	The pilot study applies technical and processual solutions identified in WP3 in a specific context.
	Technical solutions to be tested: none
	Processual solutions to be tested: Framework for data journal in Humanities
	Specific application context: DARIAH network of Humanities
	Further comments: none

Evaluation	
☒	The pilot study evaluates the applicability of the tested solutions in a specific context.
	Methodology: Interviews with stakeholder groups: define infrastructure and technological requirements, and scholarly communication process involved

	Reference document(s): Results will be included in the final report (D6.3)
☒	The pilot study evaluates the opportunities and potential of the tested approaches.
	Approach: Analyse weaknesses and gaps of data journal in Humanities field
	Reference document(s): Results will be included in the final report (D6.3)
	Further comments: none

I.I.IV. Pilot 4: Transferring the research lifecycle to the web

Pilot Study information	
Pilot study number and name	Pilot Study No 4: Transferring the research lifecycle to the web
Leading organisation	UVA
Pilot Lead	Christian Bröer
Email address	C.Broer@uva.nl
Checklist date	2017-03-29

Scope and currency of the study	
☒	The pilot study addresses a key question defined in WP4.
	Key challenge to be addressed: Can data analysis and data collection in qualitative research be transferred to open online groups
	Approach: Enable citizens to gather and analyse data online and openly by means of a model investing in social moderation
	Reference document(s): D3.2 A specification of the scientific method and scientific communication; D4.2 Role Description
	Further comments: none

Involved research community	
☒	The pilot study involves a committed research community from
	☐ arts & humanities
	☒ social sciences
	☐ energy
	☐ life sciences
	Research area: Depression diagnosis
	Name of community: Coursera
	Involved organisations, projects, institutions, etc.: UvA, etc.
	Website: www.coursera.org

Involved stakeholder groups	
☒	The pilot study involves representative stakeholder groups of the identified key stakeholders:
	☒ researchers
	☐ publishers
	☐ funders
	☐ institutions
	☐ industry, SMEs
	☒ general public
	Key stakeholders involved: Researchers from UvA and interested citizens
	How are the stakeholders involved: The stakeholders will collaboratively investigate when and how sadness is medicalized in everyday life across the globe. The collaboration will happen through a Massive Open Online Research (MOOR) on Coursera.

Application context of solutions to be tested	
☒	The pilot study applies technical and processual solutions identified in WP4 in a specific context.
	Technical solutions to be tested: prototype software OpenOnlineResearch
	Processual solutions to be tested: data-analysis and data collection workflows
	Specific application context: qualitative research transferred to open online groups
	Further comments: none

Evaluation	
☒	The pilot study evaluates the applicability of the tested solutions in a specific context.
	Methodology: User experience feedback, analysis of participants' contributions
	Reference document(s): Results will be included in the final report (D6.3).
☒	The pilot study evaluates the opportunities and potential of the tested approaches.
	Approach: user experience evaluation and lessons learned
	Reference document(s): Will be included in the final report (D6.3).
	Further comments: none

I.I.V. Pilot 5: Reaching businesses and the public with research output

Pilot Study information	
Pilot study number and name	Pilot Study No 5: Addressing & reaching businesses and the public with research output

Leading organisation	AIT
Pilot Lead	Michela Vignoli
Email address	michela.vignoli@ait.ac.at
Checklist date	2017-03-27

Scope and currency of the study	
☒	The pilot study addresses a key question defined in WP4.
	Key challenge to be addressed: Address and reach 2 stakeholder groups with research content: businesses, general public
	Approach: 1. Elicit stakeholder requirements in a dedicated stakeholder workshop (business stakeholders) and small interviews (general public) 2. Evaluate the results and produce guidelines to achieve a communication standard in line with the requirements 3. Apply the standard to the dissemination material & strategy of research community 4. Measure the achieved impact by means of Altmetrics
	Reference document(s): Methodology defined in D6.1 Use Cases and Pilots; Task 4.4 Goals & Integrated Workplan; literature screening for Task 4.4
	Further comments: Only little evidence/literature to be found about targeting businesses with research outcomes/dissemination. Working assumption: dissemination happens more via personal/p2p channels then publicly. At the moment one research community has voiced their interest in participating in the pilot (see below).

Involved research community	
☒	The pilot study involves a committed research community from
	☐ arts & humanities
	☐ social sciences
	☒ energy
	☐ life sciences
	Research area: Smart City & Energy Efficiency in Buildings
	Name of community: SmarterTogether
	Involved organisations, projects, institutions, etc.: AIT, SmarterTogether - Austrian sub-project (TBC)
	Website: http://smarter-together.eu/ - http://smartertogether.at/projekte/

Involved stakeholder groups	
☒	The pilot study involves representative stakeholder groups of the identified key stakeholders:
	☒ researchers
	☐ publishers

	☐	funders
	☐	institutions
	☒	industry, SMEs
	☒	general public
	Key stakeholders involved: Business stakeholders from SmarterTogether project (TBC) and citizens from the renovation area in Vienna	
	How are the stakeholders involved: Business stakeholders will be invited to a stakeholder requirements workshop; general public stakeholders will be involved through a short survey or small interviews	

Application context of solutions to be tested	
☒	The pilot study applies technical and/or processual solutions identified in WP4 in a specific context.
	Technical solutions to be tested: none
	Processual solutions to be tested: communication guidelines & standard established in Task 4.4 (a draft will be included in the Interim Evaluation Report D6.2).
	Specific application context: Dissemination of Energy research content via alternative channels targeting audiences beyond the research community
	Further comments: none

Evaluation	
☒	The pilot study evaluates the applicability of the tested solutions in a specific context.
	Methodology: Measure the achieved impact via alternative channels by using Altmetrics; Evaluate feedback by the involved stakeholders (did the alternative dissemination methodology make the research outputs more interesting, appealing, and re-usable?)
	Reference document(s): Results will be included in the final report (D6.3).
☒	The pilot study evaluates the opportunities and potential of the tested approaches.
	Approach: The results of the pilot will be critically evaluated against their achieved impact and the feedback by the involved stakeholders. Based on that, opportunities of the novel approach as well as gaps and risks will be drawn. The focus will lie on the Energy area & involved stakeholder groups. It will be analysed it the conclusions drawn can to some extent be applied to other areas and dissemination contexts as well.
	Reference document(s): Results will be included in the final report (D6.3).
	Further comments: none

I.I.VI. Pilot 6: Reflexivity of metrics on medical research and dissemination practices

Pilot Study information	
Pilot study number and name	Pilot Study No 6: Relevance of dissemination channels and altmetrics indicators
Leading organisation	DZHW

Pilot Lead	Stephan Gauch
Email address	gauch@dzhw.eu
Checklist date	2017-03-27

	Scope and currency of the study
☒	The pilot study addresses a key question defined in WP5.
	Key challenge to be addressed: Relation of dissemination practices and culture of appreciation/rewards in terms of using Open Science dissemination channels
	Approach: Trace concrete practices of dissemination and use of metrics in two communities and evaluate applicability of Altmetrics in this specific context.
	Reference document(s): D5.2 Interim report on taxonomy linking channels of dissemination and altmetrics indicators
	Further comments: none

	Involved research community
☒	The pilot study involves a committed research community from
	☐ arts & humanities
	☐ social sciences
	☐ energy
	☒ life sciences
	Research area: Medical Research, Biology
	Name of community: Translational Research and Synthetic Biology
	Involved organisations, projects, institutions, etc.: BIH, Max Planck Institute for Dynamics of Complex Technical Systems
	Website: https://www.bihealth.org/ - http://www.mpi-magdeburg.mpg.de/2316/en

	Involved stakeholder groups
☒	The pilot study involves representative stakeholder groups of the identified key stakeholders:
	☒ researchers
	☐ publishers
	☐ funders
	☐ institutions
	☐ industry, SMEs
	☐ general public
	Key stakeholders involved: researchers from BIH and Max Planck institute

How are the stakeholders involved: Trace concrete practices of dissemination and use of metrics; interviews and meetings; will be requested to report their social media and altmetrics activities

Application context of solutions to be tested	
☒	The pilot study applies technical and processual solutions identified in WP5 in a specific context.
	Technical solutions to be tested: none
	Processual solutions to be tested: Can use of social media tools and Altmetrics trigger reflexivity and culture of appreciation towards open science?
	Specific application context: Dissemination of research content by Translational Research and Synthetic Biology communities.
	Further comments: none

Evaluation	
☒	The pilot study evaluates the applicability of the tested solutions in a specific context.
	Methodology: Analyse collected data on social media and Altmetrics activities by communities and interpret it from provided theoretical perspective.
	Reference document(s): Results will be reported in the Final Evaluation Report (D6.3).
☒	The pilot study evaluates the opportunities and potential of the tested approaches.
	Approach: Criteria for the evaluation of the activity are: Contribution of participants and degree of involvement, but also the scientific gain. Furthermore the evaluation will cover the potential of the approach for informing about the suitability of specific metrics for the selected communities.
	Reference document(s): Results will be reported in the Final Evaluation Report (D6.3).
	Further comments: none

I.I.VII. Pilot 7: Piratical demand as a form of impact indicator and reaching unexpected audiences

Pilot Study information	
Pilot study number and name	Pilot Study No 7: Piratical demand as one form of impact indicator
Leading organisation	UVA
Pilot Lead	Balazs Bodo
Email address	b.bodo@uva.nl
Checklist date	27.03.2017

Scope and currency of the study	
☒	The pilot study addresses a key question defined in WP5.
	Key challenge to be addressed: The pilot explores whether meaningful academic impact indicators can be derived from the analysis of traffic on illegal dissemination channels such as sci-hub or library genesis.
	Approach: quantitative analysis of black market circulation

	Reference document(s): https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2616633
	Further comments: The data underlying this study is provided by the illegal librarian communities, which constitutes an indirect community involvement in the particular case of this pilot. The illegal nature of such an activity prevents more direct forms of involvement.

Involved research community	
☒	The pilot study involves a committed research community from
	☒ arts & humanities
	☒ social sciences
	☒ energy
	☒ life sciences
	Research area: The pilot does not directly engage with any particular research area, but analyses the distribution from all research areas that represent themselves in shadow libraries.
	Name of community: sci hub, library genesis
	Involved organisations, projects, institutions, etc.: UvA
	Website: http://sci-hub.cc/

Involved stakeholder groups	
☒	The pilot study involves representative stakeholder groups of the identified key stakeholders:
	☒ researchers
	☒ publishers
	☐ funders
	☐ institutions
	☐ industry, SMEs
	☒ general public
	Key stakeholders involved: In the analysis we compare data from diverse data sources: publishers, legal distributors, libraries.
	How are the stakeholders involved: via data they provide.

Application context of solutions to be tested	
☒	The pilot study applies technical and processual solutions identified in WP5 in a specific context.
	Technical solutions to be tested: none
	Processual solutions to be tested: Explore if and how piratical demand can be included in the Altmetrics impact indicators
	Specific application context: Library & Information Science
	Further comments: none

Evaluation	
☒	The pilot study evaluates the applicability of the tested solutions in a specific context.
	Methodology: statistical analysis of the effect of illegal distribution on usage.
	Reference document(s): Findings will be included in the final report (D6.3).
☒	The pilot study evaluates the opportunities and potential of the tested approaches.
	Approach: Explore how piratical demand can be included in the Altmetrics impact indicators; taxonomy of dissemination by piratical channels.
	Reference document(s): Findings will be included in the final report (D6.3) and D5.4: Report on Final taxonomy linking channels of dissemination and altmetrics.
	Further comments: none

I.II Further Background Material

I.II.I. Preliminary timeline Pilot 1

2017-03-13	Meeting with organizers of eHealth 2018, planning of peer review process
2017-04-20	Fixation of EMVF open peer review process (used mixture/extent)
2017-05-02	Start of open peer review process for EMVF; working prototype CMS in use
2017-05-22	Finalization of decision for EMVF contributions
2017-09-06	EMVF is held; initial feedback from participants is collected at the conference
2017-10-01	D6.2 : Documentation on the adapted CMS software, initial feedback from EMVF and status report for eHealth 2018
2018-02-10	Start of open peer review process for eHealth 2018 Student Competition
2018-03-31	Finalization of decision for eHealth 2018 Student Competition
2018-05-22	eHealth 2018 is being held; gather initial feedback from participants
2018-06-01	D6.3 : Complete feedback from both EMVF and eHealth

I.II.II Overview steps and timeline Pilot 4

Software Development 1: testable prototype and user test (April 2017)	We have already, without funding from OpenUP, developed a prototype which we further develop in the following steps - Bug fixing frontend and backend - Text adjustment - Admin improvements - User test 1: interface test with 10 students, observed and supervised by members of research team to collect information for phase 1.
Software Development 2 (May 2017)	- Adjustments according to test 1. - Adding notification features - User test with 100 students online, evaluation via survey and analytics.
Course development (June,	Our department is very experienced in running Coursera MOOCs. We have

July 2017)	already developed an outline of the MOOR. We can reuse existing course materials.
Course execution (August, September 2017)	Prepare a team for technical support and moderation. Prepare survey.

I.II.II. Preliminary question matrix Pilot 5

	Businesses	General Public
Motivation	Why do you need information from research?	Why are you interested in information from research?
Content	What information do you need from research for your work/business?	What information do you expect from research?
	What information are you interested in?	What information are you interested in?
Structure, Format	How should the information be structured to be useful for you?	How should the information be structured to be useful for you?
	How should the information be structured to be understandable?	How should the information be structured to be understandable?
	In which format do you expect the information to be communicated to be useful for you?	In which format do you expect the information to be communicated to be interesting, appealing for you?
	Would you prefer to digest research information that is structured in an appealing way?	How important is it for you that research information is communicated in an interesting, appealing format?
Channel	Via which communication channels do you expect to receive this information?	Via which communication channels do you expect to receive this information?
	Via which communication channels do you prefer to receive this information?	On which communication channels do you look for information on research outcomes?
	If you could choose the way how research results are being communicated, how would it look like?	If you could choose the way how research results are being communicated, how would it look like?
Current practices	How do you currently access research information (via which channels, networks)?	How do you currently access research information (via which channels)? / Do you find the information you are looking for?
	Which strategies do you have to find and access research information?	Which strategies do you have to find and access research information?
	How useful is the information that you receive through those channels?	How useful is the information that you receive through those channels?
	Do you need support to access and understand research information?	Do you need support to access and understand research information?

I.II.III. Background information addressed communities Pilot 6

Synthetic Biology is considered to be one of the fastest growing fields aiming at altering existing or designing biological entities de novo by using engineering methods. In the past years, the field has made growing aspirations to become a platform for and industrialization of biotechnology through using new tools of standardization and decoupling. Similarly to the IT industry, a decoupling between design and production is desired. At the same time, the field also aims at contributing to questions related to the origin of life by trying to build or model an artificial cell. The principle idea is that through the artificial reconstruction of biological artefacts, synthetic biology learns about the functional mechanisms of evolution (learning by building approach). Synthetic biology researchers are highly active in engaging different communities using innovative tools of community building through infrastructure (open source community language, standard repository of biological parts hosted at the MIT) and events (the international iGEM competition gathers young researchers from all over the world). We have contacted a leading synthetic biology research site of the Max Planck Society.

At the contrary, Translational Medical Research can be more easily grasped as a different mode of research in the biomedical field that aims at reconnecting and re-integrating laboratory research and clinic. In this respect, many attempts and methods of existing forms of research are put to question such as pre-clinical research, clinical trials and clinical research in the last phases. The idea is that through the integration of tools, expertise and technical infrastructure (such as research data platforms that combine patient data with laboratory data), these different parts of the biomedical research become more accessible and comprehensive which is expected not only to lead to more research based on patients' needs but also to higher quality of research. We are planning to involve this community through the cooperation through the Berlin Institute of Health which characterizes itself as a leading Translational Medical Research site in Germany.

I.II.III. Detailed Deliverable Management Plan for 2017

Deliverable/ Milestone	Final submission	reviewers	sub activities	leading partner	Internal deadline
D6.1 Use Cases and Pilots: Definition of Methodology	30 April 2017	KNOW	1. First draft shared	AIT	3 February 2017
			2. Deliver first draft of individual pilot methodology	all Pilot Leads	1 March 2017
			3. Agree on common WP6 framework & revise deliverable accordingly	AIT	10 March 2017
			4. Finalise overall & individual pilot methodology	all Pilot Leads	24 March 2017
			5. Internal due date D6.1	AIT	28 March 2017
			6. Review D6.1	KNOW	30 March 2017
			7. Comments incorporated into the predraft and sent for another review	AIT	18 April 2017
			8. KNOW sends back further comments	KNOW	20 April 2017
			9. The draft shared with all the consortium	AIT	24 April 2017
			10. all partners to approve the deliverable	AIT	26 April 2017
			11. Final comments integrated and the final version sent to PPMI for submission to the participant portal	AIT	28 April 2017

D6.2 Interim Use Cases Evaluation report	**30 November 2017**	**PPMI**	1. Define interim goals to be achieved by end of September/early October 2017	all Pilot Leads	10 March 2017
			2. Deliverable outline shared	AIT	1 September 2017
			3. Deliver interim report	all Pilot Leads	13 October 2017
			4. Internal due date D6.2	AIT	31 October 2017
			5. Review D6.2	PPMI	20 November 2017
MS13 Community participation	**1 April 2017**	**all partners**	1. List of communities and platforms created	AIT	30 June 2016
			2. Update list of communities and platforms (contacts & status)	all Pilot Leads	1 March 2017
			3. Review Community Involvement Procedure	all Pilot Leads	1 March 2017
			4. Internal due date MS13	AIT	15 March 2017
			5. Review MS13 (list of communities & Community Involvement Procedure)	all partners	1 April 2017
			6. Update MS13 documentation for 1st project review	AIT	31 August 2017