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RESILIENCE TO COPE WITH CLIMATE CHANGE IN URBAN AREAS.

DISSEMINATION AND EXPLOITATION PLAN

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Changes with respect to the DoA

Initially, this D7.4 was supposed to be called Exploitation Plan, but following the recommendations of the EC Project Advisor, the Dissemination part was included. This was formally announced on the first amendment done to the GA on early 2017. This is why D7.4 is now called “Dissemination and Exploitation Plan”.

1. Dissemination and uptake

Public

2. Short Summary of results (<250 words)

The potential of the RESCCUE outputs is high because the set of models and tools generated will have a high TRL value and thus, its exploitation and business capabilities have to be properly studied along the project.

This is why this The Dissemination and Exploitation Plan (DEP) has been created, to ensure an optimal dissemination and exploitation of project results. Once all exploitable results have been identified, the most adequate commercialization vehicles some of them have been defined in the Business Plan (D7.4).

This Dissemination and Exploitation Plan follows the evolution of the project from the proposal until the submission of the final project report, as well as the next 4 years in which exploitation of results must be ensured. This Plan addresses the points set in the Fact sheet defined by the European IPR Helpdesk .

The structure of the deliverable is organized in the following sections:

1. Introduction
2. Objectives
3. Identification of key results of the project
4. Communication and Dissemination Plan
5. Exploitation Plan

As it can be seen in section 3, there is a wide variety of results that will be produced within the RESCCUE Project. Some of them could be commercialized but some others couldn't. However, both of them should be either disseminated or exploited.

Proper exploitation of results allows to profit from marketing and commercialisation of the intellectual assets acquired during the project. However, given the fact that in many cases the majority of the expected results are available towards the end of the project and exploitation obligations remain in force up to four years after the project end, this D7.4 is just a first version of the Dissemination and Exploitation Plan, which will be further updated on M30 and M48, where more concrete results will be studied.

3. Evidence of accomplishment

This report

Table of contents

Summary of Tables	6
Summary of Figures	7
1 Introduction	8
2 Objectives	9
3 Identification of key results of the project	10
4 Communication and dissemination	18
4.1 Introduction. A Shared Challenge: communication and dissemination.....	18
4.2 Communication and Dissemination plan	19
4.3 Communication and dissemination strategy.....	19
4.3.1 Framework.....	19
4.3.1.1 Terms definition: communications vs. dissemination.....	19
4.3.1.2 Terms definition: global vs. local communication and dissemination	19
4.3.1.3 Terms definition: on-line vs. off-line communication and dissemination	20
4.3.2 Overall goal and specific objectives	20
4.3.3 Messages to be delivered.....	20
4.3.4 Target groups.....	22
4.3.5 Tools and channels for target engagement.....	25
4.3.5.1 Mass Communication	25
4.3.5.2 Scientific dissemination	30
4.3.6 Implementation of communication and dissemination strategy	33
4.3.6.1 General overview: schedule of communication and dissemination activities during the lifetime of the project.....	33
4.3.6.2 Monitoring and impact measurement	37
4.4 Potential risks and barriers to successful communication and dissemination	38
4.4 Conclusions.....	39
5 Exploitation Plan	41
5.1 Partner's obligations.....	42
5.2 Intellectual property.....	42
5.3 Finance requirements.....	49
5.3.1 Financing for CAA and DRR.....	49
5.3.2 European Fund for Strategic Investments.....	53
5.3.3 European Structural and Investment Funds.....	54

5.4	Exploitation strategies and commercial opportunities	56
5.4.1	Commercialization channels	58
5.4.2	Knowledge transfer channels	59
5.4.3	RESCCUE exploitation roadmap	60

Summary of Tables

Table 1 Analysis of the results of the RESCCUE Project	11
Table 2 PM in WP7 per beneficiary	18
Table 3 Phases of communication and dissemination strategy and the messages to be delivered	21
Table 4 RESCCUE stakeholders in each study case.....	24
Table 5 RESCCUE website structure	30
Table 6 Potential Events where the RESCCUE project could be presented	32
Table 7 Networking with other projects	33
Table 8 Schedule of communication and dissemination activities	36
Table 9 Evaluation of communication and dissemination activities	38
Table 10 Potential risks and barriers to successful communication and dissemination.....	39

Summary of Figures

Figure 1 Phases of communication and dissemination strategy.....	22
Figure 2 Target groups.....	23
Figure 3 RESCCUE stakeholders map.....	24
Figure 3 Differences and commonalities of Disaster Risk Reduction and Climate Change Adaptation. Source: Ian Davis via PLACARD Project.....	50
Figure 4 Goals of the PLACARD Project, bridging the gap between the CAA and DRR communities.	51
Figure 5 Scheme presenting the complexity of DRR funding schemes. Source: UNDP, ODI, 2015.	52
Figure 6 Map of the EFSI funded projects since 2015 the launch of the programme (as of 15/06/17).....	54
Figure 7 Summary of the EFSI investments since it was launched (as of 15/06/17).	54
Figure 8 Summary of Spanish ESIF funds by Theme (in billion €).....	56
Figure 9 RESCCUE exploitation roadmap	62

1 Introduction

This document is developed as part of RESCCUE (RESilience to cope with Climate Change in Urban arEas - a multisectorial approach focusing on water) project, which has received funding from the European Union's Horizon 2020 Research and Innovation program, under the Grant Agreement number 700174.

The Dissemination and Exploitation Plan (DEP) corresponds to Deliverable 7.4 of Work Package 7 (WP7) – Dissemination and Exploitation. WP7 will ensure an optimal dissemination and exploitation of project results by accomplishing the following objectives:

- Raise awareness among climate change and urban resilience audiences in order to stimulate social engagement
- Allow both general and specialised public to access information about the project progress and its outcomes, ensuring a successful run-time and dissemination of project achievements and results to all relevant stakeholders
- Promote and encourage communication among stakeholder community
- Promote and encourage the widest possible application of project methodologies and outcomes beyond the lifetime of the project, by developing an Exploitation Plan
- Ensure that the Intellectual Property Rights of the consortium are properly protected
- Increase the benefits of the outcomes of the project with the creation of the RESCCUE Business Plan

First of all, it should be pointed out the closing link between dissemination and exploitation. Dissemination (sharing research results with potential users - peers in the research field, industry, other commercial players and policymakers) - feeds into exploitation (using results for commercial purposes or in public policymaking). Accordingly, there's often some overlap between dissemination, exploitation and communication, especially for close-to-market projects such as RESCCUE project.

In particular, **dissemination activities** are focused on transferring project results through various channels such as congresses, publications, etc. in order to reach the different end users of the technology. In this sense, one of the first tasks within the dissemination plan is to develop a list of major international exhibitions and conferences related to urban resilience to disseminate results and to carry out networking actions. In parallel, promotional materials will be prepared in collaboration with the project partners with the aim to present the project in a summarised way.

On the other hand, the purpose of the **Exploitation Plan** is to provide a formal planning document for using and exploiting knowledge throughout the project. The plan facilitates the common understanding of the aims of the exploitation activities, and assures that the dissemination and exploitation do not interfere with the IPR management, but serve it. In this sense, the exploitation of the results of RESCCUE project has been defined in coordination with an exhaustive protection of the intellectual property of both the background of project partners and the foreground results expected.

Moreover, the Exploitation Plan is designed to promote the adoption of the project solutions after its termination. In fact, it represents a key tool in order to take advantage in an effective and planned way of the dissemination channels to be used within the project, avoiding improvisation and over expenditures. Accordingly, it addresses socio-economic impacts, through studies performed towards the end of the project. Key Performance Indicators of the project that can be made public are selected to measure the project impact. This selection is done under the supervision of the developer partners. This study also exploits the feedback received from potential end-users during dissemination events.

The Dissemination and Exploitation Plan follows the evolution of the project from the proposal until the submission of the final project report, accordingly, apart from the first version of the plan submitted in M15, updated versions of this D7.4 will be submitted in M30 and M48. This Plan addresses the points set in the Fact sheet defined by the European IPR Helpdesk¹.

Additionally, the content and objectives of the Dissemination and Exploitation Plan are complemented by Deliverable 7.3. Business Plan, whose objective is to define the most adequate commercialization vehicles of the identified results together with the identification of the opportunities, market assessment and barriers to perform such exploitation.

After this introduction, the structure of the deliverable is organized in the following sections:

2. Objectives
3. Identification of key results of the project
4. Communication and Dissemination Plan
5. Exploitation Plan

2 Objectives

The general objective of the Dissemination and Exploitation Plan is to define the beneficiaries' strategy and concrete actions related to the protection, communication, dissemination and exploitation of the RESCCUE project results. Accordingly, the main questions that the DEP should answer are:

- What kind of needs does the project respond to?
- What kind of problem will the proposed solution solve and why will this solution be better than existing ones and in which areas?
- What new knowledge (results) will the project generate (assessment of the state of the art)?
- Who will use these results?

¹ European IPR Helpdesk 2015 The Plan for the Exploitation and Dissemination of Results in Horizon 2020.

- What benefits will be delivered and how much benefit?
- How will end users be informed about the generated results?
- When will they be informed? (timeline of the planned communication...)

To accomplish the main objectives, the key aspects analysed in this Dissemination and Exploitation Plan are:

- analysis of the potential project results and how will they be exploited and disseminated;
- analyses on the intellectual property that is needed and will be brought to the project, including for example information on knowledge and inventions
- facts and figures on the planned exploitable results and their areas of application and intellectual property protection to evaluate their potential impact;
- description of the exploitation roadmap;
- description and timeline of the planned communication and dissemination activities (e.g. scientific publications, organisation of conferences, creation of a website), including Open Access to scientific publications resulting from Horizon 2020 actions;
- measurement of the impact of communication and dissemination activities.

3 Identification of key results of the project

In this section, a thorough analysis of all the project results has been compiled. As it can be seen in Table 1, a list of all the results of the RESCCUE Project can be found. They have been classified per WP, and information regarding the type of result, owner(s), the delivery date, background, dissemination, commercialization, TRL level and protection is also described. It is worth noting that in this table, the dissemination column has been considered in a very simple way, only implying whether the results should be published in scientific papers and conferences or not.

The information presented in this Table 1 is an initial identification of the project results, but since this exploitation plan will be updated in M30 and M48, some of these results might change in the future. For now, the results have been classified as methodologies, models, tools, software, datasets and publications. Some more categories might appear in the future, such as patents or others, but for now, these are the types of results produced or expected.

Table 1 – Analysis of the results of the RESCCUE Project

Description of result	Type of result	Associated WP	Result owner(s)	Delivery date	Background?	To be disseminated? (in conferences or scientific journals)	To be commercialized?	TRL before RESCCUE	TRL after RESCCUE	To be protected?
FIC climate statistical downscaling method	Methodology	1	FIC	M12	Yes	No	Yes	5	7	Yes
Climate downscaled projections, decadal and seasonal simulations	Dataset	1	FIC	M18	No	Yes	No	-	-	No
Extreme rainfall development methodology	Methodology	1	FIC, Aquatec	M24	Yes	No	Yes	4	7	Yes
Extreme climate scenarios	Dataset	1	FIC, Aquatec	M24	No	Yes	No	-	-	No
Hydrological and water quality models	Model	2	Cetaqua	M24	Yes	No	No	7	8	Yes
Drought and water quality analysis	Dataset	2	Cetaqua	M36	No	Yes	No	-	-	No
Urban drainage model in Barcelona	Model	2	Aquatec, BCASA	M24	Yes	No	No	7	8	Yes
Urban drainage simulations in Barcelona	Dataset	2	Aquatec, BCASA	M36	No	Yes	No	-	-	No

Description of result	Type of result	Associated WP	Result owner(s)	Delivery date	Background?	To be disseminated? (in conferences or scientific journals)	To be commercialized?	TRL before RESCCUE	TRL after RESCCUE	To be protected?
Marine model for quality prediction in Barcelona	Model	2	Aquatec	M24	Yes	No	No	7	8	Yes
Assessment of marine model impacts	Dataset	2	Aquatec	M36	No	Yes	No	-	-	No
Bursting pipes in Barcelona	Methodology	2	Aquatec	M24	No	No	No	-	5-6	Yes
Assessment of bursting pipes impacts in Barcelona	Dataset	2	Aquatec, AB	M36	No	Yes	No	-	-	No
Electric model in Barcelona	Model	2	IREC	M24	Yes	No	No	6	8	Yes
Simulations of the electric model in Barcelona	Dataset	2	IREC, Endesa	M36	No	Yes	No	-	-	No
Integrated flooding traffic model	Model	2	Barcelona CC	M24	Yes	No	No	4	6	Yes
Simulation of impacts on the traffic model	Dataset	2	Barcelona CC	M36	No	Yes	No	-	-	No
Urban drainage model in Lisbon	Model	2	Hidra and CML	M24	Yes	No	No	7	8	Yes
Urban drainage simulations in Lisbon	Dataset	2	Hidra and CML	M36	No	Yes	No	-	-	No

Description of result	Type of result	Associated WP	Result owner(s)	Delivery date	Background?	To be disseminated? (in conferences or scientific journals)	To be commercialized?	TRL before RESCCUE	TRL after RESCCUE	To be protected?
Energy distribution model in Lisbon	Model	2	EDP	M24	Yes	No	No	6	8	Yes
Simulations of the energy distribution model in Lisbon	Dataset	2	EDP	M36	No	Yes	No	-	-	No
Integrated tool linking meteorological platform and traffic system	Tool	2	CML	M36	Yes	Yes	Yes	5	7	Yes
Integrated tool linking meteorological platform and waste system	Tool	2	CML	M36	Yes	Yes	Yes	5	7	Yes
Urban drainage model in Bristol	Model	2	BCC	M24	Yes	No	No	7	8	Yes
Urban drainage simulations in Bristol	Dataset	2	BCC	M36	No	Yes	No	-	-	No
Tidal and Fluvial Flooding model in Bristol	Model	2	BCC	M24	Yes	No	No	6	8	Yes
Tidal and Fluvial Flooding simulations in Bristol	Dataset	2	BCC	M36	No	Yes	No	-	-	No

Description of result	Type of result	Associated WP	Result owner(s)	Delivery date	Background?	To be disseminated? (in conferences or scientific journals)	To be commercialized?	TRL before RESCCUE	TRL after RESCCUE	To be protected?
Integrated flooding - traffic model in Bristol	Model	2	Uni Exeter	M24	Yes	No	No	5	7	Yes
Integrated flooding – traffic simulations in Bristol	Dataset	2	Uni Exeter	M36	No	Yes	No	-	-	No
Model/tool for the coordination between sewer system and WWTP	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC	TBC
Quantification indices in the energy sector	Methodology	3	IREC	M18	Yes	No	Yes	4	6	Yes
Impact assessment in the energy sector	Dataset	3	IREC	M36	No	Yes	No	-	-	No
Flood direct damages tool	Tool	3	Exeter, Cetaqua, Aquatec	M18	Yes	No	Yes	6	8	Yes
Flood direct damage assessments	Dataset	3	Exeter, Cetaqua, Aquatec	M36	Yes	Yes	No	-	-	No
Flood indirect damage methodology	Methodology	3	Cetaqua	M18	Yes	No	Yes	4	6	Yes

Description of result	Type of result	Associated WP	Result owner(s)	Delivery date	Background?	To be disseminated? (in conferences or scientific journals)	To be commercialized?	TRL before RESCCUE	TRL after RESCCUE	To be protected?
Flood indirect damage assessments	Dataset	3	Cetaqua	M36	No	Yes	No	-	-	No
CSO impact assessment model	Model	3	Aquatec	M18	Yes	No	Yes	4	6	Yes
Assessment of CSO impacts	Dataset	3	Aquatec	M36	No	Yes	No	-	-	No
Transport indirect impact methodology	Methodology	3	Cetaqua, Exeter	18	Yes	No	Yes	3	5	Yes
Assessment of transport indirect damages	Dataset	3	Cetaqua, Exeter	36	No	Yes	No	-	-	No
Assessment of city resilience in Barcelona	Dataset	4	Aquatec	18	Yes?	Yes	No	-	-	No
Assessment of city resilience in Bristol	Dataset	4	Urban-DNA	18	Yes?	Yes	No	-	-	No
Assessment of city resilience in Lisbon	Dataset	4	Hidra	18	Yes?	Yes	No	-	-	No

Description of result	Type of result	Associated WP	Result owner(s)	Delivery date	Background?	To be disseminated? (in conferences or scientific journals)	To be commercialized?	TRL before RESCCUE	TRL after RESCCUE	To be protected?
New functionalities of Hazur (including “Adaptation Strategies module in Hazur” and “Visualisation of Climate Change Scenarios module in Hazur”)	Software	4	Opticits, Aquatec, FIC, Cetaqua	30	Yes	No	Yes	4	8	Yes
Hazur Assessment and Hazur Manager	Software	4	Opticits	48	Yes	No	Yes	7	9	Yes
Adaptation measures and strategies database	Dataset	5	Cetaqua	18	No	Yes	No	-	-	No
Methodologies for the selection of resilience strategies	Methodology	5	Cetaqua, other WP5 partners	36	Yes	Yes	Yes	4	6	Yes
Framework for cities resilience diagnosis	Methodology	6	UN-Habitat, LNEC	30	Yes	No	Yes	4	6	Yes
Framework for the Resilience Action Plan	Methodology	6	LNEC	40	No	No	Yes	-	6	Yes
Resilience Action Plan of Barcelona	Publication	6	Barcelona CC, LNEC, UNHAB	30	No	Yes	No	-	-	No

Description of result	Type of result	Associated WP	Result owner(s)	Delivery date	Background?	To be disseminated? (in conferences or scientific journals)	To be commercialized?	TRL before RESCCUE	TRL after RESCCUE	To be protected?
Resilience Action Plan of Bristol	Publication	6	Bristol CC, LNEC, UNHAB	30	No	Yes	No	-	-	No
Resilience Action Plan of Lisbon	Publication	6	Lisbon CC, LNEC, UNHAB	30	No	Yes	No	-	-	No
Manual of best practices	Publication	6	LNEC, Cetaqua	48	No	Yes	No	-	-	No

4 Communication and dissemination

4.1 Introduction. A Shared Challenge: communication and dissemination

‘Communication’ and ‘dissemination’ are two crucial concepts when referring to EU-funded projects since it represents the **information and knowledge flow**, one of the main objectives of any European public initiative. RESCCUE, a project aimed to build more resilient cities to climate change, makes a special effort in communicating its vision and disseminating its main results as it helps: i) to raise the awareness of taking the necessary measures to protect our cities and their inhabitants ii) to maximize the impact of the project and iii) to open up new opportunities for collaboration with related projects or relevant actors involved. In short, communication and dissemination activities makes the project visible within different target groups. For this reason, this is a task not only involving Work Package 7 (*hereinafter* WP7) *Dissemination and Exploitation*, but a challenge for the whole RESCCUE consortium.

It must be noted that, as stated in the article 29 of the Grant Agreement (*hereinafter* GA) of RESCCUE project (GA nº 700174), “unless it goes against their legitimate interests, each project beneficiary must — as soon as possible— disseminate its results by disclosing them to the public by appropriate means”. The following table shows the commitment of each project partner in WP7 expressed in person-moth (*hereinafter* PM) units:

Aquatec	Cetaqua	FIC	OptiCits	Uni Exeter	LNEC	Barcelona CC	IREC	UN-Habitat	Endesa	Lisbon CC	EDP	Hidra	Bristol CC	SUEZ UK	Urban DNA	AdP	EIVP
15	20	5	2	2	4	2	4	1	2	5	2	5	2	6	2	2	2

Table 2 PM in WP7 per beneficiary

As the chart above demonstrates, Cetaqua, the leader of the whole WP7, has the largest number of PM (20), therefore assumes the responsibility of coordinating all the RESCCUE activities related with communication, dissemination and exploitation. Cetaqua is also leading the first one of two the tasks of WP7, entitled *7.1 Dissemination and communication*. Another task *7.2 Definition and elaboration of the Exploitation Plan and Business Plan* is led by project coordinators Aquatec-SUEZ Advanced Solutions, the second largest contributor in the WP7 with 15 PM. Following, other project partners with a high level of commitment to communication, dissemination and exploitation activities are presented: FIC, LNEC, IREC, Lisbon CC and Hidra, as they have 5 or 4 PM allocated. They are expected to make significant contributions in WP7, always with the support needed from Cetaqua. Finally, partners with 2 or 1 PM allocated basically are asked to participate in the website activities by providing blog entries and news and to disseminate project results when possible.

4.2 Communication and Dissemination plan

The RESCCUE Communication and Dissemination Plan (*hereinafter* C&D plan) is the main document outlining project communication and dissemination issues. The main goal of this document is to **determine the overall RESCCUE communication and dissemination strategy** and to **describe its implementation through the lifetime of the project**. This C&D Plan is a flexible document assuming that the main aim of communication is to respond to the real-time needs. For this reason, this document will be regularly reviewed and updated as needed, as long as the whole consortium validates the modifications proposed. The following official updates of D7.4 are scheduled for the M30 and M40.

Regarding the structure of this document, its main body is the description of RESCCUE communication and dissemination strategy, followed by a brief chapter on potential risks and barriers to successful communication and dissemination.

4.3 Communication and dissemination strategy

4.3.1 Framework

In order to ensure significant and lasting impact of the RESCCUE project, an **integrated** (combining separate elements to provide a harmonious interrelated whole) and **multi-channel** (based on implementation of a single message across multiple channels or platforms) **communication and dissemination strategy** will be implemented. The key elements of this strategy are described in the following chapters.

4.3.1.1 Terms definition: communications vs. dissemination

Given the nature of European projects, it is imperative to ensure that here dissemination and communication go hand-in-hand. Nevertheless, the difference between these two terms is not entirely clear. Based on the definitions provided by EC, in the RESCCUE framework communication is understood as a tool for **introducing to the general public the most crucial concepts** the RESCCUE project is built under, such as urban resilience, globalization and climate change. In other words, the driving purpose of all communication activities described in this C&D Plan is to **raise awareness** and to **highlight the need for initiatives such as RESCCUE**. Dissemination instead, will be focused, on an exceptional basis, on **transferring concrete achievements and results of the project** trying to ensure its greatest possible resonance.

4.3.1.2 Terms definition: global vs. local communication and dissemination

In general terms, RESCCUE aims to build safer cities to live in and this is the core essence of the project. The **global concept of a smart, citizens-friendly and resilient city** will cover all the communication activities. Besides that, specific communication and dissemination activities

will be focused on a local level in three research sites – Barcelona, Bristol and Lisbon – in order to **make the project more tangible** by presenting its **real benefits for each case study**. This kind of activities are expected to help in engaging local communities, potential stakeholders and key decision makers.

4.3.1.3 Terms definition: on-line vs. off-line communication and dissemination

RESCCUE seeks to be a **far-reaching project**, it is for this reason why whenever possible it will use online platforms for its communication and dissemination activities. The project website (see 4.3.5.1.2.1 Online communication activities) will periodically publish all the information related to the day-to-day matters and significant project outcomes. Additionally, **social media will be used as an impact multiplier**. However, there are some communication and dissemination activities, such as events, and materials, such as papers or posters, which by their nature are off-line. In the case of events, a brief video or at least a photo gallery will be uploaded together with the summary text in order to relate the experience in a more direct way. Additionally, the final conference of the project will possibly be livestreamed. Regarding the promotional materials, despite of printed copies, digital versions will be uploaded on the RESCCUE website in order to expand their accessibility.

4.3.2 Overall goal and specific objectives

Objectives are one of the fundamental building blocks of any strategic plan. Having clear aims helps to achieve coherence in activities and maximise the impact. The driving purpose of RESCCUE communication and dissemination strategy is to **raise awareness on climate change and urban resilience by communicating the RESCCUE concept and disseminating project results**.

Apart from that, the following specific objectives will be pursued:

- To allow both general and specialised public to access information about the project progress and its outcomes.
- To ensure a successful run-time and dissemination of project achievements and results to all relevant stakeholders.
- To foster contact between researchers, potential end-user of the RESCCUE tool and decision makers.

These objectives will be achieved by designing and implementing communication and dissemination activities (see 4.3.6 Implementation of communication and dissemination strategy).

4.3.3 Messages to be delivered

RESCCUE, as the majority of similar research and innovation projects, will obtain significant project outputs only in the latest stage of the project lifetime. In response to that, project

communication and dissemination strategy is composed of **two phases**: the initial one, focused of **conceptual communication** and second one aimed to **disseminate project main results**. Each phase is represented by one or several key messages to be delivered. Both phases of RESCCUE communication and dissemination strategy are described below.

Duration	Phase	Description	Message to be delivered
[M1-M23]	PHASE I: Development of social engagement through awareness raising and introduction of the RESCCUE concept.	Given the fact that the concept of urban resilience is relatively new, the first task before communicating the RESCCUE project <i>per se</i> will consist in presenting the main ideas of urban resilience and its benefits to the society . In other words, when possible, the global context will be provided in order to explain the driving purpose of the RESCCUE project. In a reference to concrete project information, since during the first 24 months no significant results will be obtained, the communication will be focused on generic information about the project: its main goals, methodology, consortium, etc.	<i>The RESCCUE project aims to help urban areas around the world to become more resilient to climate change.</i>
[M24-M48]	PHASE II: Dissemination of the RESCCUE results and potential impact.	As the RESCCUE project will start to achieve first key results from the month 24, the second phase of RESCCUE communication and dissemination strategy will be focused on dissemination of concrete project outputs placing emphasis on its potential impact . This phase will be developed in three principal waves in months 24, 36 and 48.	<i>To be defined depending on the outputs obtained in each of 5 key results identified (see Figure 1).</i>

Table 3 Phases of communication and dissemination strategy and the messages to be delivered

The graphic below provides a visual explanation of both phases of RESCCUE communication and dissemination strategy.

PHASE I: Development of social engagement through awareness raising and introduction of the RESCCUE concept

PHASE II: Dissemination of the RESCCUE results and potential impact

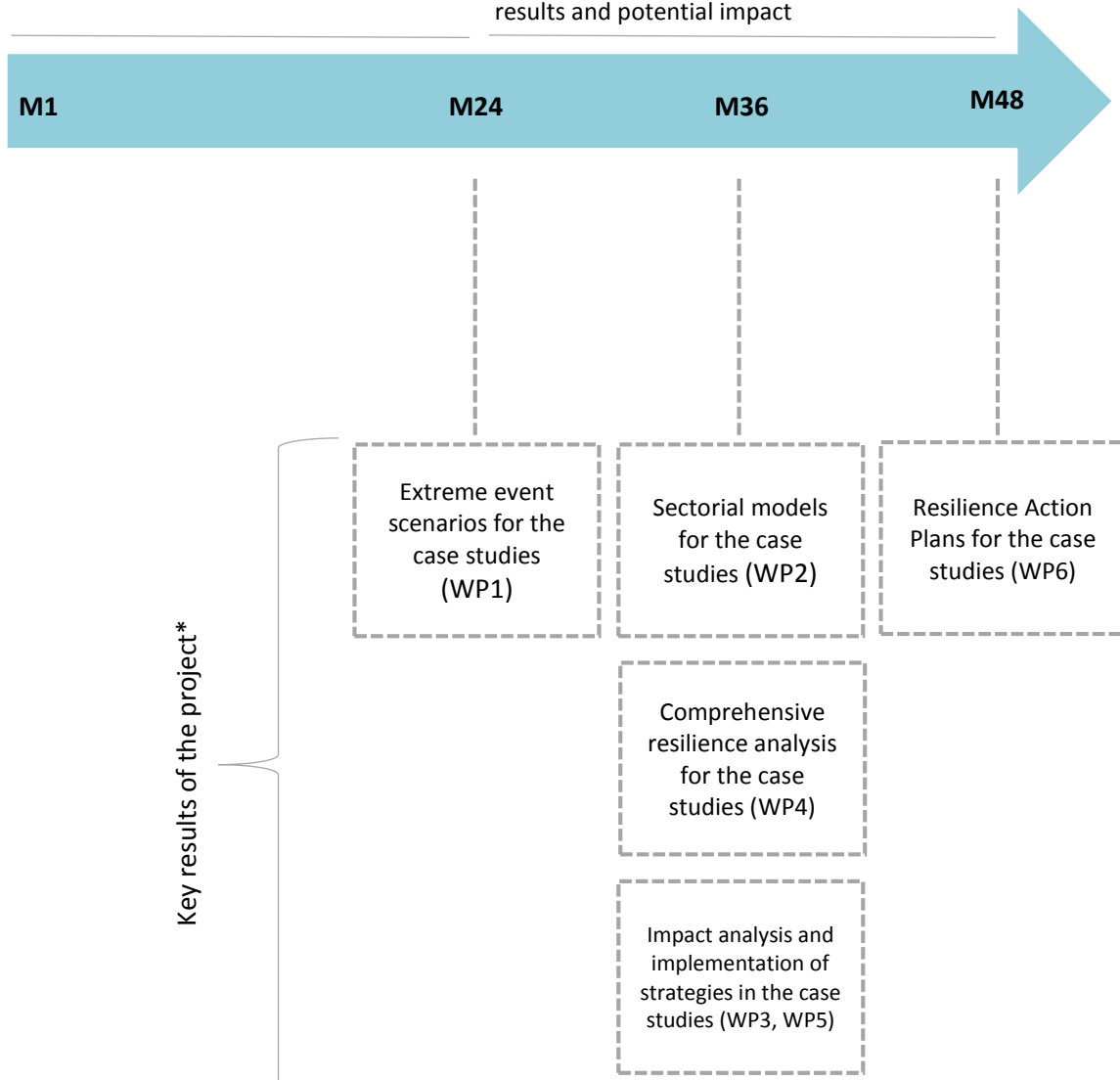


Figure 1 Phases of communication and dissemination strategy

*The identification of these key results is based on their relevance to the global project outputs which also correlates with the essence of each of the technical Work Packages in which RESCCUE is structured.

4.3.4 Target groups

In order to focus effectively RESCCUE communication and dissemination activities and to ensure the broadest possible impact of the project, different target groups were identified in the early stage of the project.



Figure 2 Target groups

Stakeholders play an important role in the project as they can contribute valuable experiences and also to make the project more visible. Different relevant stakeholders of each case study were identified in the early stage and the project and another ones joined RESCCUE later by participating in the various events carried out in the framework of the project. The following chart lists the RESCCUE stakeholders of each study case:

BARCELONA	LISBON	BRISTOL
<ul style="list-style-type: none"> • Aigües de Barcelona • Transports Metropolitans de Barcelona • Autoritat del Transport Metropolità • Àrea Metropolitana de Barcelona • Telefònica 	<ul style="list-style-type: none"> • IPMA - Instituto Português do Mar e da Atmosfera • CARRIS - Transportes Públicos de Lisboa • METRO Lisboa - Metropolitano de Lisboa • REN - Redes Energéticas Nacionais • IMT - Instituto da Mobilidade e dos Transportes • APA - Agência Portuguesa Do Ambiente • ANPC - Autoridade Nacional de Proteção Civil • Direção-Geral do Património Cultural • EPAL LVT - Empresa Portuguesa das Águas Livres 	<ul style="list-style-type: none"> • Bristol Water • Environment Agency • EE • Bristol Waste • Western Power • Network Rail • Wessex Water • Highways England • National Grid • Openreach • Department for Communities and LG

	<ul style="list-style-type: none"> • IST - Instituto Superior Técnico • FCUL - Faculdade de Ciências de Lisboa • Lisboa e-nova - Agência Municipal de Energia-Ambiente de Lisboa • MEO • Vodafone 	
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Table 4 RESCCUE stakeholders in each study case

In terms of categories, these stakeholders represent transport, water, telecommunications, energy and waste sectors, public administrations, environmental agencies and research (see Figure 3).



Figure 3 RESCCUE stakeholders map

Decision makers are understood as all those who can greatly influence legal regulation of RESCCUE-related topics on national or European levels.

City managers and **utility managers** will be direct end-users of RESCCUE tools and methodologies and for this reason are considered the key target of the RESCCUE project.

Public and private investors refers to different EU funds and other financial policy instruments of the EU or any EU member state as well as to private funds, grants and fiscal incentives. All these tools can provide an economic support for further development of the RESCCUE project.

Citizens are the main beneficiaries of the RESCCUE project as it aims to ensure a safer urban living. Citizens represent the general audience who do not necessarily have a specific knowledge on urban resilience. For this reason, the main aim regarding to this target group is to communicate simplified, easy-perceivable messages.

Dissemination multipliers are other RESCCUE topic-related FP7 / H2020 projects (see 4.3.5.2.2.2 *Networking*) as well as all the programmes, tools and platforms provided by European Commission in order to increase the reach and impact of the EU-funded projects.

4.3.5 Tools and channels for target engagement

The previous chapters of this document describe WHY do we need to communicate and disseminate the RESCCUE project (objectives), WHAT do we want to say about the project (messages) and TO WHOM we are going to deliver those messages (target groups). The only aspect missing for this strategy to be complete is to explain HOW we are going to achieve our goals. The following part of C&D Plan describes different tools and channels identified as potential ones for target engagement.

4.3.5.1 Mass Communication

As stated previously, citizens are the principal beneficiaries of the RESCCUE project and this makes it crucial to explain them the essence of the project in an easy-to-understand language. In order to achieve it, much attention will be given to mass communication which refers to **delivery of messages to general public by utilizing most popular on-line or off-line channels** such as internet, press, radio, and television.

4.3.5.1.1 Communication materials

Every successful brand seeks to find the most suitable combination between two essential aspects: the tangible and the intangible. By the intangible we mean the values the brand transmits, the feelings it inspires, etc. In the RESCCUE case, as mentioned previously, **the core value is safer cities to live in**. Nevertheless, in order to communicate the values, it is essential **to give them a visible form**. This is why the creation of visual RESCCUE identity and other promotional materials is considered as a key task for successful project communication and dissemination.

4.3.5.1.1.1 Brand identity

Logotype

The RESCCUE logotype was designed in the very early stage of the project. The logotype is the core element of the conceptual storyline of the RESCCUE brand. Taking into account the essence of the Project, it was decided to create a contemporary, urban inspired logotype. The RESCCUE logotype combines minimalism and cubism, it is simple but recognizable.



Visual Identity Manual



In order to ensure the correct use of the logotype, a Visual Identity Manual was prepared and shared with all the project partners. This manual contains rules and guidelines for the correct use of RESCCUE design elements for project communication.



Templates

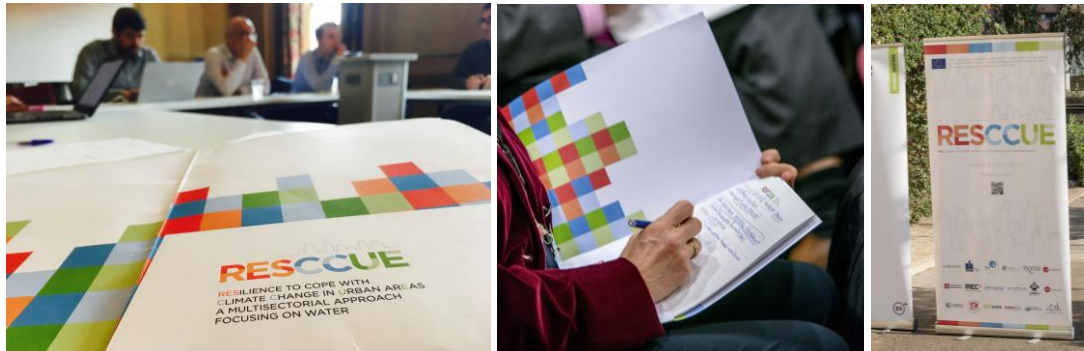
Following the graphic line of the RESCCUE logotype, various project templates were designed for both internal (work templates) and external (representative) usages. All the templates include project logotype, the logotypes of all the project partners and the statement acknowledging the European Commission as a financing source of the project.



Merchandising

Additionally, in order to reinforce the visual identity of the RESCCUE project, some merchandising materials were designed. In concrete, a roll-up banner, a notebook and a folder

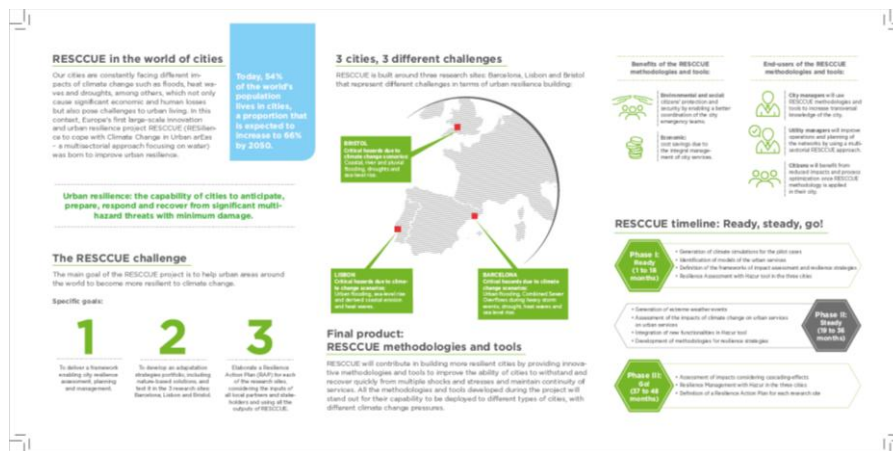
were produced with the purpose of being used in the events carried out in the framework of the project.



4.3.5.1.1.2 Promotional materials

Despite of the fact that RESCCUE communication and dissemination will mainly be focused on on-line activities, some printed promotional materials were also be produced. Precisely, two leaflets were planned with the aim of spreading the word about the project, especially during the evnts. The first leaflet is already designed and has been printed twice. It provides a brief overview of the RESCCUE context, its main objectives, explains the evolutions and expected results.





The second leaflet will review the evolution of the project and will incorporate the most significant mid-term results.

4.3.5.1.2 Communication activities

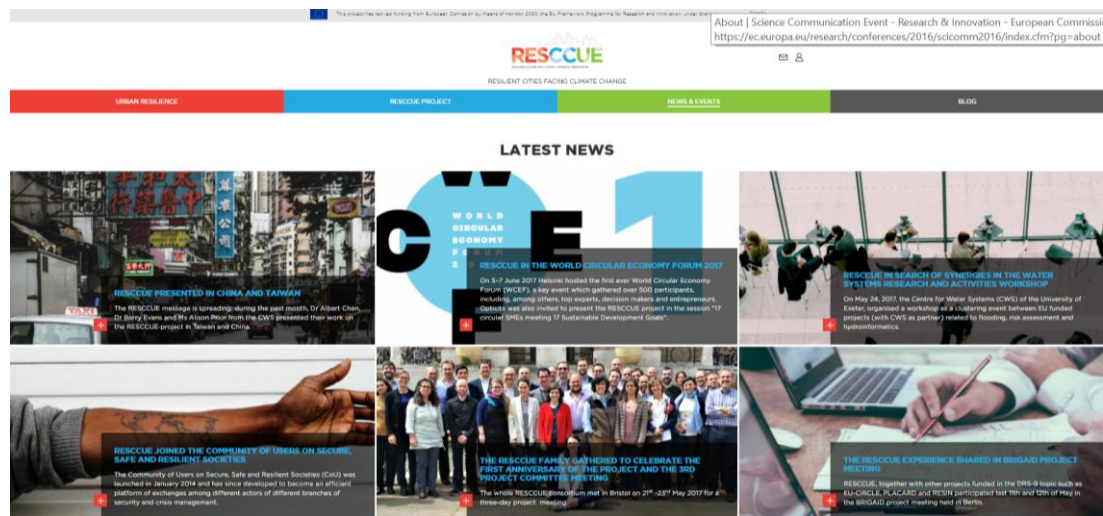
In the framework of RESCCUE, communication activities are understood as all those initiatives that are aimed to provide real-time information about the project. In other words, the objective of communication activities is to keep the audience updated, to sustain their interest in the project. This kind of activities can be both online and offline.

4.3.5.1.2.1 Online communication activities

Project website and blog

The RESCCUE website was launched by the end of the sixth month of the project, in November 2016. The RESCCUE website goes beyond a typical project website as it is aimed to be a 'reference portal of urban resilience'. Although in practice this is quite ambitious, some great work has already been done and a few more engagement activities are planned in order to attract new visitors to the website.

Regarding the visual aspect of the website, a card-based design has been chosen in order to create a reference to urban living. The homepage is 'built' of different blocks represented by impressive photographs. The idea was to create a sensation of city full of elements, colours and movement, to represent all kind of diversities that can be found in urban areas.



Talking about the content, the website is composed of **four main sections**: two of them contain a static content and the two other are dynamic ones, which means that are periodically updated. The following table provides the main characteristics of each of the website sections:

Section	Objective	Description	Type of content
Urban resilience	To introduce the concept of urban resilience to the audience without a specific knowledge of it.	A brief text provides a global vision on urbanisation, explains the challenges our cities are facing due to the climate change and presents the benefits of implementing urban resilience-focused measures.	Static.
RESCCUE project	To provide relevant information about the project.	This section explains the context the project, highlights its motivations, summarizes its main objectives, presents the methodology and the consortium and also includes the “downloads platform” in order to ensure the accessibility of project materials.	Static.
News and events	To present the most recent achievements and activities carried out in the framework of the project.	Three sub-sections can be found here: news, events and media.	Dynamic, with regular updates
Blog	To raise awareness on climate change and urban resilience and to present the RESCCUE project from	The RESCCUE blog is the most distinctive element of the website and the most powerful tool for creating engagement with new visitors. All the project partners	Dynamic, with regular updates every

	the perspective of different project partners.	collaborate by providing blog entries according to the RESCCUE blog schedule published in Basemap (see annexes).	two weeks
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Table 5 RESCCUE website structure

Social media

Twitter is the principal social media channel for RESCCUE communication. Cetaqua will tweet all the information related from its corporate account and the rest of the project partners are also encouraged to do so, always using the official hashtag of the project *#resccueEU*.

4.3.5.1.2.2 Offline communication activities

Newspapers

One of the main objectives of RESCCUE in terms of communication is to ensure a high media coverage in all research sites. The project seeks to appear in different kind of media channels in order to extend the impact. Several press releases were prepared during the first year of the project and at present RESCCUE counts with over 90 appearances in media, mostly in the ones centred on the water sector, such as *iAgua* or *Retema*.

4.3.5.2 Scientific dissemination

According to the definition given in the chapter 4.3.1.2 *Terms definition: global vs. local communication and dissemination*, the main goal of dissemination is to ensure the broadest possible impact of the RESCCUE project by transferring its achievements and results. When speaking about dissemination, it is usually referred, on the one hand, to the materials, such as scientific papers, posters, presentations and, on the other hand, to the activities, mainly events. In order to achieve an expected impact, all the RESCCUE partners during the lifetime of the project will disseminate principal outputs on these two routes mentioned above. In order to ensure an aligned, effective and efficient dissemination, some procedures and best practices guidelines have been established and are described subsequently.

4.3.5.2.1 Dissemination materials: procedures, guiding principles and authorship issues

In RESCCUE, any project partner can and it is supposed to disseminate project achievements and results in scientific journals, as long as it complies with procedures established and meets requirements.

Procedures

When deciding to submit any type of dissemination material, the essential first step is to communicate it to the whole consortium by **completing the Communication Sheet Form** and uploading it to the Basecamp, the project management platform, together with the abstract or paper. Once it is uploaded, project partners have three working days for providing comments and suggestions on it. If any comment is made, the publication is considered

validated. In the event that any project partner does not agree to this publication, the author must apply all the changes needed and start the procedure all over again as many times as necessary.

When the publication is accepted and published, the author is responsible for informing the consortium about it on Basecamp.

Requirements

All publications must provide a shared vision of the RESCCUE project and contain the following acknowledgement:

This project has received funding from European Commission by means of Horizon 2020, the EU Framework Programme for Research and Innovation, under Grant Agreement no. 700174

Authorship issues

These are the guiding principles regarding the authorship of RESCCUE dissemination materials:

- The first author should be that person who put most intellectual effort in writing the paper, is able to answer any scientific question about the paper and is also the one who will be responsible of its content and any possible mistake.
- The sequence of authors should be determined by the relative overall contributions to the publication.

In the case of conflicts related to the authorship issues, the final decision will be taken by PMT members.

4.3.5.2.2 Dissemination activities

4.3.5.2.2.1 Events

During the lifetime of the project each project partner will try to identify different events on both national and international levels where the RESCCUE project could be presented. In RESCCUE, any project partner can and is supposed to disseminate project achievements and results in the events, as long as it complies with procedures established and meets the following requirements.

Procedures

When deciding to present the RESCCUE Project in any type of event, as a first step it is essential to communicate it to the whole consortium using the WP7 channel in Basecamp. After the assistance to the event, the **Event Report template should be completed** and uploaded to the Basecamp. The Event Report template summarizes the main characteristics of the event and helps to get an idea of possible impact the RESCCUE project could have obtained.

Requirements

All presentations on the project must provide a shared vision of the RESCCUE project and contain the following acknowledgement:

This project has received funding from European Commission by means of Horizon 2020, the EU Framework Programme for Research and Innovation, under Grant Agreement no. 700174

In the case of conflicts related to the attendance to the events, the final decision will be taken by PMT members.

The following chart presents some events of 2017-2018 that may be of interest in dissemination of the project:

Event	When	Where	web
ICUD (International Conference on Urban Drainage) 2017	10-15/09/2017	Prague, Czech Republic	http://www.icud2017.org/
JIA (Jornadas de Ingeniería del Agua) 2017	25-26/10/2017	A Coruña, Spain	http://geama.org/jia2017/
100 Resilient Cities Global Summit	24-28/07/2017	New York	http://www.100resilientcities.org
7th International Conference on Building Resilience	27-29/11/2017	Bangkok, Thailand	http://www.buildresilience.org/2017/
International Conference on Infrastructure Resilience	14-16/02/2018	Zurich, Switzerland	http://resilienceconference.ethz.ch/details/#about
World Water Week	26-30/08/2017	Stockholm, Sweden	http://www.worldwaterweek.org/
UNFCCC COP 23	6-17/11/2017	Bonn, Germany	http://sdg.iisd.org/events/unfccc-cop-23/
ICGUR 2018 : 20th International Conference on Governance and Urban Resilience	21-22/09/ 2018	Amsterdam, The Netherlands	https://waset.org/conference/2018/09/amsterdam/ICGUR/home
IWA World Congress	16-21/09/2018	Tokyo, Japan	http://www.worldwatercongress.org/

Table 6 Potential Events where the RESCCUE project could be presented

4.3.5.2.2.2 Networking

Another important aspect regarding the dissemination activities is networking with other projects. During the first year, RESCCUE had the possibility to collaborate with different FP7 and H2020 projects which work on the topics related to climate change and urban resilience. The chart below provides the complete list of those projects:

Projects		
EU-CIRCLE	PLACARD	HELIX
PEARL	ESPRESSO	CASCEFF
DAIAD	STORM	CIPRNET
ANYWHERE	BEAWARE	FORTRESS
I-REACT	BRIGAD	PREDICT
RESIN	HERACLES	SNOWBALL
EU-CIRCLE	RISES-AM	RESILENS
CLISEL	IMPRESSIONS	

Table 7 Networking with other projects

As requested by the EC, a lot of efforts have been put in establishing synergies between the several projects of the same DRS9 call, which are PLACARD, EU-CIRCLE, RESIN and BRIGAD. A few common initiatives have already occurred and for sure there will be a lot more in the near future.

4.3.6 Implementation of communication and dissemination strategy

This chapter summarizes the implementation of RESCCUE communication and dissemination strategy and presents the way it will be monitored and evaluated.

4.3.6.1 General overview: schedule of communication and dissemination activities during the lifetime of the project

The following table provides the most important information regarding the implementation of all the communication and dissemination activities that will be carried out in the framework of the RESCCUE project.

Action	Description	Objective	Scheduled delivery date	Delivered	Lead beneficiary
Project branding : <ul style="list-style-type: none"> •Project logo •Colour schemes •Templates •Merchandising materials 	The logotype is the image that will identify the project. Based on it, templates for documents, reports and presentations will be created.	To achieve fast identification of the project through visual elements.	M3	M1	Cetaqua
Leaflet	A printed document that will overview project objectives and actions.	To introduce the project and bring it closer to its audience.	n	M6	Cetaqua
Website	A public image of the project and the meeting place for the participants.	The RESCCUE website is planned to become a reference portal of urban resilience.	M6	M6	Cetaqua
BLOG	To provide an experience platform for project partners, PAB members, key stakeholders and another actors involved.		n	M6	All project partners
Digital Press Room	Website section aimed to help the audience get deeper into the understanding of the project and to raise their awareness.		n	M6	All project partners
User Workspace for project members	A platform aimed to foster interactions among the partners, collect documentation, agreements, etc.		n	M2	Cetaqua and Aquatec
Gamification activities	An initiative aimed to help in the replicability of the general framework for resilience enhancement by training professionals and educating citizens.		n	in progress	Cetaqua

Action		Description	Objective	Scheduled delivery date	Delivered	Lead beneficiary
	Social media	The main objective of social media is to attract traffic to the website and to favour dialogue with the parties concerned. Twitter will be the most used channel and the use of other social networks will be evaluated.		n	M1	Cetaqua with the support of all project partners
	Video	An audiovisual communication tool that helps to make more effective the message meant to reach the target audience.	To promote and disseminate the project results in each case study	M48		Cetaqua
	Presentation event with stakeholders	An event that will be organized on the first year of the project where important local stakeholders will be invited.	To present the objectives and expected results, to bring stakeholders together and to provide them with a common platform to exchange knowledge.	First year of the project	M6 Barcelona; M12 Lisbon	Cetaqua and Aquatec
	Local workshops	During the last months of the project, one workshop will be held in each case study city.	To present the final results obtained during the project.	M30; M36; M42		Cetaqua

Action	Description	Objective	Scheduled delivery date	Delivered	Lead beneficiary
Final conference	The final conference will be held in Barcelona, in the Hospital de Sant Pau.	To exchange information and ideas with other case studies, to cross-benefit from one another, and to share methodologies, best practices and success stories.	M48		UN-Habitat, Cetaqua and Aquatec
Publications	General media	Media channels aimed to inform a broad audience.	M1-M48	in progress	All project partners
	Scientific articles	Specific media channels focused on one concrete subject.			
Participation in different conferences, workshops, etc	All the PP will identify possible events to disseminate the RESCCUE project.	To promote the project at local, national and European levels.	M1-M48	in progress	All project partners
Short Film	A short video film on the RESCCUE project will be produced.	To raise public awareness actions among different target groups.	n	n	Lisbon City Council
3D learning materials	It will include graphic design materials as well as 3D images.	The main aim is to educate children in the Basic System of Education in the Municipality of Lisbon.	n	n	Lisbon City Council

Table 8 Schedule of communication and dissemination activities

4.3.6.2 Monitoring and impact measurement

All the communication and dissemination activities will be monitored and measured according to the indicators set in order to provide an evaluation of its effectiveness and to examine the impact of the RESCCUE project. For this purpose, WP7 created a database for registering and monitoring of such activities. Each project partner is responsible for providing information about any communication or dissemination activity carried out by completing Communication Sheet and Event Report forms and it is the responsibility of WP7 to include that information into the database and to provide summaries and evaluation periodically during the PMT and PC Meetings.

Action	Output Indicators	Result Indicators	M15	M30	M48
Project branding : <ul style="list-style-type: none"> •Project logo •Colour schemes •Templates •Merchandising materials 	Logotype and number of templates	1 logotype and 9 different templates	1 logotype and 9 different templates		
Leaflet	Number of leaflets designed and copies printed	2 leaflets, 600 copies each one	1 leaflet with 1200 copies printed		
Website	Average number of visits per month	300	350-400		
BLOG	Number of blog entries per month	2	2		
Digital Press Room	Average number of publications per month	3	3		
User Workspace for project members (Basecamp)	n	n	n		
Gamification activities	to be defined	to be defined	n		
Social media	Number of tweets and mentions per year	100	208		

Video	number of views on Youtube	1500	n		
Presentation event with stakeholders	number of attendees and appearances in the media	50 attendees and 2 articles in general media	Barcelona: 53 attendees and 5 appearances in the media; Lisbon: 90 attendees and 5 appearances in the media		
Local workshops	number of attendees and appearances in the media	50 attendees and 2 articles in general media	n		
Final conference	number of attendees and appearances in the media	100 attendees and 5 articles in general media	n		
Publication of articles	Number of articles published in general media	150	86		
	Number of submission of papers	Submission of 10 papers	0		
Participation in different conferences, workshops, etc	Number of presentation in events	15 local and 28 international conferences	6 local and 16 international conferences		
Short Film	To be defined				
3D learning materials	To be defined				

Table 9 Evaluation of communication and dissemination activities

4.4 Potential risks and barriers to successful communication and dissemination

The following chapter summarizes potential risks and barriers to be taken into the account regarding RESCCUE communication and dissemination. The content of the following table was previously included in the Contingency Plan of the deliverable D8.3.

Description of risk	Proposed risk-mitigation measures	Contingency Plan
Lack of visibility of project achievements	The effectiveness of dissemination activities will be constantly monitored and additional channels of dissemination will be used if necessary. Promotional materials will be developed to adequately address the target groups of RESCCUE. A dissemination plan will be developed and the dissemination and communication activities will be monitored regularly in order to assess whether any changes need to be implemented.	If the consortium detects that the effectiveness of the dissemination activities is lower than expected, other dissemination actions will be emphasised (e.g., news in local media, engaging with other educational networks) to increase the project activities' visibility.
Low impact of the project on local communities	RESCCUE, being a project built around three research sites, has to be communicated not only globally, but also locally. It means that the citizens of Barcelona, Bristol and Lisbon have to be informed about the project their city forms part as well as about its potential benefits.	In case of lack of local-level communication activities, WP7 will seek support from the City Councils in order to implement the most appropriate communication activities for each city.
Decreasing website visits	The number of visits to the RESCCUE website reflects the engagement with the project. In particular, the objective is to convert new visitors into returning ones and in this way to build a strong community interested in climate change and urban resilience topics.	In case of decreasing website visits, new social media channels will be looked for in order to attract the visitors to the website. Also, it will be considered to publish different kind of contents (related external news and links, funny facts, etc) which could interest wider audience.
The consortium does not contribute to the RESCCUE blog	The RESCCUE blog was born as a potential communication tool to raise awareness among climate change and urban resilience. The idea is to publish a new blog post twice a month, so this way each of the 18 project partners is asked to provide one blog article once in 9 months.	In case of low involvement in the RESCCUE blog activities, the format of the blog posts will be modified (more videos, interviews, videos, etc.), which means greater involvement of the communication team in order to minimize the effort required from the project partners.

Table 10 Potential risks and barriers to successful communication and dissemination

4.4 Conclusions

As stated at the very beginning of the chapter 4, C&D Plan is the reference document regarding all the communication and dissemination issues of the RESCCUE project.



The most important part of this Plan is project communication and dissemination strategy aimed to be implemented during the lifetime of the project.

The strategy is built under four key questions: WHY, WHAT, TO WHOM and HOW. All these aspects are explained in an exhaustive manner in this deliverable.

Finally, the last chapter answers also to the question WHAT IF by providing a contingency plan of potential risks related to project communication and dissemination. As remarked previously, RESCCUE communication and dissemination strategy is flexible assuming that the main aim of communication is to respond to the real-time needs.

5 Exploitation Plan

According to the European Commission, exploitation can be defined as: the utilisation of results in further research activities other than those covered by the action concerned, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardisation activities.

It is worth noting that this D7.4 has been done in parallel with D7.3 – Business Plan. This Business Plan presented in D7.3 will provide a description of the marketable outputs, a market study, and the business model for some of the marketable results of the project and the business projections.

Consequently, the purpose of the Exploitation Plan presented in this D7.4 is:

- to ensure the use of the results for scientific, societal or economic purposes; by recognising the exploitable results and their stakeholders.
- to concretise the value and impact of the R&I activity for societal challenges.

The plan must facilitate the common understanding of the aims of the exploitation activities, and assure that the dissemination and exploitation does not interfere with the IPR management, but serve it. In this sense, the exploitation of the results of RESCCUE project has been defined in coordination with an exhaustive protection of the **intellectual property** of both the background of project partners and the foreground results expected.

Moreover, the Exploitation Plan is designed to promote the adoption of the project solutions after its termination. In fact, it represents a key tool in order to take advantage in an effective and planned way of the dissemination channels to be used within the project, avoiding improvisation and over expenditures. Accordingly, it complements the business plans presented in D7.3 and presents a rough exploitation roadmap of the results (covering not only the length of the project but also the exploitation activities after the presentation of final results).

Following the recommendations of the European Commission, an effective Exploitation Plan must reflect the following issues:

- Different types of exploitable results (knowledge, methods, agreements, networks, technologies) are clearly identified and their direct and indirect value and impact for different stakeholders are considered
- The barriers and risks for exploitation (actual use of the results after project funding) are recognised and countered with appropriate measures
- Describes concrete measures to ensure that the results meet real needs, and will be taken up by potential users (e.g. engaging them in project)
- Describes the roles and responsibilities of partners in exploiting results or supporting results exploitation by other (intermediate or end) users
- Exploitation and IPR management must be reported quantitatively and qualitatively, including: patent applications, licenses, copyrighted/copyleft material, registered designs, etc.

In particular, in this deliverable these several issues have addressed in sections 3 and 4, where the several results have been presented and the dissemination plan has been described, and following, sections 5.1, 5.2, 5.3 and 5.4 will be focusing on the Partner's obligations, the Intellectual property, the Finance requirements and the Exploitation strategies and commercial opportunities of the RESCCUE results.

5.1 Partner's obligations

Project partners can exploit results themselves, or facilitate exploitation by others (e.g. through making results available under open licenses).

In the Grant Agreement (GA) of RESCCUE project (GA nº 700174) article 28 deals with the topic of exploitation of results. This is an extract of the article:

ARTICLE 28 — EXPLOITATION OF RESULTS

28.1 Obligation to exploit the results

Each beneficiary must — up to four years after the period set out in Article 3 — take measures aiming to ensure 'exploitation' of its results (either directly or indirectly, in particular through transfer or licensing; see Article 30) by:

- (a) using them in further research activities (outside the action);
- (b) developing, creating or marketing a product or process;
- (c) creating and providing a service, or
- (d) using them in standardisation activities.

This does not change the security obligations in Article 37, which still apply.

28.2 Results that could contribute to European or international standards — Information on EU funding

If results are incorporated in a standard, the beneficiary concerned must — unless the Agency requests or agrees otherwise or unless it is impossible — ask the standardisation body to include the following statement in (information related to) the standard: "Results incorporated in this standard received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 700174".

28.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced in accordance with Article 43. Such a breach may also lead to any of the other measures described in Chapter 6.

5.2 Intellectual property

As commented, Intellectual Property Rights (IPR) issues are a key topic in research projects like RESCCUE. According to the IP Guide in H2020 (European IRP Helpdesk, 2014) proper management and protection of knowledge and know-how of the project should be done in order to:

- ✓ Disclose knowledge and ideas safely
- ✓ Prove the ownership
- ✓ Profit from commercial exploitation
- ✓ Prevent or discourage its unauthorized use by others

According to the definition included in the Consortium Agreement (CA) of RESCCUE project, **Intellectual Property Rights (IPR)** involves: patents, patent applications and other statutory rights in inventions; copyrights (including without limitation copyrights in Software); registered design rights, applications for registered design rights, unregistered design rights and other statutory rights in designs; and other similar or equivalent forms of statutory protection, wherever in the world arising or available, but excluding rights in Confidential Information and/or trade secrets.

The Consortium Agreement is the contractual document of EU-funded projects that sets out the legal basis for the share of rights, obligations and responsibilities related to the implementation of the project among the beneficiaries themselves and it is signed before the signature of the Grant Agreement. Defining central management principles and guidelines for all partners, the CA is a powerful management tool and an essential cornerstone for the successful execution and exploitation of the project. It is the place to further define, specify and agree on relevant IP arrangements which have already been taken into consideration at the proposal stage. It is purely an internal agreement between project partners, the European Commission does not intervene in the negotiation of the CA nor does it check its content. Yet, all arrangements laid down in the CA including those related to IP must comply with the overall provisions provided in the GA.

Key topics included in IPR clauses of the Consortium Agreement include:

- Knowledge management
- Confidentiality: mechanisms for marking information as confidential, use of confidential information, penalties for a breach of confidentiality provisions, etc.
- Background: a list of background to be brought to the project (and/or exclusion of assets which will not be brought to the project)
- Ownership and transfer of ownership of results: management of the ownership of the results developed in the project, including possible joint ownership and transfer of ownership
- Protection of results: mechanisms; costs sharing; etc.
- Exploitation
- Dissemination
- Access rights: scope, conditions, time limits, etc.
- Settlement of disputes

Finally, proper IPR management does not stop with the official ending of the project contract. Quite the contrary, measures to ensure the exploitation of results must be performed up to

four years after the project. Apart from this general requirement of participants to actively engage in the use of their results beyond the project actual lifetime, certain rights and obligations related to IPR remain in force, such as:

- Confidentiality obligations
- Provisions concerning the transfer of results
- Obligations to protect results capable of commercial exploitation
- Notification to the EC, when deciding to stop protection or not to seek extension
- Right of participants to request access rights

5.2.1. Background and results in RESCCUE project

While the results (foreground) expected from RESCCUE project have been already identified in the previous section 3 (Identification of key results of the project), the background was previously defined in the early stages of the project development, specifically during the elaboration of the Consortium Agreement. Consequently, the background provided by each partner was declared in the Attachment 1A of the Consortium Agreement signed in May 2016.

Background means any and all, data, information, know-how IPRs that is/are:

- (i) owned or Controlled by a Party prior to the Effective Date; or
- (ii) developed or acquired by a Party independently from the work in the Action even if in parallel with the performance of the Action, but solely to the extent that such data, information, know-how and/or IPRs are introduced into the Action by the owning Party

The following table summarizes the background declared by each partner. For more information please refer to the Consortium Agreement.

Partner	Background included	Implementation limitations	Exploitation limitations
Aquatec	<ul style="list-style-type: none"> -Model data and results from previous research projects -Flood depth damage curves from CORFU project -COWAMA software: early warning system for coastal water management -Early warning system software for flooding prevention based on radar rainfall data 	Just for use in the framework of RESCCUE project under Aquatec's permission	Just for use in the framework of RESCCUE project under Aquatec's permission
CETaqua	<ul style="list-style-type: none"> -Results from CORFU project: direct damage assessment methodology -Results from PEARL project: methodology to assess indirect damages caused by flooding events -Results from BINGO project: methodology to assess the indirect impacts of combined sewer overflows (CSOs) -Results from Water Change project: methodology and tool to assess the impacts of climate change on water availability -Results from PREPARED project: multicriteria method for adaptation measures assessment and SUDS knowledge base -Results from IMPREX project: simulation tools to aid in decision making of water operators -Results from EUPORIAS project: methodology and prototype to integrate season climate predictions in decision making (dam management, water demand management). 	Just for use in the framework of RESCCUE project under Cetaqua's permission	Just for use in the framework of RESCCUE project under Cetaqua's permission
FIC	<ul style="list-style-type: none"> -FICLIMA: statistical downscaling tool to produce future scenarios -Weather forecasting systems for the short and medium range (up to 10 days) and for the long term (up to 60 days). 	Just for use in the framework of RESCCUE project	The exploitation of this Background after the end of the project will be conditioned to the fulfilment of FIC's property rights.
Opticits	<ul style="list-style-type: none"> -Hazur Assessment software tool -Hazur Manager Basic software tool 	Just for use in the framework of RESCCUE project by project partners	Access to HAZUR trademark and the products HAZUR Assessment and HAZUR Manager are subject to legal restrictions or limits, including those imposed by the rights of third parties.



RESILIENCE TO COPE WITH CLIMATE CHANGE IN URBAN AREAS.

UNIEXE	None	-	-
LNEC	None	-	-
Barcelona CC	<ul style="list-style-type: none"> -Resilience model based on governance measures, tools and mechanisms to build a resilience strategy for the city of Barcelona -Resilience Boards Working methodology -Resilience platform -Municipal database -Datasets already available in the platform - Situation Room Consultation Web service -Situation Room functional modules - Resilience and Climate Change Adaptation Plan and vulnerability assessment and mapping of Climate Change impacts -Sewerage Master Plan of Barcelona (2006) 	They can be exclusively used in the framework of RESCCUE project under BARCELONA CC's permission, excluding uses that can entail economic benefits for other parties.	They can be exclusively used in the framework of RESCCUE project under BARCELONA CC's permission, excluding uses that can entail economic benefits for other parties.
IREC	None	-	-
UNHABITAT	None	-	-
Endesa	<ul style="list-style-type: none"> -Knowledge, information and IPRSs owned by Endesa Distribución or its affiliates in the field of demand side management on electrical distribution networks - Data, guides and software applications related to the description, operation and maintenance of distribution networks - Knowledge and data related to the customers which are either confidential or concern ENDESA strategy -Internal procedures and technical guidelines of ENDESA DISTRIBUCIÓN or of its Affiliates -Background technology in the field of smart metering and demand side management -Background technology in the field of smart metering and demand side management Public Lighting, Energy Efficiency, Public Energy Asset Management and Secondary substation security -Data, guides or software applications related to the description, design, normalization, planning, operation or maintenance -Developments and algorithms, as well as technical designs, functional design, information architecture and graphic design for the service layer made on the system EMS, EMMS Platforms 	They can be exclusively used in the framework of RESCCUE project under Endesa's permission.	They can be exclusively used in the framework of RESCCUE project under Endesa's permission.



RESILIENCE TO COPE WITH CLIMATE CHANGE IN URBAN AREAS.

	-Hardware and software element that responds to web and mobile applications with customer interaction and the databases of historical information, information of real-time data and system configuration included in the Multiservice Platform.		
CML	<ul style="list-style-type: none"> - Municipal database - Resilience and Climate Change Adaptation Plan “Estratégia Municipal de Adaptação às Alterações Climática” - Master Plan of Lisboa (2012) - U-SCORE project report - Lisbon’s Resilience Action Plan Report 	Just for use in the framework of RESCCUE project under CML permission	Just for use in the framework of RESCCUE project under CML permission
EDP	None	-	-
Hidra	None	-	-
Bristol CC	None	-	-
SASUK	None	-	-
UrbanDNA	None	-	-
AdP	<ul style="list-style-type: none"> -Software platform for collection of on-line data from flow meters and rain meters of Lisbon case study - Software platform Aquasafe for collection of on-line data from flow meters and rain meters, and weather, sewage and Tagus estuary model integration of Lisbon case study - Data from flow and rain meters of Lisbon case study 	The access to the on-line data of flow and rain meters of Lisbon case study from Águas de Portugal and third party EPAL is restricted to the project Resccue period	The access to the on-line data of flow and rain meters of Lisbon case study from Águas de Portugal and third party EPAL is restricted to the project Resccue period
EIVP	None	-	-

5.2.2. IPR agreement

As commented, the IPR Agreement has been established through the signature of the Consortium Agreement. The following is thus an extract of the CA clauses dealing with IPR issues.

“Section 8: Results

8.1. Ownership of Results

Results shall be owned by the Party that generates such Results.

8.2. Joint ownership

Resulting from Article 26.2 of the Grant Agreement, two or more Parties shall own Results, if they have jointly generated them, in proportion to their intellectual and material participation.

In the case it is not possible to establish the respective contribution of each Party or separate them for the purpose of applying for, obtaining or maintaining their protection, the ownership will be shared equally.

The other provisions of Article 26.2 of the Grant Agreement shall not apply. Instead, this Section 8.2 shall apply. However, the joint owners shall nevertheless be at liberty to agree in writing something different to this Section 8.2, so long as such different agreement does not adversely affect the Access Rights or other rights of the other Parties provided under the GA or this CA. Unless otherwise agreed by the joint owners, each joint owner shall have an equal, undivided interest in and to a joint Result as well as in and to resulting Intellectual Property Rights in all countries.

Unless otherwise agreed by the joint owners, each of the joint owners and their Affiliated Entities shall be entitled to exploit the jointly owned Result as they see fit, and shall be entitled to grant non-exclusive licences, without obtaining any consent from, paying compensation to, or otherwise accounting to any other joint owner(s).

Each joint owner of Intellectual Property Rights protecting such jointly owned Result shall have the right to bring an action for infringement of any such jointly owned Intellectual Property Rights only with the consent of the other joint owner(s). Such consent may only be withheld by another joint owner who demonstrates that the proposed infringement action would be prejudicial to its commercial interests.

The joint owners shall agree on all protection measures and the division of related costs in advance of any such protection measures being undertaken by any of the joint owners.

8.3. Transfer of Results

8.3.1 Each Party may transfer ownership of its own Results (including without limitation its share in Results that it owns jointly with another Party or Parties and all rights and obligations attached to such Results) to any of its Affiliated Entities without notification to any other Party.

8.3.2 Each Party may identify in Attachment 3 to this CA specific third party(ies) if it intends to transfer the ownership of any of its own Results. Each Party may transfer ownership of its own Results (including without limitation its share in Results that it owns jointly with another Party or

Parties and all rights and obligations attaching to it) to any third party(ies) it identified in Attachment 3 without notification to any other Party. The transferring Party shall, however, upon another Party's request, inform the requesting Party of such transfer. During the implementation of the Action, any Party may add any further third party to Attachment 3 by providing written notice to the Coordinator within a reasonable period prior to a transfer to such further third party becoming effective.

8.3.3 The Parties hereby agree that in the framework of a merger or an acquisition, which, for the sake of clarity, shall mean to include any assignment of ownership of any of the Parties' Results, no notification of intended transfer of ownership need be given, due to confidentiality obligations arising from national and/or community laws or regulations, for as long as such confidentiality obligations are in effect and/or for as long as such notice is prohibited under applicable EU and/or national laws on mergers and acquisitions.

8.3.4 Any transfer of ownership of Results made under this Section 8.3 shall be made subject to the Access Rights, the rights to obtain Access Rights and the right to Disseminate Results that are granted to the other Parties and their Affiliated Entities in the GA and/or this CA. Therefore, each transferor shall use reasonable efforts to ensure that such transfer does not prejudice such rights of the other Parties or their Affiliated Entities, and the transferor shall pass on its obligations regarding the transferred Results to the transferee, including the obligation to pass them on to any subsequent transferee. The obligations under this Section 8.3 apply for as long as other Parties have - or may request - Access Rights to Results, as provided in Section 9 of this CA.

Each Party hereby waives any right to prior notification and to object to any transfer that is made in compliance with this Section 8.3."

5.2.3. Patents

Any patent resulting from RESCCUE project results has not been identified so far.

5.3 Finance requirements

One of the requests of the DRS9 call, was to strengthen complementarity with other EU funding mechanisms, and particularly with the European Structural and Investment Funds. This clearly shows the importance of analysing the several financing opportunities that can be used to increase the exploitation of the RESCCUE results.

In this section, the context of the financing framework for RESCCUE is presented, together with a description of the ESIF and EFSI funds, which are the main tools that can be used for this case.

5.3.1 Financing for CAA and DRR

The RESCCUE Project aims to assess urban resilience from a multisectorial approach, for both current and future climate change scenarios and including multiple hazards. Therefore, the project deals with two concepts that although have a lot of similarities, they are often dealt with in a completely isolated way. These two concepts are disaster risk reduction (DRR) and climate change adaptation (CCA). The first one focuses on current risks of all kinds, whereas

the second puts the efforts in adapting the future risks which are related to climate. The several commonalities and differences can be seen in Figure 4.

Although their scopes are different, the priorities of the agendas of both DRR and CCA include reducing vulnerability and enhancing resilience, which means that it makes sense to simultaneously benefit from risk reduction and adaption measures². As such, DRR must not only manage current climate variability, but it must also take account of future risks that are associated with climate change³.

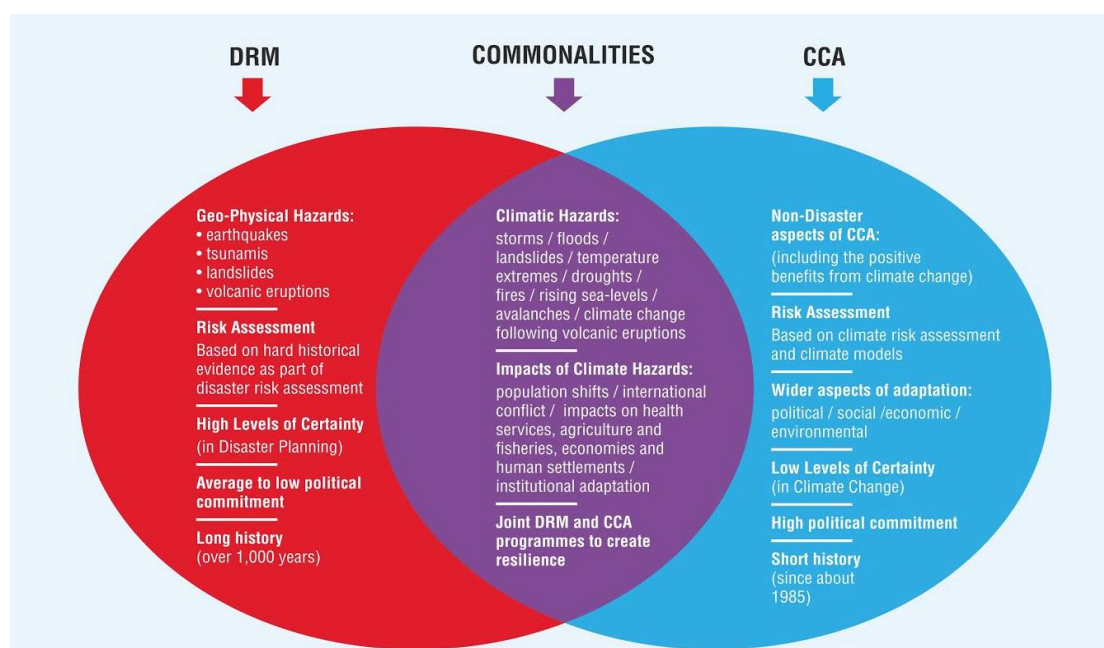


Figure 4 Differences and commonalities of Disaster Risk Reduction (or Management - DRM) and Climate Change Adaptation. Source: Ian Davis via PLACARD Project

Over the last few years, there have been several initiatives to bring together the communities of DRR and CCA, in order to seek for the evident synergies of implementing robust strategies now, which can also be valid in an uncertain future.

This is precisely the main goal of the PLACARD Project, another H2020 – DRS9 Project that aims to provide a common space where CCA and DRR communities can come together, share experiences and create opportunities for collaboration.

²Begum, R.A., Sarkar, S.K., Jaafar, A.H and Pereira J.J., 2014 Toward conceptual frameworks for linking disaster risk reduction and climate change adaptation, International Journal of Disaster Risk Reduction, Volume 10, 2014, Pages 362-373.

³ Mitchell, T. and Aalst, M., 2008 Convergence of Disaster Risk Reduction and Climate Change Adaptation. A review for DFID. London.

The programme will establish a comprehensive coordination and knowledge exchange platform for multi-stakeholder dialogue and consultation to address gaps and fragmentation challenges, and support the development and implementation of an evidence base for research and innovation policies (Figure 5).

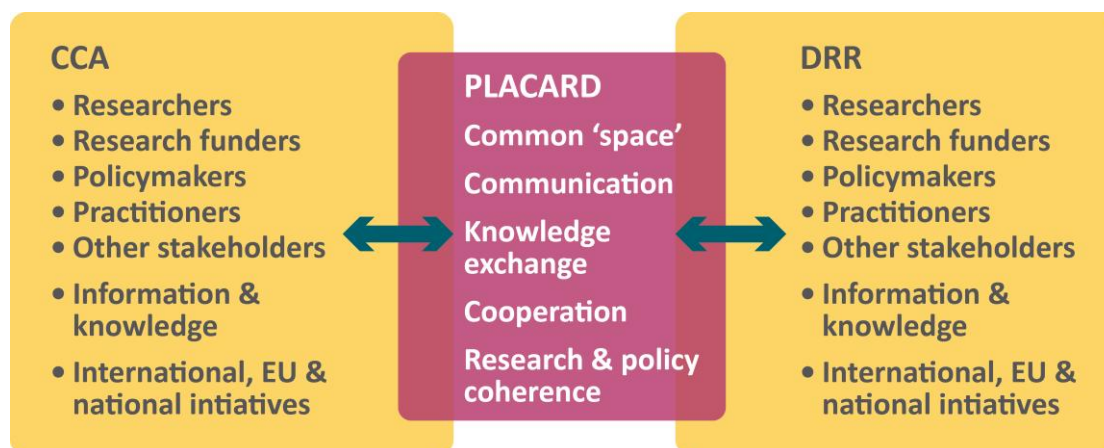


Figure 5 Goals of the PLACARD Project, bridging the gap between the CCA and DRR communities.

One of the important topics that have been dealt very differently in both frameworks, are the financing issues. On one hand, CCA did not start to receive specific funds until very recently whereas sources of finance for reducing disaster risk have existed from long time ago, but they are varied and complex⁴ (Figure 6). This, together with the profound economic and finance crisis in which we have been immersed the last few years, have worsened the situation and this is why very recently, new joint initiatives tackling both DRR and CCA are starting to appear.

The global economic and financial crisis has brought about a sharp drop of investment across Europe thus hampering essential investment in infrastructure and innovation. Currently, investment in Europe is 15% below pre-crisis levels⁵. Europe must remedy this investment gap to recover from the crisis and strengthen its global competitiveness. That is why collective and coordinated efforts at European level are needed to reverse this downward trend and put Europe on the path of economic recovery.

While adaptation to climate change will require broader activities than DRR, similar activities are often undertaken. Climate finance will not, however, go far enough in supporting non-climate related disaster risk, meaning funding mechanisms to address these will remain necessary. The overlaps in both goals and their concepts mean that ensuring efficiency and complementarity in financing is necessary despite the separate evolution of the climate change adaptation and DRR agendas.

⁴ Finance for reducing disaster risk: 10 things to know, 2015 Overseas Development Institute, Climate & Environment Programme, UNDP. UK.

⁵ EC 2015 Brochure on ESIF/EFSI complementarities: EGESIF_15-0032-00

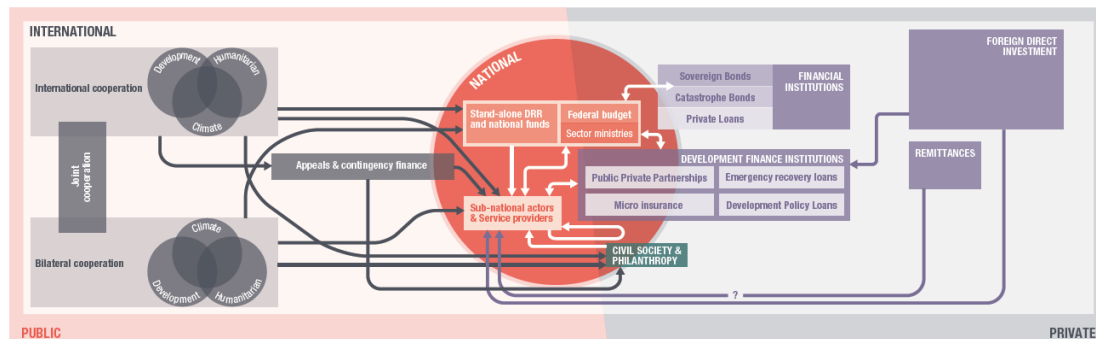


Figure 6 Scheme presenting the complexity of DRR funding schemes. Source: UNDP, ODI, 2015.

Finance for climate change adaptation is being directed to build resilience to extreme climate events. Between 2003 and 2014, \$2.1 billion of concessional finance flowed through dedicated climate change adaptation funds. Of this, only \$369 million has explicitly gone towards DRR activities, focused on early warning systems, coastal infrastructure, building resilience to climate related hazards, information systems and capacity building. Consequently, the DRR component of total adaptation finance is likely to be a much greater portion.

This climate finance for DRR includes funds channelled through financial mechanisms of the United Nations Framework Convention on Climate Change (UNFCCC). These include the Adaptation Fund, the Global Environment Facility administered Least Developed Countries Fund and the Special Climate Change Fund, as well as those outside of the UNFCCC process, such as the Pilot Programme for Climate Resilience, which is part of the World Bank's Climate Investment Funds.

The EU finances CCA in Europe through a wide range of instruments, aligned with the Europe 2020 Strategy towards smart, sustainable and inclusive growth⁶. The Multiannual Financial Framework 2014-2020 will ensure that at least 20% of the European budget is climate-related expenditure. Other funding opportunities can also be found via the work of the European Investment Bank (EIB) or the European Bank for Reconstruction and Development.

Climate change adaptation is integrated throughout EU sectorial policies, using, on one hand, the five European Structural and Investment Funds (ESI Funds or ESIF): the European Regional Development Fund (ERDF), European Social Fund (ESF), Cohesion Fund (CF), European Agricultural Fund for Rural Development (EAFRD), and European Maritime and Fisheries Fund (EMFF).

⁶ EC Adaptation to Climate Change website:
https://ec.europa.eu/clima/policies/adaptation/financing_es

On the other hand, other instruments exist, such as Horizon 2020 that will promote research and development on climate change adaptation, the LIFE instrument which finances a wide range of projects related to environment and climate mitigation and adaptation, or the EU Solidarity Fund for natural disasters.

Finally, climate adaptation is integrated into funding and loans by the European Investment Bank and the European Bank for Reconstruction and Development, and is a major issue for insurance and other cross-cutting issues in the private sector.

Amongst all these different funding mechanisms, entities and different programmes, in Europe and with regards to the RESCCUE Project, it is worth noting the importance of EFSI and ESIF. In the next few years, these two funds will invest side-by-side in Member States and their regions. They are both set to play an essential role in the delivery of European policy objectives in the near future. While rationale, design, legislative framework and timeframe for implementation are different, there is considerable scope for maximising synergies and complementarities for additional investments.

5.3.2 European Fund for Strategic Investments

The European Fund for Strategic Investments (EFSI) is an initiative to help overcome the current investment gap in the EU. Jointly launched by the EIB Group and the European Commission, it aims to mobilise private investment in projects which are strategically important for the EU. It is helping to finance infrastructure and innovation projects as well as small and medium-sized enterprises (SMEs) and mid-cap companies.

Mobilisation of private capital is a key feature of the EFSI. With EFSI support, the EIB Group will provide funding for economically viable projects, including projects with a higher risk profile than ordinary EIB activities. Emphasis will be put on key sectors identified under Art. 9 of the EFSI Regulation. Therefore, focus will among others be placed on: (i) transport, energy and the digital economy; (ii) environment and resource efficiency; (iii) human capital, culture and health; (iv) research, development and innovation; (v) support to SMEs and mid-caps. EFSI financial products will mainly be loans, guarantees and equity investments.

EFSI has no geographical or sectorial allocation or quotas; however, the Steering Board will establish indicative sectorial and geographical concentration limits. EFSI is demand driven and will provide support for projects across the EU, including cross-border projects. Projects will be considered and appraised based on individual merits.



Figure 7 Map of the EFSI funded projects since 2015 the launch of the programme (as of 15/06/17). The investment plan is already showing results with various projects across sectors and countries. Over 250 investment projects have been financed over Europe (Figure 7), which imply an investment of 39 billion €, and have a related total investment related to EFSI of 209 billion € (Figure 8). More information and details of all this can be found the EIB website, on the EFSI section: <http://www.eib.org/efsi/>

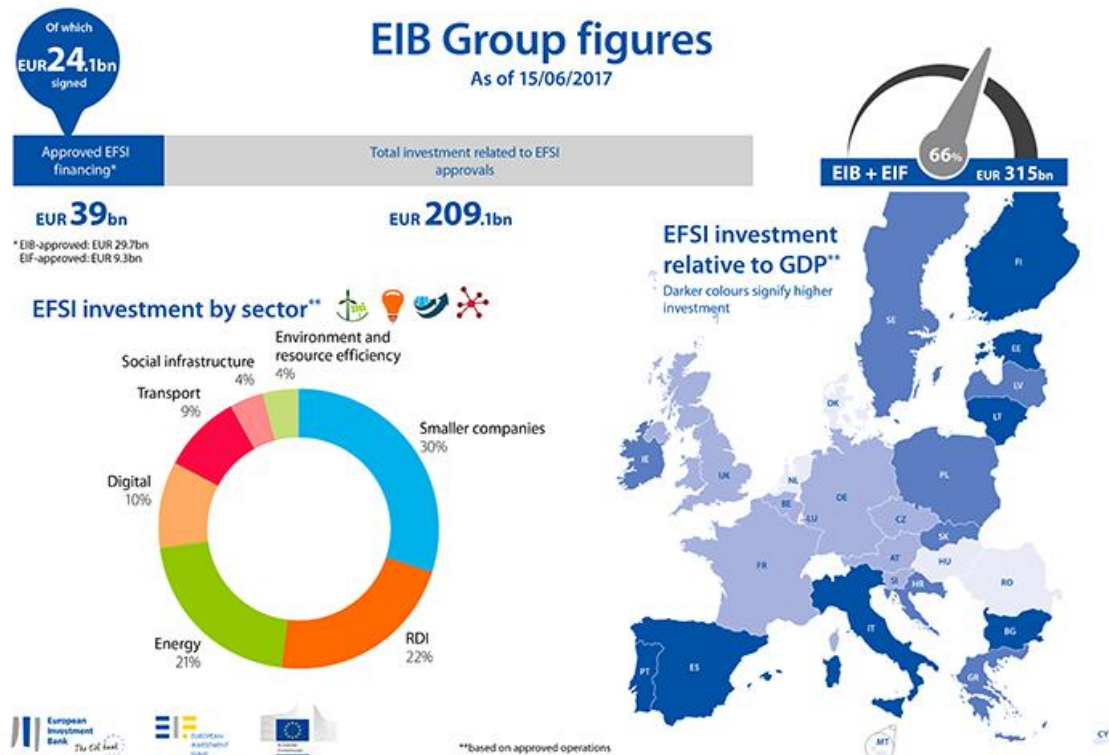


Figure 8 Summary of the EFSI investments since it was launched (as of 15/06/17).

5.3.3 European Structural and Investment Funds

As stated earlier, the European Structural and Investment Funds (ESIF) is a common designation for five European funds: the European Regional Development Fund, the European

Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund, which operate under a common framework.

ESIF aims to provide 450 billion € of funding over the 2014-2020 period, allocated to Member States and delivered through nationally co-financed multiannual programmes to develop and support actions related to the key Union priorities of smart, sustainable and inclusive growth in line with the objectives of each Fund.

National co-financing constitutes an integral and obligatory part of these programme resources and is covered by a common set of rules applicable to all ESI Funds and further defined under Fund-specific provisions. ESIF programmes are approved by the Commission and implemented by Member States and their regions under shared management. It is therefore the ultimate decision of managing authorities in Member States where and how funds are invested at project level within the framework of the relevant programme setting out the specific objectives, results to be achieved and types of action to deliver them.

ESIF programme support is mainly delivered either in the form of grants or through financial instruments in the form of loans, guarantees and equity investments.

ESIF programmes support focuses on 11 thematic objectives. From those, RESCCUE is specifically aligned with priorities 1 (strengthening research, technological development and innovation), 5 (Promoting climate change adaptation, risk prevention and management) and 11 (Enhancing institutional capacity of public authorities and stakeholders and efficient public administration) concerning the thematic objectives of the 2014-2020 European Structural and Investment Funds (ESIF) programme.

This will enable RESCCUE to support activation of downstream funding for solutions developed at the research sites, e.g. by analysing and monitoring opportunities arising from the EU structural funds programmes and Smart Specialisation Strategies 2014-2020 at the national and regional level. A lot of information about these funds can be found online in the EC website related to the ESIF⁷.

On the EC open data portal⁸ there is a specific section about the ESIF, where all the statistics can be found. As an example, it can be found that Spain, through 64 national and regional programmes, benefits from ESIF funding of 37.4 billion € representing an average of 804 € per person over the period 2014-2020. A summary of the budget per theme and for each fund can be seen in Figure 9.

So far, 323 Spanish SMEs have been supported by the ESIF funding schemes. Information of this and all the national and regional programmes are available in this page: <https://cohesiondata.ec.europa.eu/countries/ES>, which is the easiest way to navigate

⁷ <https://ec.europa.eu/info/funding-tenders/european-structural-and-investment-funds>

⁸ <https://cohesiondata.ec.europa.eu/>

through these network of funds and easily identify ways to finance and upscale the results of a project such as RESCCUE.

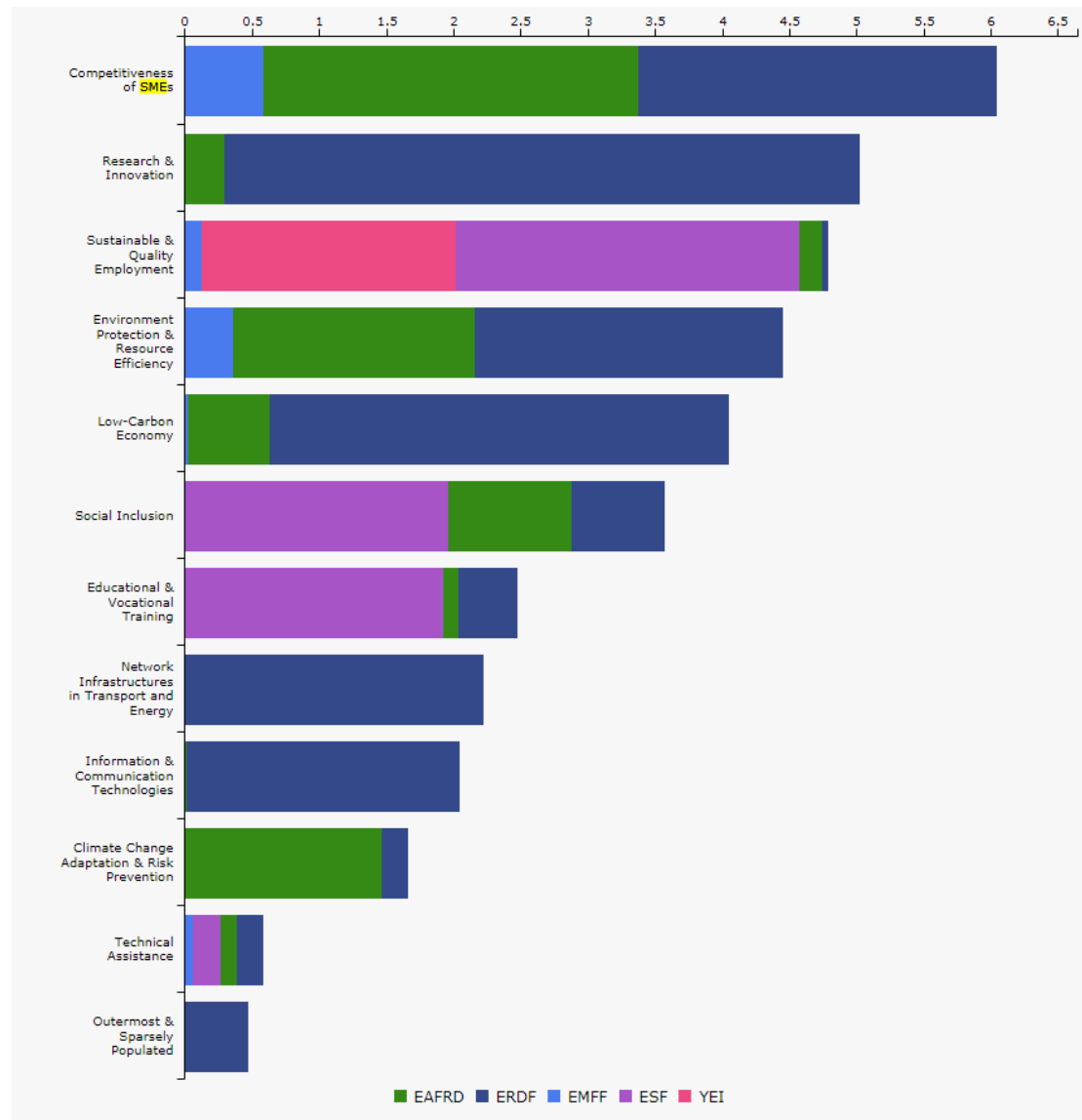


Figure 9 Summary of Spanish ESIF funds by Theme (in billion €)

5.4 Exploitation strategies and commercial opportunities

As presented in the EC factsheet “The Plan for the Exploitation and Dissemination of Results in Horizon 2020”⁹, a comprehensive exploitation plan must show the link between the proposed dissemination and exploitation measures and the expected impact of the project.

This is why an exploitation plan should contain exploitation and dissemination measures to be implemented both during and after the project. Exploitation and dissemination measures should address potential end-users and uses of the results that will be generated. Such measures could include for example research activities, commercial exploitation activities, standardisation, skills and educational training, and policy making.

As presented in Table 1, there is a wide variety of results that will be produced within the RESCCUE Project. As it can be seen, some of them could be commercialized but some other couldn't. However, both of them should be either disseminated or exploited.

Proper exploitation of results allows to profit from marketing and commercialisation of the intellectual assets acquired during the project (more details of some of the RESCCUE detailed business plans can be seen in D7.3). The successful implementation of exploitation measures must be based on a structured and targeted strategy already presented at the very beginning and further adjusted through the execution of your project¹⁰. However, given the fact that in many cases the majority of the expected results are available towards the end of the project and exploitation obligations remain in force up to four years after the project end, the concluding phase of the project is particularly important for the actual implementation of exploitation measures. This is why this D7.4 is a first version of the Dissemination and Exploitation Plan, which will be further updated on M30 and M48.

The knowledge resulting from publicly funded research activities such as RESCCUE should turn into socio-economic benefits. This can be achieved in different ways, not only through direct commercialisation tools, but also via collaborative or contract research conducted in cooperation with or commissioned by the industry. In so doing, the dissemination and transfer of the generated knowledge to the market would therefore be ensured, with the objective of creating products and services to enhance social welfare. Commercialisation and transfer of knowledge are indeed two mainstream tools to turn science into business. However, it is worth noting that they can be complementary, as they often operate simultaneously.¹¹

To promote commercialisation and transfer of knowledge, proper management of IPR must be done. In addition, other tools such as student and faculty mobility, the development of entrepreneurial culture and associated skills for students and research staff, and a strengthened interaction with the private sector, i.e. public-private partnerships (PPP), are also very important.

⁹ European IPR Helpdesk 2015 Fact Sheet: The Plan for the Exploitation and Dissemination of Results in Horizon 2020

¹⁰ European IPR Helpdesk - Your Guide to IP in Horizon 2020

¹¹ European IPR Helpdesk 2015 Fact Sheet: Exploitation channels for public research results

Additionally, the use of research results in further research activities of the same organisation or as background to be brought into a new collaborative research project, also contributes to advance and generate socio-economic benefits. Also, the research results help create new or contribute to on-going standardisation activities, and develop and create new services and/or products.

It is worth noting that in H2020 there is a general obligation to exploit the results of a project that says that each beneficiary must (up to four years after the project completion) take measures aiming to ensure exploitation of its results (either directly or indirectly), in particular through transfer or licensing by¹²:

- (a) using them in further research activities (outside the action);
- (b) developing, creating or marketing a product or process;
- (c) creating and providing a service, or
- (d) using them in standardisation activities.

Following, the several channels existing for the commercialization and knowledge transfer of research results are analysed.

5.4.1 Commercialization channels

The importance of commercialising public research results can be justified by several reasons. Firstly, it would generate economic and social value and improve the competitiveness of national industry. Secondly, the commercialisation of results could constitute an alternative income source to fund the R&D activity of the project beneficiaries. Thirdly, this would allow rooting an entrepreneurial culture within beneficiaries, as they could offer business building and entrepreneurship as part of their study programme, to raise grass-roots human capital with the aim of establishing and growing start-ups.

This means that even though commercial exploitation may primarily be relevant for companies (SMEs/industry), obtaining commercial benefits from research results becomes increasingly important for public research organisations as well. More details on the commercial exploitation of some of the RESCCUE results can be seen in D7.3 Business Plan.

Research results are rather special (as they generally are on an early stage, with a low TRL level and also might be very localized, providing only a partial solution). Therefore, the channels to commercialize them are a little bit different from other types of results. Commercial exploitation can be implemented by:

- Assignment
- Licensing
- Joint Venture
- Spin-off

¹² European IPR Helpdesk 2015 Intellectual Property Management in H2020 projects - Introduction

- Consultancy

Through an **assignment**, the ownership of IP is transferred from one party to another. Consequently, the latter becomes the new owner of the IPR. The advantages of an assignment are the availability of immediate cash flow return to be invested in further R&D activities, as payments usually take the form of a lump sum payment. Besides, the developers would have no further responsibility for the management of the IP title, including the payment of fees or the monitoring of infringements.

A **license** agreement is a contract under which the holder of IP grants permission for the use of the intangible asset concerned to another person, within the limits set by the provisions of the contract. When it comes to negotiate license agreements, it is important to understand why the IP should be licensed and which licence is more suitable to the specific case. A licensing policy should be established in order to harmonise practices and ensure fairness in all deals. Licences for exploitation purposes should involve adequate financial compensation, as well as other types of benefits.

Joint venture is a type of collaborative commercialisation. It is a situation where scientists and private companies jointly commit resources and research efforts to projects; research activities are carried out jointly and may be co-funded. Joint ventures may range from short-term projects, to long-lasting strategic partnerships with multiple members and stakeholders. The parties to the joint venture share risks and contribute with their intellectual capital to technology research and development, production, marketing and further commercialisation. The most significant advantage can be considered as the ability of scientists to obtain economic benefits from the commercialisation of their already existing IP, or the one resulting from the joint venture.

A **spin-off** refers to a separate company usually established to bring IP, in this case resulting from public funding, onto the market. It is deemed to be a valuable channel to transform the research results into products and services, as well as to license out technology. Most importantly, spin-offs are considered as a fundamental mediator between the research environment and industries as they are a powerful means of technology transfer between these two sectors. This is most of the time achieved through the acquisition of the spin-out company by larger companies.

Consultancy comprises two different types of activities: contract research and faculty consulting. The first channel consists of a research commissioned by a private company to pursue a solution to a problem of interest. It is distinct from most types of consulting as it involves the creation of new knowledge according to the specifications or goals of the client. Contract research has great significance for industry and is considered an important tool to foster PPP. Faculty consulting encompasses research or advisory services provided by researchers to industry clients. This is one of the most widespread activities in which industry and academics engage.

5.4.2 Knowledge transfer channels

Commercialisation and knowledge transfer tools often converge and operate in a complementary fashion. However, while commercialisation can be connected to the mere

market exploitation of public research, knowledge transfer is more disposed to the flow of knowledge from research to industry, with all the benefits related to social-economic growth.

Although direct commercialization tools are deemed to be the most effective, knowledge spill-over can be achieved also by student and faculty mobility, academic consulting and research contracts. Student entrepreneurship is also gaining importance to promote the transfer of publicly funded knowledge. These knowledge transfer tools can be translated in public-private partnerships, thanks also to the increasing practice for industry to source external knowledge to widen their knowledge base.

Other knowledge transfer channels that are recognised as crucial in stimulating innovation can be publishing, conference and networking, standards and open data.

Publication is deemed to be the most suitable means of knowledge dissemination as it permits the fastest and open diffusion of research results. The protection granted by the IP system to an article or publication is copyright, which arises automatically when the researcher writes it. It is worth mentioning that copyright only protects expression of the words contained in the text and its originality, but not the idea underlying the research findings. Therefore, before publishing it should be carefully considered, to see whether the research results need to be protected by other IPR (e.g. patents, design, etc.), or the transmission of knowledge is carried through the open access model.

Alongside publications, **professional conferences**, informal relations, casual contact and conversations are among the channels ranked as most important by industry for the flow of knowledge between private and public sectors. As with publications, attention to the information disclosed in networking should be paid, as this could obstruct further IP protection of the results generated.

A **standard** is a document, established by consensus and approved by a recognised body, which provides for common rules, guidelines or characteristics for activities or their results and having the purpose of achieving an optimum degree of order in a given context.

Open data is the idea that some data should be freely available to everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control. Open data contributes to the spread and publication of research results data on the web. However, finding open data can be challenging since the metadata that accompany the datasets are often incomplete or even non-existent and so, the metadata definition is something that must be carefully addressed.

5.4.3 RESCCUE exploitation roadmap

Taking into account all the commercialization and knowledge transfer channels presented, and considering the results of the project presented in Table 1, the RESCCUE exploitation roadmap is not a simple thing that can be done all at once.

In Table 1, it can be seen that there are several **methodologies**, **tools** and **software** that could be commercialized, but obviously, this depends on the owner and their interests regarding

these results generated. In addition, most of these results that could be commercialized are already at an early stage of development and hence deciding now which is the best channel to commercialize them is probably not feasible.

Another big block of RESCCUE results presented in Table 1 are the datasets generated by the several methodologies, tools, software via setting-up models with the research site information. In these cases, commercialization is not an option so the way to exploit the results is via publishing them, or spread them in conferences, networking events and making them available with open data. This is precisely the main purpose of D8.3 Data Management Plan and its revisions, that will assess in detail how each dataset should be made available, which should be public and which shouldn't, and also preparing a RESCCUE metadata catalogue to make sure that all the results are easily found and identified.

Finally, the last big block of RESCCUE results are the publications (such as the Resilience Action Plans and some other critical deliverables of the project). In these cases, the exploitation channel is clear: the results must be published so they can reach a wider audience and the impacts of the project can be easily deployed to other cities. In order to this, the several specific strategies described in section 4 should be used.

Considering all this, a timeline to represent the RESCCUE exploitation roadmap can be seen in next page in Figure 10. The key milestones identified there are the three revisions of this D7.4, the dependencies with D8.3 and also, it is important to consider that the RESCCUE results will have to be exploited until four years after the end of the project.

It is worth noting that this is just an initial plan established with the general exploitation tasks to be done in RESCCUE. Considering the vast amount of results to be exploited (presented in section 3), more detailed exploitation paths will be described in future versions of this D7.4, working together with the several owners of the results.

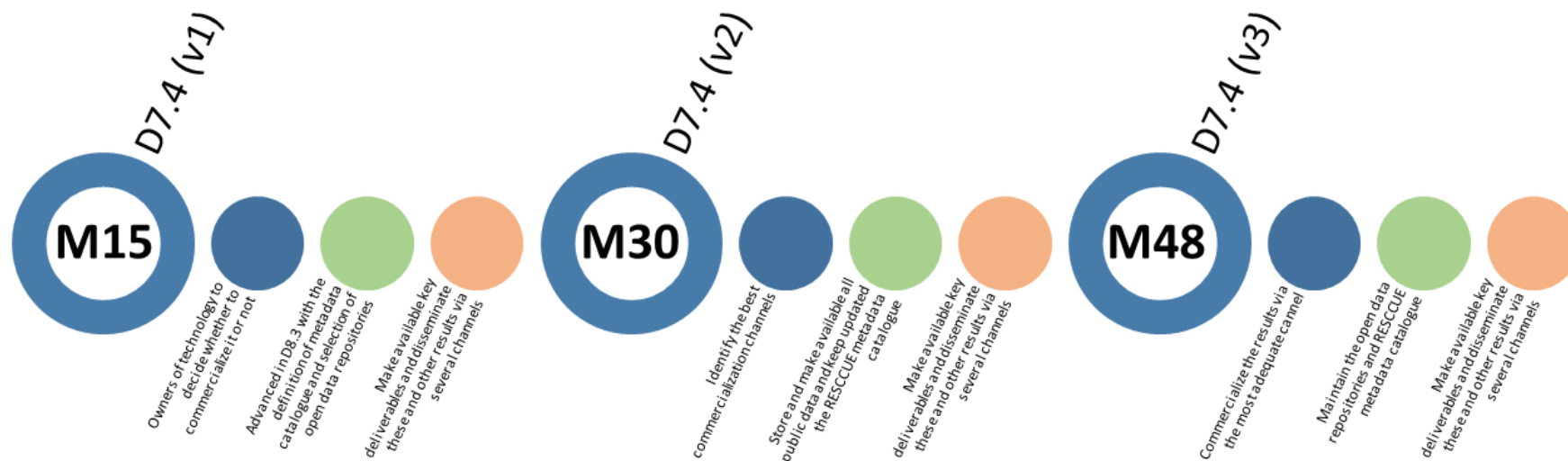


Figure 10 RESCCUE exploitation roadmap