BRIGAID

**BRIDGING THE GAP FOR INNOVATIONS
IN DISASTER RESILIENCE**

Innovation Sharing Platform

D7.3

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VERSION	DATE	DESCRIPTION AND COMMENTS	AUTHORS
0.0	24-03-2017	First Draft	Manuel Bea (ICA)
0.1	31-05-2017	Second Draft, including comments from internal reviewers	Roelof Moll (DUT); Teun Terpstra (HKV) Manuel Bea (ICA)
0.2	19-06-2017	Second Draft	Manuel Bea, Elena López-Gunn (ICA), Laia Palau (LOR)
1.0	30-06-2017	Official release	Coordinator

List of contributors

In terms of assignment of tasks:

- LOR is the task leader. LOR has produced the user interface design and has monitored the development of the ISP.

- ICRE8 has been responsible of the technical implementation and programming of the platform.

- DUT as project coordinator has monitored the adequate alignment of the ISP with the project vision and contributed to the quality check, supported by HKV and ICA.

- ICA has taken care of drafting a general Work Plan, identifying the specific requirements for the platform (with support from DUT and HKV), supporting the interaction with other work packages and coordinating the validation process.

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1. Description of the deliverable

This document presents the work undertaken for the elaboration of the BRIGAID Innovation Sharing Platform (ISP). This is to be published online as a website and is the actual deliverable produced by the project. This document provides complementary information for a better understanding of the rationale behind the design and structure of the platform.

After some internal discussion, a new name has been decided for the platform: **the original name of ISP has now been changed to Climate Innovation Window.** The justification for the name is because the new name is considered to have a bigger marketing potential and to better describe the content of our platform to external users. The name of ISP will be kept for internal use and reporting to the EC. The name of ISP is also used for this document.

This platform has been released in June 2017 and can be accessed through the web url:
http://www.climate-innovation.eu

2. Aims of the ISP

The ISP presents the innovations from the project and invites other innovators to collaborate by providing their innovations. According to the document on the Description of Actions (DoA), there are several aspects to consider with regards to the ISP aims, namely:

- **Position:** to position the ISP as the EU reference portal for innovations on climate change adaptation.

- **Target groups:** to provide a virtual marketplace by making the ISP accessible to several types of stakeholders (innovators, public and private risk managers, policy and decision makers, industry and investors), …

- **Content:** the platform shall provide descriptive information about the innovation, its development stage and (expected) performance according to the Test and Implementation Framework (TIF). Also, some materials produced within the frame of BRIGAID will be showcased. These shall include interactive factsheets/brochures of each innovation, together with demonstrations and assessment results, measurements on effectiveness (obtained by using the TIF) and recommendations for final improvement and final qualification (status). The market outreach will be supported through the production of marketing material that will be made available through the platform such as pitch decks for prospective clients and/or brochures and leaflets.

- **Interactive platform:** the ISP will facilitate the interaction among stakeholders by including some functionalities that support the gradual establishment of an online community (e.g., visitors can ask questions, add user experiences, contact the innovators and monitor the progress of innovations).

The ISP will be linked to the BRIGAID website. Nevertheless it is designed as a separate platform in order to be able to focus more on specific topics and related target audiences.

The ISP is also one of the dissemination and communication channels of BRIGAID. It is intended to support the dissemination of BRIGAID outcomes in two different levels:

    i)   at an innovation level: by showcasing all the innovations involved in BRIGAID to the external audiences engaged with the project. At the same time, it facilitates communication among innovators and these audiences; and

    ii)   at a methodological level: by including the results produced by the application of BRIGAID methodologies, i.e. TIF, MAF+ and PPIF. This becomes a differentiating element – the support provided to the development of innovations.

In terms of exploitation, BRIGAID will evaluate the opportunities to commercialize the Innovation Sharing Platform (ISP) (Task 7.3) as the EU portal for innovations on flood, drought and extreme weather, through the development of specific business models.

3. Design of the platform

The aims for our platform have been translated into a series of specific requirements which include: i) the overall structure for the platform, ii) the design of the specific functionalities and iii) the graphical aspect of the website. It has also taken into account the links with the project dissemination and exploitation activities

Furthermore, the ISP design has been influenced by other ongoing initiatives. One of our goals has been to consider from the onset the potential connections with existing initiatives, i.e. such as EIP-Water, who expressed their support for BRIGAID's initiative.

3.1. Review of related platforms

As a first step, existing reference platforms operating at EU scale have been identified and analysed. In this review, we included some platforms and initiatives already mentioned in the DoA. The best examples of active platforms to be considered as a reference for the BRIGAID ISP are:

- EIP-Water, with a focus on topics related to water and which aims aim to speed up innovations that contribute to solving societal challenges, enhance Europe's competitiveness and contribute to job creation and economic growth. This platform has a specific area showcasing a list of products and services (see https://www.eip-water.eu/my-market-place/products). These can be sorted out by topics and country.

- Climate-Adapt, the reference portal of the European Commission on Climate Change Adaptation. It contains an area on adaptation case studies, (http://climate-adapt.eea.europa.eu/sat), which can be filtered according to the hazards for potential climatic impacts, i.e. extreme temperatures, storms, flooding, etc., as well as by adaptation sector.

- OPPLA, a platform focusing on ecosystem services, natural capital and nature-based solutions which includes a marketplace area (http://www.oppla.eu/marketplace). In this

case, the products can be ordered by scale of application, type of licensing and quality assurance.

- WaterWindow, (https://waterwindow.org/) which focuses on innovations dealing with water problems. It currently has a regional focus on the Netherlands. However, climate adaptation issues have often a close link to water problems, i.e. heavy rain, droughts or flooding.

As a next step, it was decided to contact with Water Window to explore the potential collaboration between both plafftorms. Water Window has been promoted by the Delfland Water Board which means that members of one of the key target audiences of BRIGAID, e.g. water and innovation managers, have been closely involved in the design of this platform. This has been considered by BRIGAID as a nice opportunity to include user requirements in our own design for the Climate Innovation Window.

The managers of Water Window showed a strong interest in a potential merge of both platforms which was also shared by BRIGAID. Both are quite complementary and some interesting synergies have been identified. After consultation with the Managing Director of the Delfland Water Board, part of the BRIGAID Advisory Board, it was decided to adapt the design of the ISP to facilitate a potential migration from one platform to another. Both are built using the same software environment, e.g. DRUPAL, which makes this migration easier.

Therefore, **it has been decided to develop the BRIGAID ISP as a platform fully compatible with Water Window, but fully independent**. However, we will keep Water Window in view as an institutional option for taking care of the BRIGAID ISP's legacy after mid2020, either by taking over Operation & Maintenance (O&M) or by adoption of the BRIGAID ISP content.

3.2. Overall structure

A header and a footer will be part of all the pages. The header contains the functionalities menu, while the footer explains the link between the ISP and BRIGAID, it also acknowledges EU funding and it also adds some links to some specific sections in the platform.

The webiste includes the following sections:

Home / Main page

This is the main page of the platform, where all the "innovation cards" will be displayed using an infinite scroll approach. Each "innovation card" contains a photo and some basic information on each specific innovation, i.e. name of the product/:service, related hazard and TRL.

Once you click on an 'innovation box', the user will be redirected the page where the specific information on that innovation is provided.

Filter options

The filter menus allow the user to :

- Identify the key SEARCH criterion, e.g. all innovations / by topic / by hazard

- FILTER innovations according to categories of topic and/or hazard
- ORDER the innovations displayed on the platform

A list of 9 topics has been defined by WP leaders to classify the different innovations, based on the main themesthat innovations are related to. This list is comprised of:

a. Agriculture
b. Disasters and ICT
c. Energy
d. Forests
e. Nature Based Solutions
f. Urban areas
g. Water availability
h. Water quality
i. Water safety

This is not a closed list, and new topics could be added if needed.

In addition, a list of 8 hazards as defined in the DoA, which classifies the different innovations according to the main problems/risks they are dealing with. This list is comprised of:

a. Coastal floods
b. River floods
c. Droughts
d. Heatwaves
e. Heavy precipitation
f. Storms
g. Wildfires
h. Multi-hazard

This is a closed list.

Innovation Submission form

A questionnaire is included into the platform to collect all the information that will be published on innovations. This shall be filled in by innovators that have previously registered and who aim to showcase their innnovations into the platform. These questionnaires and the information to be published online will be reviewed by WP 2-4 leaders before final publication.

Innovation Description pages

These pages describe the innovations to external users. There will be different visualization options, depending on: first,whether the web visitor is logged in or not and second, on the level of

engagement of the innovation with BRIGAID. That is the innovations selected for testing will include a larger amount of information.

3.3. List of requirements

The following step consisted in the definition of a list of functional and non-functional requirements for the platform. The 'functional requirements' are defined as those requirements that essentially specify something the system should do, and the 'non-functional requirements', are those requirements that essentially specify how the system should behave and that are a constraint upon the systems behaviour.

The list of functional requirements provided clear instructions on the content and functionalities to be covered within the main sections of the platform. Herebelow, a short summary of these requirements is broken down by section:

- **Header**: it specifies the links to be included in this section and a description of the search tool and the registry formulary.

- **Footer**: it includes an explanation of the BRIGAID project, links to be able to subscribe to the BRIGAID newsletter and the possibility to connect with BRIGAID social networks (Twitter, LinkedIn, Facebook) and the BRIGAID webpage. Also, the legal information and acknowledgement of EU funding is included as part of this section.

- **Home**:this includes a dropdown menu to search innovations by topic/hazard and the full list of innovation published within the platform. These innovations are summarised in innovation cards. These cards display a picture of the innovation, its name and TRL and the logo of the connected hazard.

- **List of topics and hazards:**, this indicate the number of innovations under each category and a definition for each hazard and topic.

- **Description of innovations:**, this focuses on the innovation descriptions, by showing the name and a descriptive image or conceptual diagram of the innovation, a short description of the innovation and the problem/issue it aims to tackle. It also incorporatescontact data and logo of the innovator, the specification of current TRL, and a description of the key characteristics of each innovation.

  In the mid term, when additional information has been generated throughout BRIGAID, the description of the innovation will also include values of Key Performance Indicators (KPIs), the factsheet including recommendations for final improvement and final qualification (status), information for investors that follows from the business case and funding opportunities in WP6 (factsheet) and marketing material linked to the preparation of "pitch decks" for innovators.

  An additional feature is that logged-in users shall be allowed to post comments or questions and follow an innovation. Furthermore users will be informed every time a relevant update is published.

3.4. Graphic design

The graphic design of the ISP addresses the full list of requirements and is aligned with the BRIGAID visual identity.

A set of 21 page designs was prepared for the front-end of the platform including pages for: 'About BRIGAID', 'About TRL', 'Contact', 'Hazards list', 'Topics list', 'Home: innovations view with newsletter form', 'Home: topics view', 'Innovation description', 'Innovator area', 'Search' and 'Contact the innovator'.

The back-end was graphically designed through 14 descriptive images for 'Login', 'Edit information for registered users', 'Innovation submission form' and 'User area for an innovator'.

4. Implementation, operation and maintenance of the platform

4.1. Implementation of the platform

The platform has been programmed using the DRUPAL open source platform as a basis. The ISP is hosted by ICRE8 using the organisation servers, which provides a wider flexibility in the operation of the system. The platform currently resides on a paid server with 99,9% database and webserver uptime guarantee, and could be moved to an in-house server if necessary.

This report describes the initial version of the deliverable, e.g. the ISP. The platform will be updated in the upcoming months. These updates shall address the inclusion of the outcomes of the test phase after the structured application of BRIGAID methodologies has taken place, as well as the corresponding update of the administrator area.

In the initial version of the ISP, the front-end conform design is almost completely finished. The display of the KPI's of innovations tested within BRIGAID is the main pending issue. The graphic design is already prepared and the innovation description pages will be updated to include graphical visualizations of these KPI's once validated values are available. This is expected to be ready end of 2017.

In terms of the back-end, the administrator area is the only part not fully completed. By the time of the full release of the platform, an administrator area including several standard functionalities will be operational. However, we expect that as use occurs and expands, we will come across additional functional requirements once the WP 2-4 leaders and the internal and external innovators interact with the platform. Therefore It has already been agreed that some tailor-made functionalities can be implemented (i.e. for making filters o the information or exporting data) through 1-2 days of programming.

4.2. Testing and validation

The testing has been carried out following predefined guidelines, using different profiles e.g. administrator/innovator/non-registered user, with a variety of permits and links to separate active email accounts.

The performed battery of tests consisted of:

- Test 1: <u>Sign up</u> to the Climate Innovation Window

- Test 2: <u>Check that a non-registered user can search for innovations</u> and have easy access to a shortened description of innovations. This user should not be allowed to post comments either to follow an innovation or to share a new innovation.

- Test 3: <u>Adding innovations into the platform</u>. Check the procedure to submit innovations, as well as the processtoapprove or edit these innovations before publishing

- Test 4: <u>Check that a registered user can search for innovations and access to the complete description of innovations</u>. This user should be allowed to post comments, follow an innovation or to share a new innovation.

- Test 5: <u>Search function</u>

- Test 6: <u>Open test:</u> overall review of any other aspect

Goals and instructions for each test are provided as part of the validation guidelines mentioned earlier.

4.3. Operation and maintenance (O&M)

The main issues we need to deal in terms of O&M are:

a) New TOPICS

Topics not initially contemplated in the design may appear as new innovations are included into BRIGAID framework. This is a possibility that needs to be taken into account. The WP2-4 leaders shall inform WP7 in case a new topic is needed.

b) New INNOVATIONS

New innovations will be added into the ISP following an established procedure. The innovators need to register into the platform and log in. Then, innovators can share their innovations by filling in the innovation submission form. Once the innovations data are saved into the system, the WP2-4 leaders receive an email that alerts them and which includes a link for editing the innovation. All the data forwarded by the innovator are copied into this alert on a new innovator email.

In case that major changes are required, the WP2-4 leaders shall communicate with the innovator, via email to: a) ask for further information, b) corrections or c) to discuss any specific points. After an agreement is reached, the innovator will be asked to make the requested changes into the platform and submit the revised information again.

The WP2-4 leaders are the ultimate responsible of publishing the innovation into the ISP.

c) Update of the INNOVATIONS

The innovations involved in BRIGAID should be updated when new information is generated, e.g. new TRL, KPI values, pitch decks, etc.

WP2-5 leaders and ICRE8 will take care of updating the description of innovations with support of LOR as task leader. ICA as WP7 leader will also support this process if needed.

d) Other requested updates

The list of keywords will be updated after each stocktaking cycle, that is another 2-3 times during the BRIGAID´s project lifetime.

e) Security updates

Security updates are a responsibility of ICRE8 until one year after the project conclusion.

f) Errors or bugs into the system

Finally, ICRE8 will also be responsible of fixing any bug or relevant error that may be detected after the release of the platform.