



**MARCO**

*Research and Innovation Action (RIA)*

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 730272.

Start date : 2016-11-01 Duration : 24 Months



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**Report on clustering with other projects**

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MARCO - Contract Number: 730272  
Market Research for a Climate Services Observatory

Document title	Report on clustering with other projects
Author(s)	Mr. Eric HOA
Number of pages	8
Document type	Deliverable
Work Package	WP7
Document number	D7.6
Issued by	CKIC
Date of completion	2018-12-31 17:21:51
Dissemination level	Public

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### Summary

This report documents some key clustering activities that took place during the MARCO project, in order to collect information, stimulate research analyses, challenge ideas, and overall build a community of experts in climate services.

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## 1 Introduction

The overall objective of the MARCO project is to enable the development of the climate services market by identifying untapped markets and new business opportunities. As identified in the European Research and Innovation Roadmap for Climate Services, this challenge needs to be tackled through the engagement of users and providers within the European climate services community.

This can be achieved with workshops and outreach activities, and with strong interaction with interested parties as well as synergetic collaborations with complementary programmes and initiatives.

This report documents some key clustering activities that took place during the MARCO project, in order to collect information, stimulate research analyses, challenge ideas, and overall build a community of experts in climate services.

## 2 H2020 project EU-MACS

### 2.1 Complementary expertise

The overall goal of EU-MACS (EUropean MARket for Climate Services; <http://eu-macs.eu/>) is to make the wealth of climate information truly accessible and applicable for a large variety of potential climate service users. In cooperation with current and potential CS users, the EU-MACS project develops mechanisms that should assist both CS providers and users in better matching their products, capabilities, and needs, while at the same time also smoothing the processes for search, selection, tailoring, and using of climate service products. This needs to be done without compromising the validity of the information while ensuring a continuation of scientifically validated improvements of the involved observation, modelling, data processing and reprocessing, database structure and access, data meta-information, data interpretation guidance, as well as service delivery technologies. For quite some user segments and for various climate service innovation options, better matching of supply and demand and better organized meta-information does not suffice, but awareness levels and incentive structures and related regulation need to be considered as well. The project also addresses these decision making contexts of climate services at user and sector level.

Some partners such as the Finnish Meteorological Institute, the Climate Service Center Germany, Joanneum Research and UnternehmerTUM are partners in both EU-MACS and MARCO projects. Creating synergies benefits from this duplication of partners. However, synergies between the two projects are identified in several similar but not identical fields of action:

- Business modeling and innovation dynamics
- Market inventories and stakeholder engagement
- Some of the case studies (i.e. tourism, urban infrastructure/planning)

EU-MACS is MARCO's sister project, with common starting and ending dates (November 2016 to December 2018). Both projects have then experienced similar project timelines, with several common project events in order to ensure consistency and complementary of actions as well as exchange of interim results to be further exploited in follow-up tasks :

- Common kick-off meeting in Paris (France) in November 2016
- Common mid-term review meeting in Brussels (Belgium) in February 2018
- Synthesis workshop for projects' partners in Munich (Germany) in July 2018
- Joint Stakeholder Workshop in Berlin (Germany) in September 2018



**Figure 1 - Joint MARCO/EU-MACS stakeholder workshop**

The complementary research activities of MARCO and EU-MACS are directly reflected in the synthesis report (D7.5) as well as the foreseen publication of a Special Issue of the Journal of Climate Services, to be expected in 2019.

## **2.2 Common dissemination**

MARCO and EU-MACS were also presented as sister initiatives in a series of international climate events, listed below :

- Common presentation at 3rd European Climate Change Adaptation Conference (ECCA) in Glasgow (UK) in June 2017
- Common side-event at the Copernicus Climate Change Service (C3S)'s General Assembly in Berlin (Germany) in September 2018
- Common side-event at the ClimatEurope Festival in Belgrade (Serbia) in October 2018
- Common side-event at the COP24 in Katowice (Poland) in December 2018 (together with other H2020 projects CLARA and S2S4E)

This strengthened approach created more momentum to attract potential stakeholders and generate more attention to socio-economics and market conditions from a community that usually has a more technical expertise.

Following guidance from the EASME, it was important to set-up this series of (side-)events towards the end of the projects in order to ensure compatible recommendations and create common foundations for the future market activities, e.g. the envisaged market observatory ' support platform.



Figure 2 - Side-event at the EU Pavilion during COP24

### 3 H2020 project CLARITY

#### 3.1 Complementary expertise

The overarching objective of CLARITY (<http://clarity-h2020.eu/>) is to demonstrate the benefit of climate services for climate proofing of vulnerable large-scale investments such as urban infrastructure. As a result, CLARITY is to provide an operational ecosystem of cloud-based climate services to calculate and present the expected effects of CC-induced and -amplified hazards at the level of risk, vulnerability and impact functions. In that context, the CLARITY consortium is envisaging the development of a market place, more dedicated to matchmaking urban climate services. This is particularly relevant when considering the possible modalities and functions of a market observatory, as discussed within MARCO.

#### 3.2 Common dissemination

CLARITY and MARCO coordinators had the opportunity to further explore the collaboration between the 2 projects during a common break-out session at the ClimatEurope Festival in Belgrade (Serbia) in October 2018, that was dedicated to building innovative and robust business models in the field of climate services (as illustrated in Figure 3 and Figure 4)

While CLARITY is aiming to further explore the commercial running of a market place, MARCO would focus its business model on the valorisation of market intelligence. Both initiatives could feed into a bigger flagship in line with a EU-coordinated market support platform on climate service, that MARCO recommends (see D2.7).

The CLARITY project will continue after the completion of MARCO (and EU-MACS) projects and will benefit from the final reports highlighting the recommendations to boost the market of climate services in the EU. A webinar organised by the EU-MACS coordinator for MARCO, CLARITY and EU-MACS partners took place in November 2018 in order to create more interactions between research partners. In particular, MARCO and EU-MACS case studies on urban planning/infrastructures were identified as valuable inputs for CLARITY partners.



Figure 3 - Break-out session during ClimatEurope Festival 2018

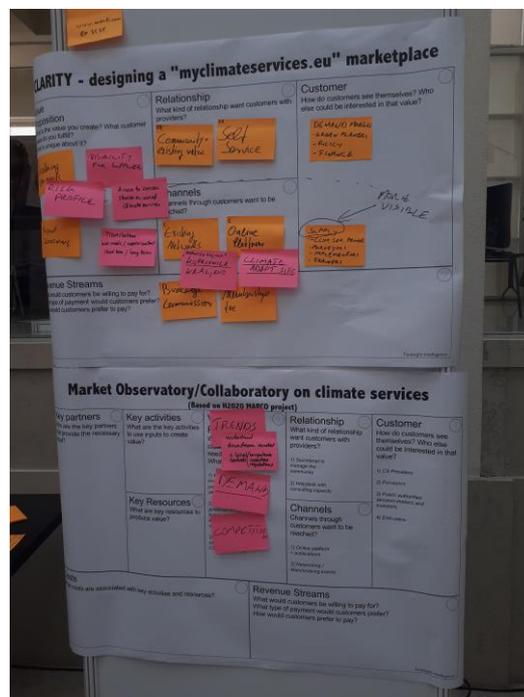


Figure 4 - Outcomes from the common break-out session

## 4 Copernicus Climate Change Service (C3S)

### 4.1 Complementary expertise

The C3S mission is to support adaptation and mitigation policies of the European Union by providing consistent and authoritative information about climate change. It offers free and open access to climate data and tools based on the best available science and interacts with users to help them meet their goals in dealing with the impacts of climate change.

C3S is implemented by the European Centre for Medium-Range Weather Forecasts (ECMWF) on behalf of the European Commission. ECMWF is an independent intergovernmental organisation serving its Member and Co-operating States and the broader community. Jean-Noël Thepaut, as Head of the Copernicus Climate Change Service, is a member of MARCO Advisory Expert Committee (AEC) and has therefore been regularly informed of MARCO progress, provided feedback on some deliverables as well as taken part of a panel

discussion during the MARCO/EU-MACS joint stakeholder workshop that took place in Berlin in September 2018.

## 4.2 Events

In order to better apprehend the technical development of climate information and services and the sectoral usages, some MARCO delegates also took part in some C3S sectoral events, such as :

- 2nd Copernicus Climate Change Symposium on Climate Services for the Energy Sector, March 2018 in Paris (France)
- Copernicus for Water Management workshop, in May 2018 in Brussels (Belgium)

But the annual C3S's General Assembly (GA) that was organised in September 2018 in Berlin (Germany) was a more important event where MARCO delegates could interact with (+)200 C3S stakeholders as well as present highlights from the project during one plenary session of the GA. This plenary session was also the opportunity to (re-)invite the attendees to the MARCO and EU-MACS joint stakeholder workshop that was scheduled 2 days after, as official side-event of the GA.

As the C3S is developing many support components to operationalise and widespread the use of climate services, such as education and training programmes or quality assurance activities, many C3S activities could be enhanced by complementary market assessments that MARCO (and its potential follow-up observatory) promotes.



Figure 5 - Plenary session during C3S General Assembly, showcasing MARCO

## 5 ClimatEurope

### 5.1 Complementary expertise

ClimatEurope aims to coordinate and support Europe's knowledge base to help better manage climate-related risks and opportunities. A key part of ClimatEurope is to actively manage a network made up of climate-related activities and organizations across Europe. Such a network is becoming increasingly necessary to:

- enhance the transfer of information between suppliers and users of climate information to improve the resilience of European society to climate change and mitigation of the risk of dangerous climate change;
- improve coordination to increase efficiency, reduce fragmentation and create synergies with and between relevant activities.



In that context, ClimatEurope aims to develop a mapping of projects by end-user type, which would include a set of categories of end-users, based on the classification from the “Lessons and practice of co-developing climate services with users” ClimatEurope report. However, the classification is missing:

- businesses as a standalone entity
- financial sector end-users (banks, guarantee givers, subsidisers...)
- decision-makers from the private sector

Some MARCO delegates have taken part in a few ClimatEurope webinars organised to manage the knowledge produced in the different H2020 initiatives on climate services.

## 5.2 Events

Several MARCO delegates attended the 2017 and 2018 ClimatEurope Festivals, respectively organised in Valencia (Spain) and Belgrade (Serbia).

While there were not many MARCO results to present or discuss during the 2017 edition, a specific side-event was organised during the 2018 edition, together with the C3S initiative and EU-MACS project, to highlight project achievements.



Figure 6 - Side-event during the ClimatEurope Festival

## 6 Oasis Loss Modelling Framework (LMF)

### 6.1 Complementary expertise

The Oasis Loss Modelling Framework (<https://oasislmf.org/>) provides an open source platform for developing, deploying and executing catastrophe models. It uses a full simulation engine and makes no restrictions on the modelling approach. Models are packaged in a standard format and the components can be from any source, such as model vendors, academic and research groups. The platform provides:

- A platform for running catastrophe models, including a web based user interface and an API for integration with other systems (Oasis Loss Modelling Framework)
- Core components for executing catastrophe models at scale and standard data formats for hazard and vulnerability (Oasis ktools)
- Toolkit for developing, testing and deploying catastrophe models (Oasis Model Development Toolkit)

EIT-Climate, MARCO coordinator, was involved the early stages of the Oasis project, “Development of damage functions and adaptation costs for climate risks in urban areas”

## 6.2 Event

In order to ensure relevant knowledge exchange, MARCO invited Dickie Whitaker, chief executive of Oasis Loss Modelling Framework, as panellist during the 1<sup>st</sup> stakeholder workshop that took place in October 2017 in Milan (Italy).



**Figure 7 - Panel discussion during the 1st MARCO Stakeholder Workshop**

## 7 Main concluding messages

- While the MARCO project had a privileged collaboration with EU-MACS, some relevant exchanges with other H2020 initiatives had taken place : Clarity, Clara, S2S4E and ClimatEurope, etc.
- These exchanges have been more valuable and numerous towards the end of the project, once they were more MARCO outputs and/or recommendations to present, discuss and challenge.
- While the Copernicus Climate Change Service is a large and substantial source of technical information on climate services, MARCO (and EU-MACS) aimed to provide complementary views, focusing on market and socio-economical conditions.
- In order to envisage a market support platform as recommended by MARCO, it is essential to keep interactions with the mentioned initiatives and programmes in order to highlight added values (related to market intelligence) and avoid duplication of work.
- Due to limited time and resources, few interactions with other interesting programmes took place, notably the Joint Programming Initiative "Connecting Climate Knowledge for Europe" (JPI Climate) and the Global Framework for Climate Services (GFCS). Some future developments would therefore benefit from collaborating with these initiatives.