D5.2 Communication, Dissemination & Stakeholders Engagement Interim Report

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Glossary

Acronym	Name
CLS	Collecte Localisation Satellites
COVID-19	CoronaVirus Disease 2019
DB	Database
DG	Directorate General
DG CONNECT	Directorate-General for Communications Networks, Content and Technology
DG DEFIS	Directorate-General for Defence Industry and Space
DG GROW	Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs
DG MARE	Directorate-General for Maritime Affairs and Fisheries
DG RTD	Directorate-General for Research and Innovation
D5.1	Deliverable 5.1
EC	European Commission
EOSC	European Open Science Cloud
EOV	Essential Ocean Variables
ESEB	External Stakeholder & Expert Board
EU	European Union
FAIR	Findable, Accessible, Interoperable and Reusable
GRSF	Global Record of Stocks and Fisheries
HPC	High Performance Computing
ICT	Information & Communication Technologies
KER	Key Exploitable Results
KPI	Key Performance Indicators
M1	Month 1
NGO	Non-Government Organisations
Virtual Labs	Virtual Laboratories
VRE	Virtual Research Environment
WP	Work Package

Executive Summary

The main goal of Blue-Cloud WP5 is to deliver and maintain a Communication, Marketing & Dissemination Plan and Strategy for the pan-European rollout of the Blue-Cloud services. As part of this strategy, the project is identifying the Blue-Cloud Key Exploitable Results (KERs) to be disseminated towards key stakeholders. This is done through consistent and content-rich communication activities, by using multiple integrated communication tools. The success of this mission is highly dependent on a continuous interaction with all WPs

The Blue-Cloud "*D5.2 Communication, Dissemination & Stakeholders Engagement Interim Report*" is an updated version of "*D5.1 Communication, Dissemination & Stakeholder Engagement Strategy*" released in April 2020 (M7). **This report documents the results and impact of communication efforts undertaken from October 2019 (M1) to March 2021 (M18)**, which focused on creating awareness about the Blue-Cloud project, its goals, its ambition and the expected Key Exploitable Results (KERs).

This report also defines the communication strategy roadmap for M19-M36 (April 2021 - September 2022). The focus from M19 (April 2021) onwards will be to consolidate the active stakeholder engagement approach for each target group by disseminating the project's KERs, which are being made accessible to target stakeholders during the next months. A massive promotion of the project results to potential user communities will be implemented through the activities described in this report. This period will also be dedicated to further promoting dialogue and engagement with key stakeholder communities towards the Blue-Cloud Roadmap to 2030, which aims to become a policy tool for the capitalization and evolution of Blue-Cloud's efforts into the future.

The document is divided in specific sections, listing the results achieved during this first reporting period:

- **Section 1** gives an introduction of the KERs and the engagement results achieved so far, organised by stakeholder group;
- **Section 2** lists the communication results from M1-M18 and indicates plans and goals for the next period;
- **Section 3** provides an overview of Blue-Cloud presence at third-party events, as well events organised by the project, along with other initiatives. Plans for the next period are also detailed;
- **Section 4** is dedicated to the synergies established so far or otherwise planned, with different, related initiatives and projects;
- **Section 5** focuses on past and future promotional and dissemination activities connected to the Blue-Cloud Roadmap to 2030;
- **Section 6** briefly explains how the COVID-19 pandemic impacted the project and the contingency plans implemented;
- **Section 7** lists a quick overview of the Key Performance Indicators achieved by M18, along with those to be achieved by end of the project;
- **Section 8** includes a timeline of the Action Plan of activities from M18 till project end;
- **Section 9** overall conclusion and concise overview for the next period.

All Blue-Cloud communication and dissemination activities performed aimed to maximise the outreach, dissemination and exploitation impacts of the project during the first period, with the intent to have the same effect during the whole project lifetime and after its conclusion.

1 The Blue-Cloud offer/services vs target stakeholders

The assets presented in this section are the strategic focus of this updated Blue-Cloud Communication, Dissemination & Stakeholders Engagement plan. As indicated in *"D5.1 Communication, Dissemination & Stakeholders Engagement plan"*, an active stakeholder engagement approach is fundamental for each target group, as their involvement increases the likelihood of a broader uptake of the services developed by the project. The goal for M19-M36 (March 2021 to September 2022) is to steadily improve the dissemination of the project's Key Exploitable Results (KERs)[1] towards the key identified stakeholders and to increase the numbers of users (see Table 1).

Table 1 Blue-Cloud exploitable assets vs Blue-Cloud Stakeholders

Stakeholders / Services	PRIMARY STAKEHOLDERS					SECONDARY STAKEHOLDERS	
	Data Infrastructures & Horizontal e-Infrastructures	Academia and Researchers	International Organisations	Policy & Funding bodies	Relevant EU-funded projects & initiatives	SMEs, Industrial players & Trade Associations	Influencers, hacktivists, NGO's & general public
Blue-Cloud Virtual Research Environment	X	X	X		X	X	
Demonstrators	X	X	X	X	X	X	
Blue-Cloud Data and Service Catalogue	X	X	X	X	X	X	X
Blue-Cloud Data Discovery and Access Service	X	X	X		X	X	X
Blue-Cloud Strategic Roadmap to 2030	X	X	X	X	X	X	X

The following paragraphs describe the different Blue-Cloud services, and which (stakeholders) and how stakeholders are addressed by Blue-Cloud. There are some examples provided of the engagement achieved so far.

1.1 Blue-Cloud Services

1.1.1 Blue-Cloud Virtual Research Environment

Stakeholders: Data Infrastructures & Horizontal e-Infrastructures, Academia and Researchers, International Organisations, Relevant EU-funded projects & initiatives, Influencers, hacktivists, NGO's & general public

The Blue-Cloud Virtual Research Environments (VREs) are key technical components of the Blue-Cloud framework. They provide computing platforms and analytical services facilitating the collaboration between researchers, thanks to an easy access to different sets of marine data. The VREs are built on the D4Science infrastructure and the gCube open source technology, and offered via the Blue-Cloud

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[1] Blue-Cloud Key Exploitable Results are detailly described in *D6.3 Blue-Cloud Services Exploitation and Sustainability Plan (Release 1)*

Gateway, which makes the services and Virtual Laboratories (Virtual Labs or VLabs) available. By the end of the project, **it is expected to have over 1.000 users from 25 countries.**

During these first 18 months, each one of the five Blue-Cloud demonstrators[2] developed Virtual Labs (VLabs) for the benefit of the wider community. This in order to demonstrate Blue-Cloud's potential in different fields of marine research, ranging from biodiversity to environmental science, as well as fisheries and aquaculture. As of Q1 2021, nine Virtual Labs are being used in the framework of the Blue-Cloud demonstrators, as indicated in Table 2 and Figure 1. Despite being operational as testbeds, their official launch will take place in the course of 2021.

Table 2 Existing Blue-Cloud Vlabs by March 2021 (M18)

VREs	Description
Blue-Cloud Lab	Where researchers can contribute, find, try, and use Blue-Cloud methods as integrated into the infrastructure by scientists across multiple disciplines.
Alien Invasive Species	An operational environment providing models and workflows to combine environmental data with species observations in their habitats to predict their future spread.
Healthy Ocean Lab	To support the liaison between the REV Ocean team and the Blue-Cloud team regarding several initiatives including the Ocean Data Platform.
Zoo & Phytoplankton EOV	The implementation of the Zoo & Phytoplankton Essential Ocean Variables (EOV) Products demonstrator. It provides its users with access to blue multidisciplinary data for exploring the methodology and data used in the products.
Plankton Genomics	It showcases a deep assessment of plankton distributions by mining data across biomolecular, imaging and environmental domains.
Marine Environmental Indicators	The implementation of the Marine Environmental Indicators demonstrator, providing a web service for Environmental Agencies and researchers.
Fisheries Atlas	Users can search reliable and fact-checked content through the interactive Fisheries Atlas powered by Blue-Cloud. Explore all oceans and regions of the world with this in-depth resource, with features ranging from global fisheries maps, popup statistics and overviews, high-resolution bathymetry, aggregate maps about major world fisheries.
Global Record of Stocks and Fisheries (GRSF)	The GRSF is also used to validate records enrichment within the Blue-Cloud activities (e.g. oceanographic data).
Aquaculture Atlas	The implementation of the Aquaculture Monitor demonstrator. The Aquaculture Atlas Production System (AAPS) uses CLS provided software and the Blue-Cloud infrastructure to analyse Earth Observation (Bing and Copernicus) datasets. The VRE is used to produce maps that can be used in external sites.

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[2] Link: https://www.blue-cloud.org/demonstrators
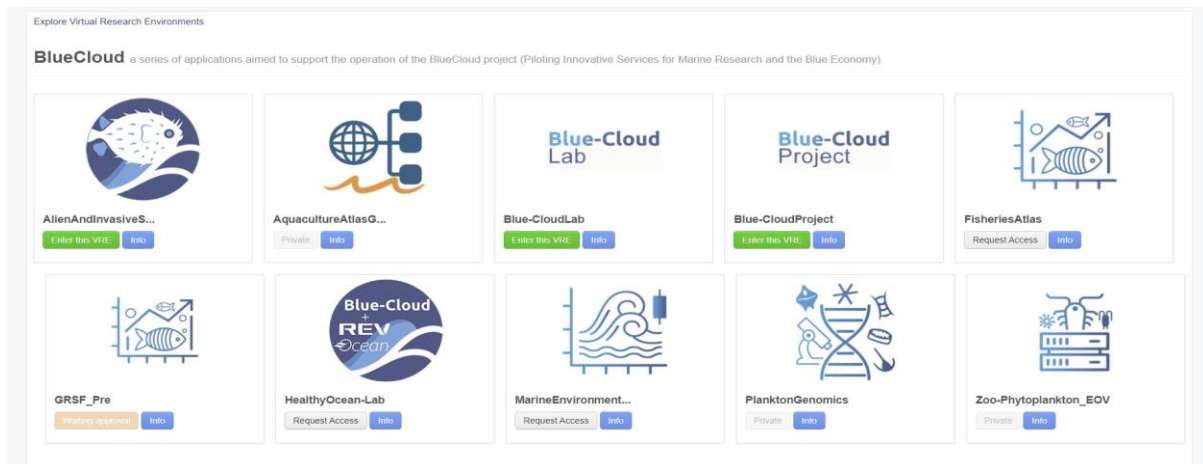
Figure 1 VLabs in the Blue-Cloud Gateway

By February 2021, Blue-Cloud VRE had welcomed nearly 400 users responsible for almost 8.000 accesses (see Figure 2 and Figure 3). Use of the VLabs began to grow steadily since the summer of 2020, and especially towards December when testing activities on the Marine Environmental Indicators, Zoo & Phytoplankton EOV Products, and the Fisheries Atlas demonstrators started to intensify. A **dedicated page[3] presenting the VRE was setup on the Blue-Cloud website** in February 2021[4] and social media messages were launched to promote its Virtual Labs (see Figure 4) .
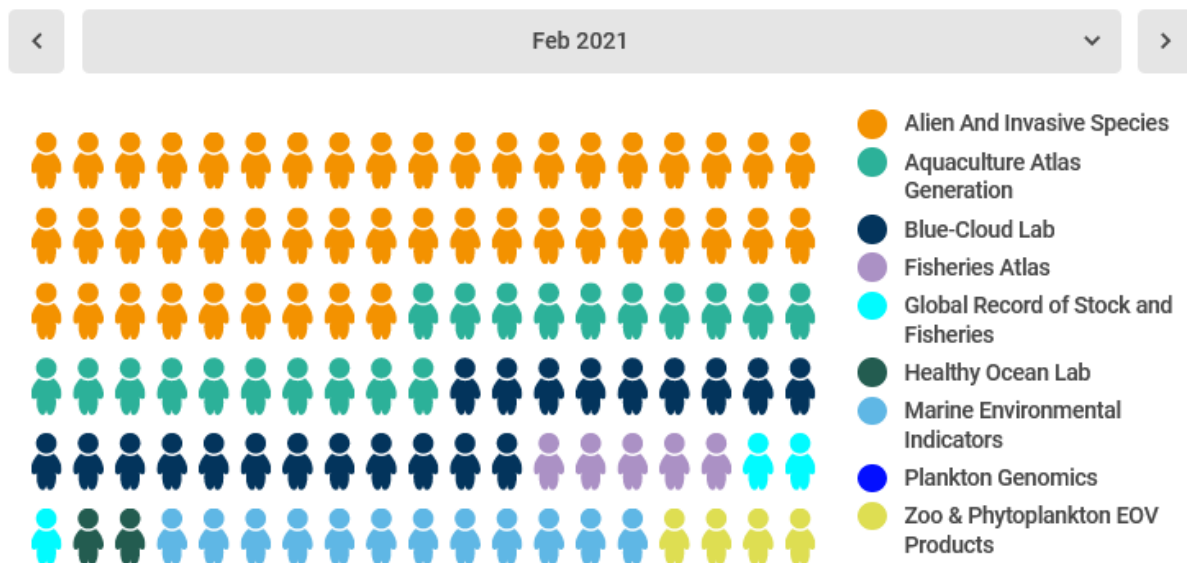
Figure 2 User breakdown by Blue-Cloud Virtual Lab (by February 2021)

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[3] Link: https://www.blue-cloud.org/blue-cloud-virtual-research-environments

[4] https://www.blue-cloud.org/services/blue-cloud-virtual-research-environments
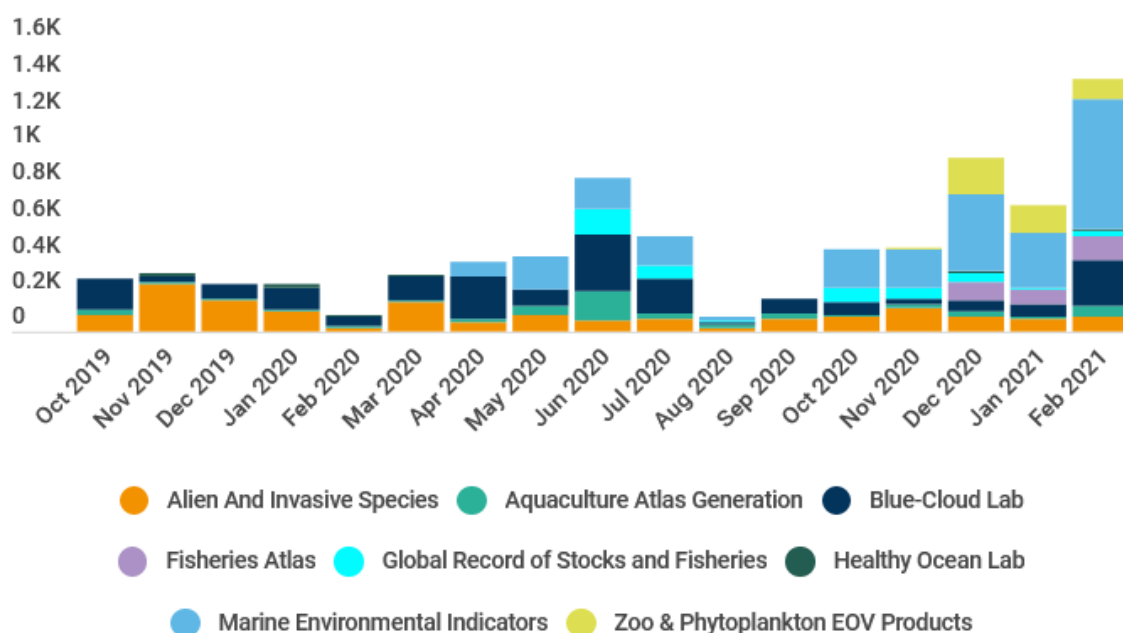
Blue-Cloud

Figure 3 Access breakdown by Blue-Cloud Virtual Lab (by February 2021)
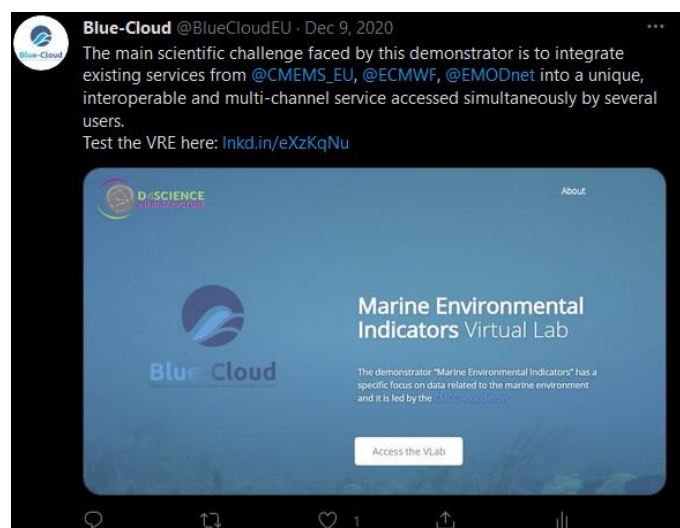
Figure 4 Tweet promoting the Marine Environmental Indicators Virtual Lab

In 2021, we expect more and more researchers and other end-users to discover the expanding environment of Blue-Cloud, encouraging a collaborative effort for the FAIRisation of marine research data and the continuous improvement of these frameworks.

The Blue-Cloud public workshop scheduled on 23 March 2021[5] introduced the innovative applications that the demonstrators are developing through the Blue-Cloud VRE, as well **as officially launching some of their Virtual Labs for public use,** featuring presentations and recorded demos of the Virtual Labs in use.

A specific **communication campaign** will follow this official launch, to promote the VRE to marine researchers, end-users and other stakeholders, inviting them to test them, interact with functionalities

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[5] https://www.blue-cloud.org/events/open-science-ocean-meet-blue-cloud-demonstrators

and become users via the Blue-Cloud framework. **Testimonials** about the benefits that these Virtual Labs are bringing to end-users' daily workflows will be produced and distributed, as the one below.

"Thanks to the Rstudio component offered by the Blue-Cloud VRE, I was able to reduce the computing time from hours to minutes when running the model that quantifies the relative contributions of the drivers in phytoplankton dynamics, as part of the Zoo and Phytoplankton EOV Demonstrator". Viviana Otero (Flanders Marine Institute - VLIZ)

This will be complemented with short **video-pills**, to be shared on social media, which will provide a more human touch to the activities going on behind the VRE when communicating to the wider community.

A **support centre** on the website will provide useful materials and guides to take users step-by-step through accessing and navigating the Blue-Cloud Virtual Research Environment, with instructions on how to create an account on the Blue-Cloud platform, Request access to individual Virtual Labs and Navigate the VRE. The creation **of tutorial videos** demonstrating how to exploit the VRE will complement this, along with **live-demonstrations** at Blue-Cloud workshops, sessions taking place at third-party events as well as dedicated **webinars**.

1.1.2 Demonstrators

Stakeholders: Data Infrastructures & Horizontal e-Infrastructures, Academia and Researchers, Policy & Funding bodies, International Organisations, Relevant EU-funded projects & initiatives.

Blue-Cloud Demonstrators are making use of existing data and driving the development of Blue-Cloud services in the marine domain. Each demonstrator delivers a service accessible through a Virtual Lab powered by the Blue-Cloud Platform. Each service (Virtual Lab) provides access to datasets, models, products and computation routines exploitable to analyse datasets and (re)generate products.

This is at the core of open science, which is the pillar of the Blue Cloud platform. Each product is made accessible through a Virtual Lab (operational service accessible online) that provides the documentation, examples of use, and the technology to exploit the service. The Blue Cloud VRE has a common dashboard for accessing Virtual Labs for performing collaborative research.

A key activity to promote these demonstrators to key stakeholders was the organisation of the **Blue-Cloud webinar series.** The first webinar introducing all demonstrators took place in June 2020, followed by a dedicated series with a webinar for each demonstrator (by the time of writing of this report, 4 dedicated webinars have taken place). The webinars have been reaching a diverse audience of over 600 individuals, where around 70% of participants are from academia and research infrastructures, followed by 14% policy & funding agencies, 12% from industry and 3% NGOs.
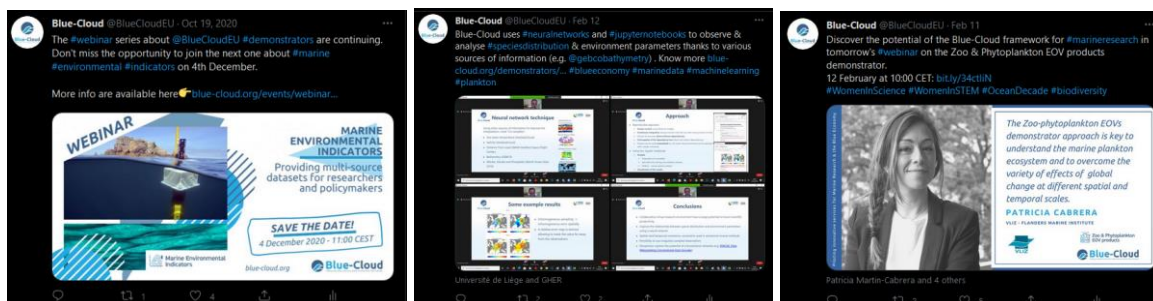
Figure 5 Reaching stakeholders to promote webinars on Twitter

More than 70% of the attendants to the webinar organized on the 12th of February 2021 were from an academia/research background, which also reflected in the types of questions discussed in the highly interactive Q&A session (see Figure 6).

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Blue-Cloud Zoo & Phytoplankton EOV Products demonstrator Questions & Answers

The webinar welcomed **more than 100 participants**, featuring a solid presence from France, Italy and other European countries, but also from Africa, Asia, and the Americas. More than 70% of the attendants were from an academia/research background, which also reflected in the types of questions discussed in the highly interactive Q&A session. We have collected some of the most interesting **questions and answers**, for the benefit of those who could not join the webinar.

- **What is the weight of each input variable in the prediction of chla?**
  - Renosh P.R. (LOV): We did not yet compute the sensitivity of the model to each input.

- **How to validate HPLC pigment data with 3d?**
  - **Renosh P.R. (LOV):** We have a database that gathers reference HPLC pigment profiles from all over the ocean. We then estimate Chl from the diagnostic pigments using the Uitz et al. (2006) equations. Then, we to extract the matchup of remote sensing reflectance, PAR, SLA and PHYSICAL data corresponding to these stations and use it as inputs into our model to derive a vertical profile of Chl. Then, the Chl retrieved from our model is compared to the HPLC-derived Chl.

- **Is there any specific reason why you are following the Chl conc deeper than say 200m? Would your neural net output be different if you used only the information higher than a specific depth - say 200m?**
  - **Renosh P.R. (LOV):** In the global ocean, some profiles in well-mixed waters have a mixed layer depth (MLD), where phytoplankton biomass is homogeneous and so significative, greater than 200 m. The MLD can be in some cases greater than 1000 m depth. That is why it is important to retrieve Chl below 200 m.

- **Why do you calculate Chla below 300 m depth, i.e. are there significant differences between 300 and 1000m depth?**
  - **Renosh P.R. (LOV):** Yes, there are differences for some regions/seasons. In the global ocean, some profiles in well-mixed waters have a mixed layer depth (MLD), where phytoplankton biomass is homogeneous and so significative, greater than 200 m. The MLD can be in some cases greater than 1000 m depth.

- **What aspects of the Blue-Cloud approach support your work?**
  - Gert Everaert (VLIZ): Having the Virtual Research Environment available drastically decreased our computational time needed to calibrate the model. So, for people not having access to high-performance computing, this really helps.

Figure 6 Questions and Answers from one Blue-Cloud Webinar

During the "Zoo & Phytoplankton EOV products" webinar, Blue-Cloud experts asked a series of questions (see Figure 7, Figure 8, Figure 9, Figure 10) to the audience, providing an interesting overview of its composition and of researchers' expectations from Blue-Cloud.
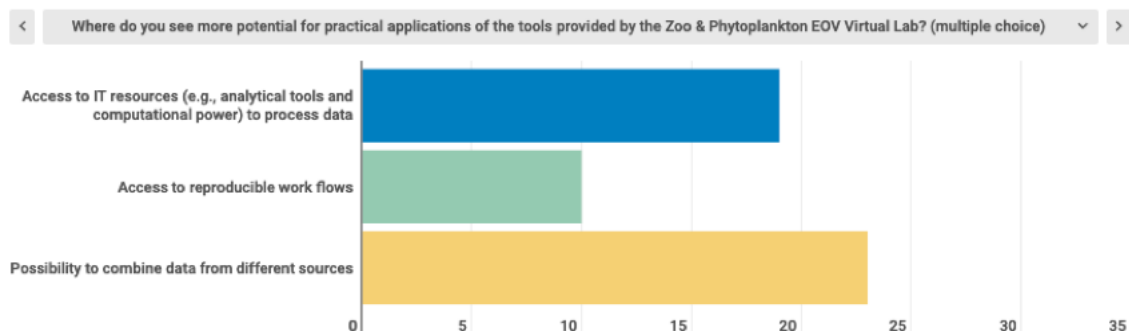
Figure 7 Blue-Cloud Webinar poll results (Question 1)

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Piloting innovative services for Marine Research & the Blue Economy
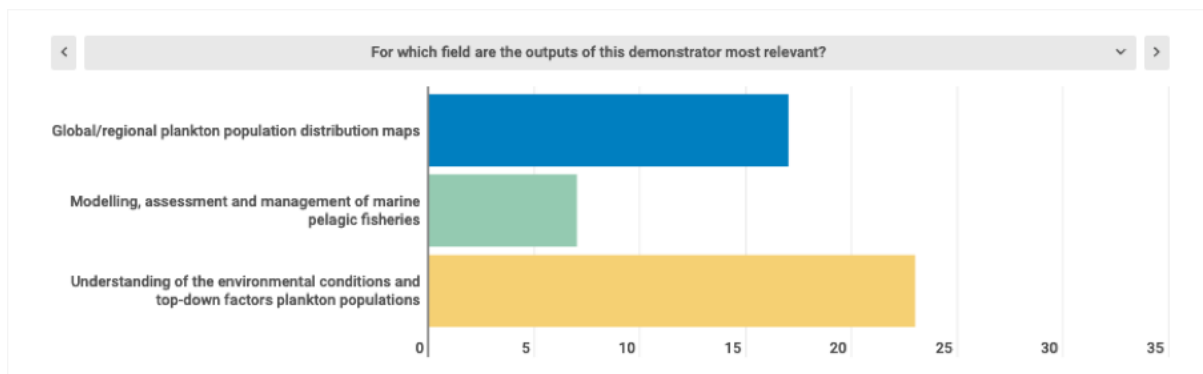
Figure 8 Blue-Cloud Webinar poll results (Question 2)
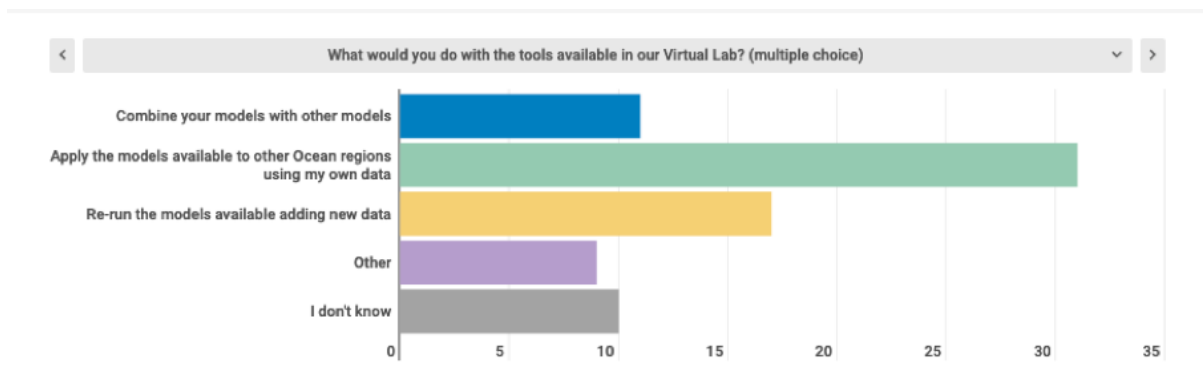
Figure 9 Blue-Cloud Webinar poll results (Question 3)
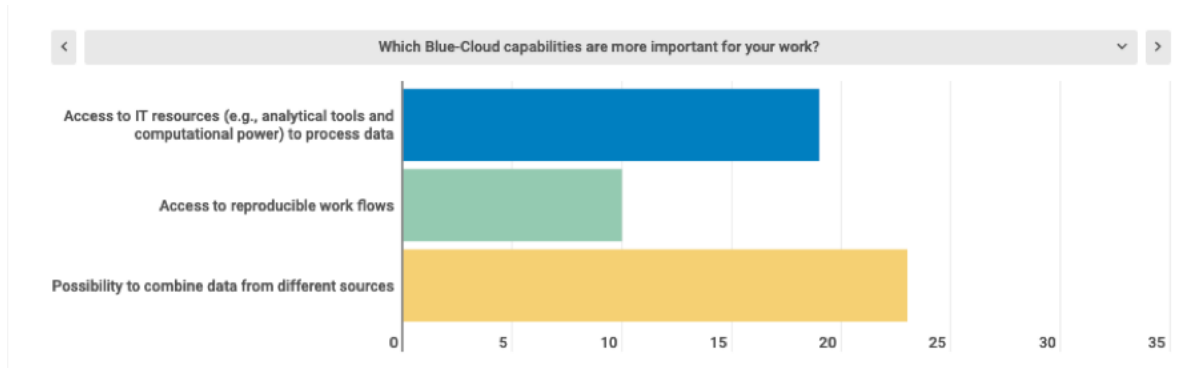
Figure 10 Blue-Cloud Webinar poll results (Question 4)

Interviews with demonstrator leaders were also organised and published as video pieces, reaching almost 1.000 views on YouTube (see Figure 11). Demonstrators have also been promoted at key events around Europe (e.g. GFCM Virtual Seminar on Aquaculture and Marine Spatial Planning and EMB Big Data in Marine Science, etc.).
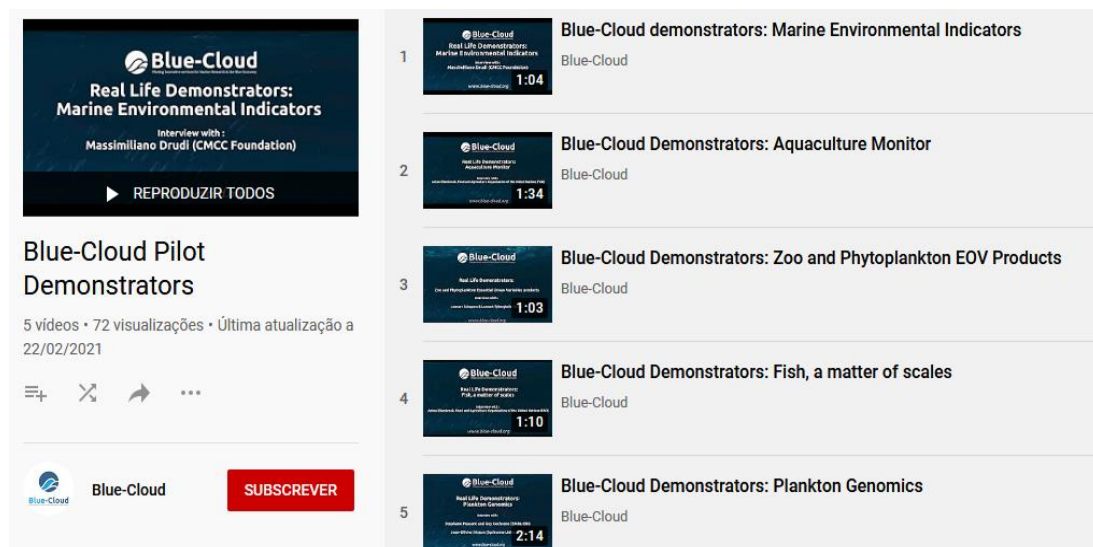
Figure 11 Demonstrators Interviews Playlist on Blue-Cloud YouTube channel

Stakeholder engagement through **webinars will continue in the next reporting period** (see chapter Blue-Cloud Webinars) as well as interviews after the launch of the final version of the demonstrators. **News articles** promoting the main benefits, along with user testimonials will also be produced. The demonstrators' beta versions were promoted on 23 March 2021 during the **Blue-Cloud Open Workshop** (see 3.1.2 Blue-Cloud Open Workshop) and the second edition of this workshop will take place later, bringing on board users that are already capitalising on the demonstrators (see Future Plans). Visibility will also be provided at the **Blue-Cloud final event** (see 3.1.4 Blue-Cloud Final Conference). When possible, **papers and presentations** will be done at third-party events organised in Europe and Worldwide. Thanks to synergies, the Blue-Cloud will also work towards the **development of joint use-cases**, combining some of its demonstrators with other ones developed by other projects, exploiting the benefits of joint cooperation.

A **final project booklet** will be prepared, which will also include detailed description of the demonstrators regarding the benefits, target users, main societal and scientific impacts, along with key facts about their usage and testimonials from users. Each demonstration section will have links to different content pieces, for more information (e-g- webinar links, interviews, amongst others).

1.1.3   Blue-Cloud Data and Service Catalogue

Stakeholders: Data Infrastructures & Horizontal e-Infrastructures, Academia and Researchers, Policy & Funding bodies, International Organisations, Relevant EU-funded projects & initiatives, Influencers, hacktivists, NGO's & general public

The Research Object Publishing Service (the **"Blue-Cloud catalogue[6]")** will be directly accessible from the Blue-Cloud website, and will constitute the **Open Access point for any Blue-Cloud publishable outputs, dataset and products** produced by the Blue-Cloud Virtual Laboratories and the project partners, including all public deliverables.

The **Blue-Cloud Data and Service Catalogue** will allow users to discover interesting data collections from the federated Blue Data & Access services, and request access for downloading selected data collections, all through a common Blue-Cloud interface. It is a key component of the Blue-Cloud VRE

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[6] https://blue-cloud.d4science.org/catalogue-bluecloud

on D4Science, enabling and facilitating open science and benefiting from FAIR data management. The creation of the EOSC-compatible Blue-Cloud catalogue is an important basis for integration with EOSC. Based on this, it will be easy to transfer the created resources into the EOSC Portal Catalogue & Marketplace. At the time of writing of this report, the catalogue is still being implemented and developers are focusing now on ensuring its interoperability with the EOSC Portal Catalogue & Marketplace, as well as providing easy access for both providers and users[7].

So far, engagement with stakeholders was carried out with members of the Blue-Cloud project itself and D4Science, as providers, managers and deliverers of both services and resources. In later stages, engagement will aim to bring on board more providers, namely e-infrastructure providers (e.g. EUDAT) and data infrastructures federated by Blue-Cloud (e.g. EMODnet), followed by engagement with end-users.

The catalogue will ensure direct publication on Zenodo. The catalogue will be accessible for users via the main website by the end of March 2021. Activities are planned in Blue-Cloud for registering these services within the EOSC catalogues, once operational. The maintenance of the Blue-Cloud catalogue is not limited to the project duration. The catalogue is part of the Blue-Cloud Virtual Research Environment (VRE), and one of the Key Exploitable Results (KER) identified by the project and for which an exploitation and sustainability plan is being defined. Therefore, any Blue-Cloud entity that should become responsible for maintaining the services of interest after the end of the project should establish agreements with D4Science, as providers of the catalogue.
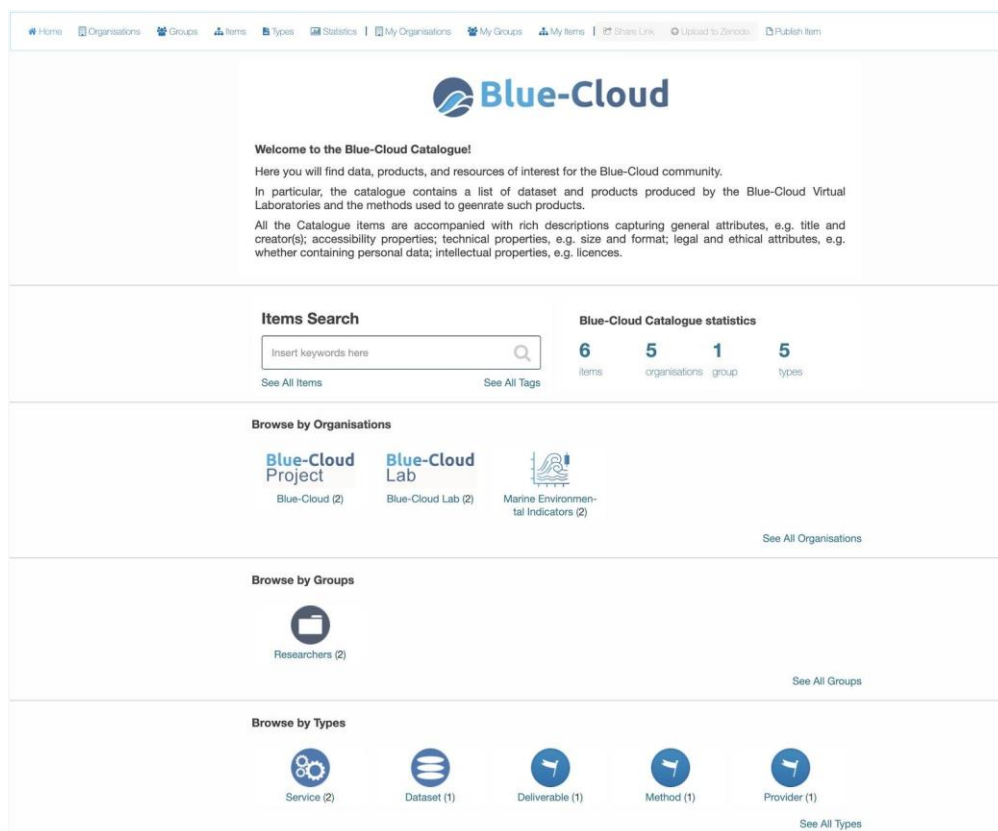
Figure 12 Screenshot of the Blue-Cloud Service Catalogue

The catalogue will ensure direct publication on Zenodo. The catalogue will be accessible for users via the main website by the end of March 2021. Activities are planned in Blue-Cloud for registering these

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[7] See D4.3 Report on the activities put in place to interface the Blue Cloud VRE services with EOSC

services within the EOSC catalogues, once operational**.** The maintenance of the Blue-Cloud catalogue is not limited to the project duration. The catalogue is part of the Blue-Cloud Virtual Research Environment (VRE), and one of the Key Exploitable Results (KER) identified by the project and for which an exploitation and sustainability plan is being defined. Therefore, any Blue-Cloud entity that should become responsible for maintaining the services of interest after the end of the project should establish agreements with D4Science, as providers of the catalogue.

The dissemination campaign for the Blue-Cloud catalogue will encompass its **presentation at key EOSC related events** (e.g. EOSC Symposium). A **podcast** can be organised, focused on the importance of open science in the marine domain and how the Blue-Cloud Data and Service Catalogue contributes to open science, along with a **webinar** by June 2022, after the release of D4.5 Interfacing EOSC Report (Release 2). As soon as there are enough resources registered in the Blue-Cloud Service Catalogue and the consequent publication in the EOSC catalogue, this also represents another relevant channel to promote the catalogue and reach wider audiences.

1.1.4   Blue-Cloud Data Discovery and Access Service

Stakeholders: Data Infrastructures & Horizontal e-Infrastructures, Academia and Researchers, International Organisations, Relevant EU-funded projects & initiatives, Influencers, hacktivists, NGO's & general public

Data infrastructures and e-infrastructures are digital infrastructures dealing with data collection, data management and the provision of the resources (e.g. cloud computing, storage, amongst others) necessary to run applications and scientific workflows.

The **Blue-Cloud Data Discovery and Access service** will allow the discovery and delivery of datasets from Blue-Cloud Virtual Research Environment (VRE), capitalising on existing data infrastructures. The Blue-Cloud **metadata catalogue** will be offered for harvesting via the EOSC central data catalogue and, with that, EOSC users will be able to find and retrieve Blue-Cloud data sets using the Blue-Cloud data brokerage, facilitating even more the multi-disciplinary datasets sharing between users. This technical interface will provide dedicated blue services complementing EOSC base services, to turn EOSC more attractive and fitting at the same time the purpose of the blue community. By the end of the project, it is **expected to have over 400 users from 25 countries**.

So far, the differences and commonalities among the data infrastructures involved in Blue-Cloud were analysed, in terms of discovery and access mechanisms, types of data, metadata format, data formats, metadata model, data aggregation level, use of vocabularies, amongst others. Furthermore, the first design principles of components were defined but will keep being updated during the project lifetime, related to:

- ● Federated discovery and access to the blue data infrastructures;
- ● Blue Cloud VRE as a federation of computing platforms and analytical services;
- ● Demonstrators as Virtual Labs;
- ● Embedding in Blue Cloud website;
- ● Interfacing with EOSC.

The first 18 months of Blue-Cloud were dedicated to the development of the main pillar of Blue-Cloud Data Discovery and Access service. Therefore, the main focus of the project was on providing visibility to the data infrastructures whose data will be findable through the Virtual Labs of the Virtual Research Environment (VRE) that will be accessed by the Blue-Cloud Data Discovery and Access service. The Blue-Cloud project created a dedicated section on the website[8] presenting the blue infrastructures involved in the project, which so far has over 2.500 views. **A series of interviews** with the Blue Data

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[8] https://www.blue-cloud.org/data-infrastructures

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infrastructures is being implemented, with 1 interview online by the time of writing of this report, which will be followed by other 9 interviews in the course of 2021 and 2022.

A communication campaign will be launched to promote the Data Discovery and Access Service when it will be fully operational, expected by Spring 2021, along with an interface with EOSC operational. In the activities foreseen, besides the usual social media efforts and newsletters, it is considered a series of **interviews and news articles**, bringing together both the service providers and users, on how the service is facilitating multidisciplinary research. The publication of **blog posts and implementation stories** is also foreseen from the end-users from different user profiles and countries, promoting as well the joint-authorship of these stories to highlight the interdisciplinary and international cooperation.

1.1.5   *Blue-Cloud Strategic Roadmap 2030*

Stakeholders: Data Infrastructures & Horizontal e-Infrastructures, Academia and Researchers, Policy & Funding bodies, International Organisations, Relevant EU-funded projects & initiatives, Influencers, hacktivists, NGO's & general public

The Blue-Cloud Roadmap to 2030 will be a strategic policy document guiding the future development of Blue-Cloud's efforts as a leading component of EOSC for the marine community. With some iterations during the project lifetime, its final version is planned to be presented at the Blue-Cloud Conference taking place at the end of the project. This activity requires close and regular dialogue with key stakeholder communities, including blue data and e-infrastructures, marine scientists & researchers, international organisations, policy and funding bodies from different sectors, as well as with industry.

During these first 18 months, Blue-Cloud engaged with different stakeholders to promote the roadmap towards inviting dialogue, feedback and contributions through a range of channels:

- The workshop "Improving the knowledge of our oceans and seas and bringing them closer to citizens" organised along with AANChOR and AORAC-SA projects and the AtlantOS program, had 110 participants, from which:
    - 55% of participants were from Academia and Research;
    - 23% were from Government/Public Administration and funding agencies;
    - 15 % were from industry sector;
    - 13% were from the NGOs sector.
- All-Atlantic Ocean Research Forum, with 600 participants, is a key event that brings together policy makers from countries around the Atlantic Ocean. They invited Blue-Cloud to do a presentation about the outcomes of the workshop "Improving the knowledge of our oceans and seas and bringing them closer to citizens";
- Policy Dialogue in November 2020, with over 20 participants from across different Directorate Generals (DGs) of the European Commission (DG RTD, DG GROW, DG DEFIS, DG MARE DG CONNECT and any other relevant DGs), where the ESEB member Nicolas Segebarth supported the invitation of DGs to attend the event;
- Presence at nine third-party events, were the Roadmap Open Consultation was also promoted;
- Organisation of two workshops with Blue-Cloud External Stakeholder & Expert Board (ESEB) in July and December 2020.

The first draft of the Roadmap will be released by the end of March 2021. An open consultation is planned in July 2021 to collect feedback towards the next iteration. More detailed information available in chapter "0

Blue-Cloud Roadmap dissemination & promotion".

The final version of the roadmap will be turned into a **designed booklet**, to be later distributed to key-stakeholders from policy and funding bodies, from Europe and beyond. It will also be promoted at the **workshops organised by Blue-Cloud or at third-party events**. A **press-release** will be prepared and distributed to key-media channels.

Information collected for the Blue-Cloud Roadmap will be considered to promote the Blue-Cloud Services Sustainability, namely "user personas" profiles the roadmap is investigating, addressing the needs of the user and how Blue-Cloud helps in their work. This activity will be very relevant to the sustainability of the Blue-Cloud outputs after the project conclusion.

1.2 The Blue-Cloud community

During the first 18 months of the project, Blue-Cloud was able to create a consolidated community of members interested in knowing how Blue-Cloud services will contribute to research and the Blue economy. The achievement of these results (see Table 3) was possible thanks to a coordinated and continuous communication effort by Blue-Cloud partners, who cooperated to support the promotion of the Blue-Cloud portfolio of results.

Table 3 Blue-Cloud Community members

Type	Results by M17
Engaged Users	1.600+ engaged users: 1.250+ Social media followers (839 Twitter + 418 LinkedIn + 20 YouTube subscribers), 438 newsletters subscribers. Note: 13.000+ website users
Social Media Community	1.250+ Social media followers (839 Twitter + 418 LinkedIn + 20 YouTube subscribers)
Website Sessions	13.000+
Website users	12.700+
Website page views	48.000+
Members of ESEB	14
VRE users	400
Synergies Stablished	33
Roadmap Open Consultation participants	138
Webinar participants	623 participants (1st webinar 121, 2nd webinar 136, 3rd webinar 94, 4th webinar 98, 5th webinar 174)
Policy Dialogue participants	32
Newsletter subscribers	440
Joint event by the Blue-Cloud, AANChOR and AORAC-SA projects and the AtlantOS program participants	109
Different contacts in the Blue-Cloud database	1.100+

Most of the contacts listed in the Blue-Cloud community database is based in Europe, but the project was also able to bring on board individuals from other countries, mainly the ones where FAO manages field-activities. African and American countries in the Atlantic region are also included, thanks to the collaboration and visibility achieved during the All-Atlantic Ocean Research Forum 2020 (see Figure 13).
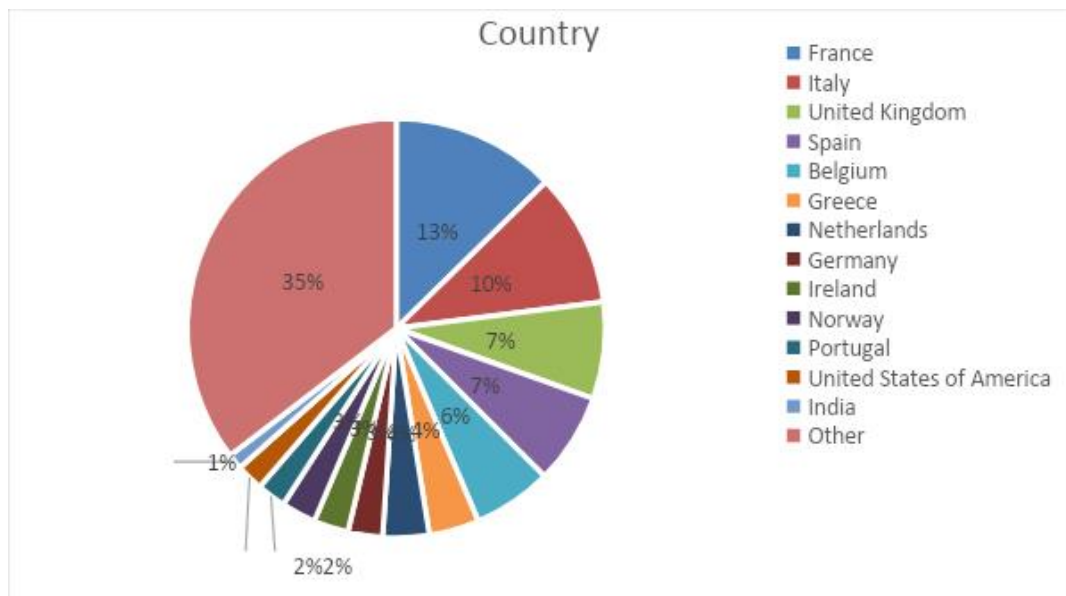
Figure 13 Countries of Blue-Cloud community database members

Almost two thirds of the contacts in the Blue-Cloud Community database are from Academia and Research (62%), followed by Policy & Funding Agency (13%) and SMEs (9%) (see Figure 14). This is a sign that Blue-Cloud has been mostly effective in reaching its primary stakeholders, since they represent 85% of all contacts. This is due to the close contact with marine scientists & researchers and data infrastructures regarding the demonstrators and Virtual Labs, followed by the organisation of events, workshops at key "Blue policy" events and the initial, open consultation organised for the Blue-Cloud Roadmap in 2020. Bringing together these members was also due thanks to the partners networks and also the synergies established so far.
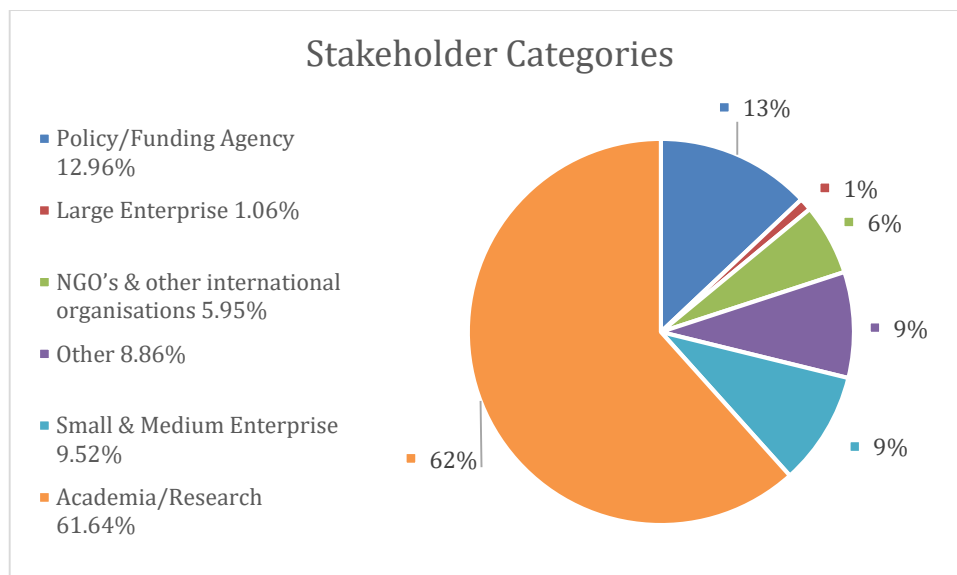
Figure 14 Stakeholder Category in Blue-Cloud Database

Last but not least, the aggregated users and accesses to the Blue-Cloud VRE has seen a continuous growth since the beginning of the project, with an increase of 286% (from 139 users to 397 from

October 2019 to February 2021) (see Figure 15). This number is expected to increase after the official launch of Blue-Cloud services and the demonstrators.
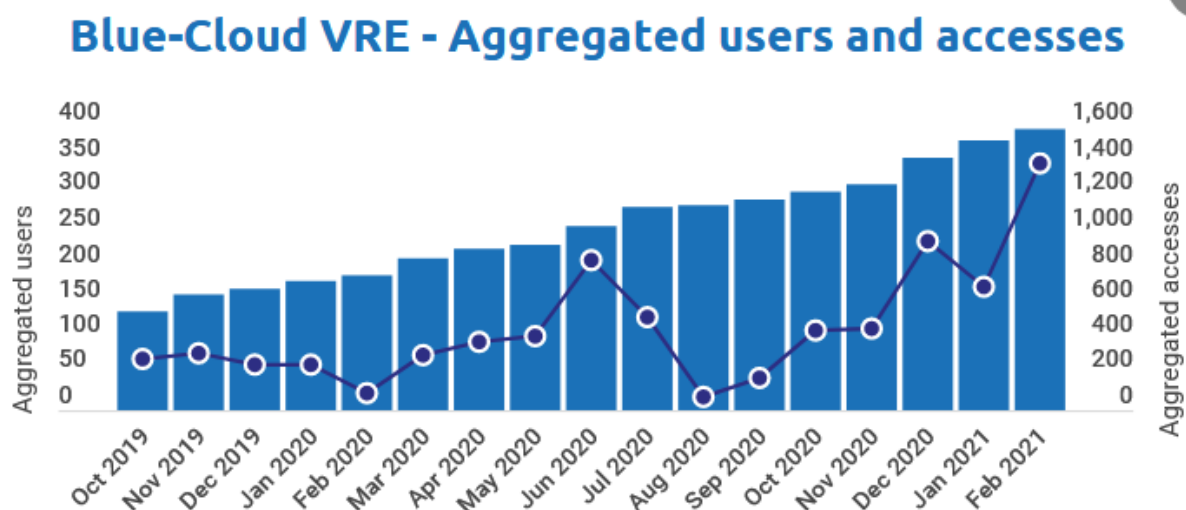
Figure 15 Aggregated users and accesses in Blue-Cloud VRE from October 2019 to February 2021

1.3 ESEB: new members & engagement

The Blue-Cloud is supported by the External Stakeholder & Expert Board (ESEB) for high-level guidance on strategy and policy and leverage of their relevant cross-sectoral networks. These individuals:

- Advise on strategic, global "Blue" trends;
- Facilitate the dialogue with policy makers and stimulate discussion between the relevant key stakeholders in the EU, and where appropriate, beyond;
- Help strengthen the Blue-Cloud framework, leveraging on their network and experience;
- Contribute to the Blue-Cloud Strategic Roadmap;
- Increase the visibility of the project and support the dissemination of project results.

The 14 ESEB members (see Table 4) are listed in a dedicated page on the Blue-Cloud website[9]. A total of three meetings were organised in 2020 on May 6th, July 1st and December 2nd. In these meetings, with the ESEB members, were shared the latest developments, collected feedback on project outcomes, asked for contributions to specific deliverables, and engaged as multipliers in their research communities.

Table 4 Blue-Cloud ESEB Members

Name	Institution	Most relevant skill
Irene Del Barrio Alvarellos	Water and Marine group, European Environment Agency (EEA) - **Denmark**	Worked in the implementation of different marine environment-related legislation, as well as participated in projects on maritime spatial planning, maritime security and marine pollution response. Irene also gives support to the European Commission in the reporting of the Marine Strategy Framework Directive.
Jean-Noël Druon	European Commission Joint Research Centre - **Belgium**	A scientific expert in marine ecology and ecosystem functioning. His work focuses on habitat modelling of marine top predators, support of spatial fisheries management (marine protected areas, temporary fishery closure) and fish stock assessment.
Tiziana Ferrari	EGI Foundation – **The Netherlands**	Project coordinator of EOSC-hub, the EC funded project bringing together an extensive group of national and international service

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[9] Link: https://www.blue-cloud.org/

Name	Institution	Most relevant skill
		providers and research infrastructures to create the EOSC Hub. Plus, she is an expert in international research governance, distributed computing and high-performance data analytics solutions.
Sheila JJ Heymans	European Marine Board and University of the Highlands and Islands – **Belgium and UK**	She sits on the "Modelling Workshop Steering Committee" of the Global Seamounts Project, the External Advisory Board for EMBRsea and EuroFleetsPlus, and was a lead author for the IPBES chapter: "Policy support tools and methodologies for scenario analysis and modelling of biodiversity and ecosystem services". She has 20 years' experience in the environmental impacts of fisheries and ecosystem change and has published 70 peer-reviewed publications on these topics.
Robert Huber	Centre for Marine Environmental Sciences - **Germany**	Responsible for projects in scientific data management and IT development especially in the fields of ontology development, marine observatory networks and biodiversity at the PANGAEA working group.
Rupert Lueck	EMBL - **Germany**	Experience in IT infrastructure, services and support around large-scale scientific computing, data management and clouds. This also includes software development and administrative IT to enable data-driven Digital Biology research.
David Mills	Integrated Marine Data and Information System - **UK**	Experience in Marine Observations, science-policy and more recently at the science industry-interface. He currently leads the development and implementation of a cloud-based data and cyberinfrastructure as part of two major EU funded programmes.
Alexandra Neyts	European Aquaculture Technology and Innovation Platform - **Belgium**	Ms. Alexandra Neyts is the General Secretary of the European Aquaculture Technology and Innovation Platform (EATiP), which is an officially recognised industry driven, multi-stakeholder network representing the sector. She is involved as partner and sector representative in several European projects and cluster initiatives. One of those is a collaboration with Copernicus Marine Systems and EMODnet to develop opportunities for data sharing in aquaculture.
Jaume Piera	European Citizen Science Association - **Germany**	Over 20 years of experience in multidisciplinary research programs, his research interests are focused on Information Technologies applied to Environmental Monitoring Technologies. His current research focuses on designing and evaluating scientific and technological infrastructures for environmental monitoring, particularly those based on citizen science approaches.
Peter Pissierssens	IODE - **Belgium**	Nearly 25 years of experience in project management related to ocean data and information exchange. Peter Pissierssens is the Head of the IOC Project Office for IODE, Oostende, Belgium since 2007, with nearly 25 years of experience in project management related to ocean data and information exchange. After research and field experience in Belgium and Kenya, he moved to UNESCO's Intergovernmental Oceanographic Commission (IOC) Headquarters in Paris, France in 1992 taking responsibility for marine information management activities, followed by data management, bathymetry and tsunami warning and mitigation.
Karl Presser	Premotec GmbH and International Measurement Confederation - **Switzerland**	He trained as a computer scientist and earned his doctoral degree at ETHZ investigating data quality on food composition data focusing on basic principles of data quality and how a computer system can support users to manage data quality.
Nicolas Segebarth	European Commission - **Belgium**	Member of the "Healthy Oceans and Seas Unit" of DG Research and Innovation, to develop and implement research & innovation policy on ocean observation.

Name	Institution		Most relevant skill
Toste Tanhua	GEOMAR **Germany**	-	Toste Tanhua is a chemical oceanographer active at GEOMAR Helmholtz Center for Ocean Research Kiel in Germany, focusing his research on ocean transient tracers and ocean observing systems. As the coordinator of the EU project EuroSea, that aims at improving the ocean observing and forecasting system, there are close ties to the EuroSea project, funded from the same call.
Martin Visbeck	GEOMAR **Germany**	-	His research interests revolve around ocean dynamics and the ocean's role in the climate system, integrated global ocean observation and ocean sustainable development. He advanced the 'Future Ocean' Network in Kiel to advance integrated marine sciences by bringing together different disciplines to work on marine issues. Martin Visbeck is involved in strategic planning and decision-making processes about the ocean and sustainable development at a national, European and global level.

1.4 Future Engagement Plans

In the next period (M19-M36, April 2021 - September 2022), in order to increase the Blue-Cloud database and community, the project will keep engaging with stakeholders, now more focused on the technology adoption, as well as step up the engagement with secondary stakeholders (Industrial players & Trade Associations and Influencers, activists, NGO's & general public). This will be possible thanks to the organisation of additional webinars, Blue-Cloud events (Open Events), the Blue-Cloud Hackathon, the increase of newsletter subscribers, number of synergies and, very important, the number of users of the Blue-Cloud VRE and services, including the demonstrators' Virtual Labs.

Regarding the **copy strategy**, the next period will be focused on collecting feedback and also perform tests with the future service users. This activity will help the project to fine tune its assets and, consequently, define clearly the value proposition and the competitive advantages of the services and promote the message to the targeted stakeholders with customised messages. The main focus for communication and dissemination efforts will be aimed at increasing service adoption and long-term sustainability, after the project conclusion.

Furthermore, the project will also focus on **expanding the international dimension** of its audience, not only on the services exploitation side, but also for collecting inputs about the Blue-Cloud Roadmap. Therefore, the key is to increase our collaboration not only with EU initiatives but also international ones. WP5 is working closely with WP6 on these activities and will make use of the network of ESEB members. For more information about "Synergies", please read the chapter 0

Synergies in the Blue Community and Open Science.

2 Main Outreach and dissemination achievements from M1-M18 and future plans

2.1 Editorial Plan

WP5 provides updates to the community about the project's activities, via a variety of tools such as news, events, webinars, social media channels, newsletters. As a prime example, over the course of the first year, WP5 produced a series of five articles in collaboration with WP3 to offer detailed introductions to the five real-life demonstrators:

- Zoo & Phytoplankton EOV Products;
- Plankton Genomics;
- Marine Environmental Indicators;
- Fish, a matter of scales;
- Aquaculture Monitor.

WP5 has also provided support to WP6 in creating and promoting the first open consultation on the Strategic Roadmap to 2030, which is described in more detail in chapter 0

Blue-Cloud Roadmap dissemination & promotion.

During the project timeframe, especially at main events organised by Blue-Cloud, WP5 is producing interviews to representatives of different stakeholders' groups. These interviews, besides representing content generation opportunities, provide opportunities to reach out to influencers in the marine research sector and collect insights on challenges, expectations and latest developments relevant to the Blue-Cloud community.

As of January 2021, we have published 5 interviews with Blue-Cloud demonstrator managers, and launched a new series of 10 interviews with representatives of the blue data infrastructures. Based on the established synergies, more interviews will be made. A total of **59 news pages** were published on the website, plus **54 event pages**.

Visibility is also given to topics and initiatives which are relevant to the marine research community, such as the UN Decade of Ocean Science or the future EU pilot Digital Twin of the Ocean, providing useful links to be exploited in Blue-Cloud.

2.2 Website and Social Media

Blue-Cloud's website www.blue-cloud.org was launched on 23rd December 2019. It represents the central digital hub for communication and engagement. The platform will evolve during the project, making Blue-Cloud assets available, as well as publishing use cases that demonstrate Blue-Cloud outputs and all relevant project updates and also some major news from the blue economy sector. The main goal of these updates is to increase visibility for the project activities and to promote the Blue-Cloud technical developments and user scenario. As of 26st March 2021, the website reached an audience of 15,357 visitors with 25,105 sessions.

2.1.1   Website

Since the first iteration described in D5.1, there have been several updates in terms of sections and content.
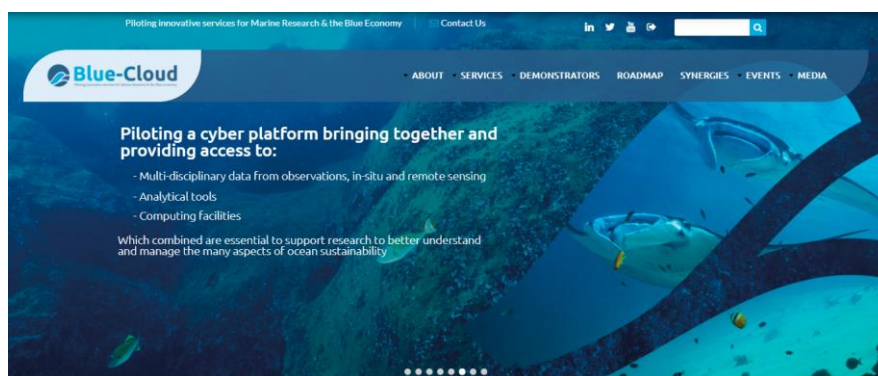
Figure 16 Blue-Cloud website homepage
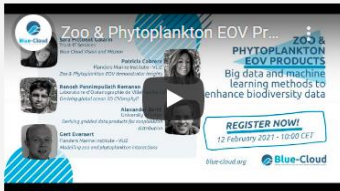
New menu items have been specifically created for key elements of the Blue-Cloud project, such as the Roadmap and Synergies sections, in order to give more visibility to their progress.

The "About" section now also includes dedicated pages for the data infrastructures and the e-infrastructures involved in Blue-Cloud. The "Media" menu item features links to news, documents, previous newsletters, and promotional materials. A new page "Webinars" collecting all the Blue-Cloud webinars has been added under the "Events" section, allowing users to watch the recordings and go back to the agendas and slides of each virtual meeting (see Figure 17).

Figure 17 Blue-Cloud Webinars page

As of the end of M16 (January 2021), the Blue-Cloud website has met its KPIs for M12 and is already on track for the long-term ones (see Table 5).

In this first phase, the three most popular sections of the Blue-Cloud website in terms of visits - aside from the home page with more than 9,000 views - were the following:

- Page on the Blue-Cloud February 2020 workshop[10] - 1561 views
- About Blue-Cloud[11] - 1467 views
- Webform for the first Blue-Cloud Roadmap to 2030 online consultation[12] - 1425 views

Table 5 Website KPIs

KPI	M12	M24	M36	March 2021 M16
Users	3,600	8,400	13,200	**15,357**
Sessions	9,600	19,200	28,800	**25,105**

2.1.2   Social media

The social media activity of Blue-Cloud mostly focuses on its **Twitter**, **LinkedIn** and **YouTube** channels, providing an instant form of communication with community members and potentially interested people or organisations out of the community. Through frequent activity and interaction, the outreach team will ensure continual visibility of the project's efforts such as events, seminars, news posts, and announcements. Social media channels especially support community building by providing a path from seeing the messages to potentially converting as an engaged stakeholder.

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[10] https://www.blue-cloud.org/events/knowledge-oceans-seas-citizens

[11] https://www.blue-cloud.org/about

[12] A first overview of the results can be found here: https://www.blue-cloud.org/news/blue-cloud-roadmap-2030-unwrapping-first-consultation-results

By M17 (February 2021), the community has grown into a total of 788 Twitter followers, where the 584 tweets achieved over 560.000 impressions. Furthermore, the LinkedIn community has 397 followers and the 24 YouTube videos have garnered over 3.000 views (see Table 6).

Table 6 Social Media KPIs

Channel	KPI by M36	February 2021 M17
Twitter	1,000 followers 700,000 impressions 700 tweets	788 followers 562,100 impressions 484 tweets
LinkedIn	200 followers (changed to 600) 100,000 impressions	397 followers 25,383 impressions
YouTube	6 videos 500 views per video across channels	8 videos (excluding webinars and workshops) On track (358 average views per video)

Twitter

In the first year of the project, Blue-Cloud social media channels have become some of the most active in the EU marine research community.

In particular, the Twitter account **@BlueCloudEU** has already reached **788 followers** as of February 2021 (a **135.9% increase** since D5.1 in March 2020), thanks to frequent posts, mentions and retweets from relevant profiles in our stakeholder communities. Examples of these profiles are the European Marine Board (@EMarineBoard), IPBES (@IPBES) and ICES (@ICES_ASC).

Figure 18 Blue-Cloud Twitter header

Over the last few months, we have launched a series of social media cards featuring the people of Blue-Cloud, including photos and brief quotes in order to deliver a more personal message to our followers (see Figure 19 Examples of Twitter cards with Blue-Cloud members).

Figure 19 Examples of Twitter cards with Blue-Cloud members

Dedicated images, as well as brief animated videos, are also created to promote webinars and other events on social media, making Blue-Cloud a well-recognised initiative (see Figure 20).

Figure 20 Examples of cards to promote events and webinars

LinkedIn

After a slow start in Year 1, the Blue-Cloud community on LinkedIn has seen an important growth around the end of 2020. This was thanks to efforts from all WP5 partners, who helped promote the content and invite potentially interested users to follow the page.
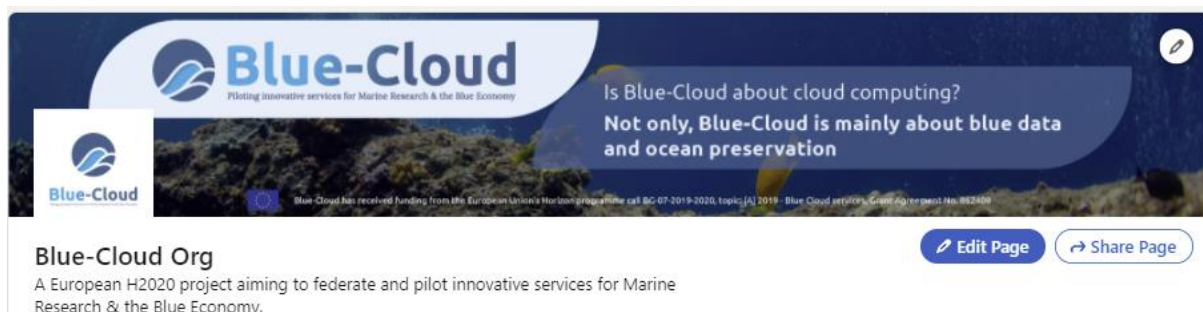
Figure 21 Blue-Cloud LinkedIn header

With 397 followers as of February 2021 (a **802.27% increase** since D5.1), the LinkedIn profile **Blue-Cloud Org** has already more than surpassed its intended KPI for M36 (200 followers). To further build the project's outreach WP5 is now targeting reaching **600 followers** by the Project end. Just like Twitter, the LinkedIn page counted with timely publications of project updates (see Figure 22)

D5.2 Communication, Dissemination & Stakeholders Engagement Interim Report
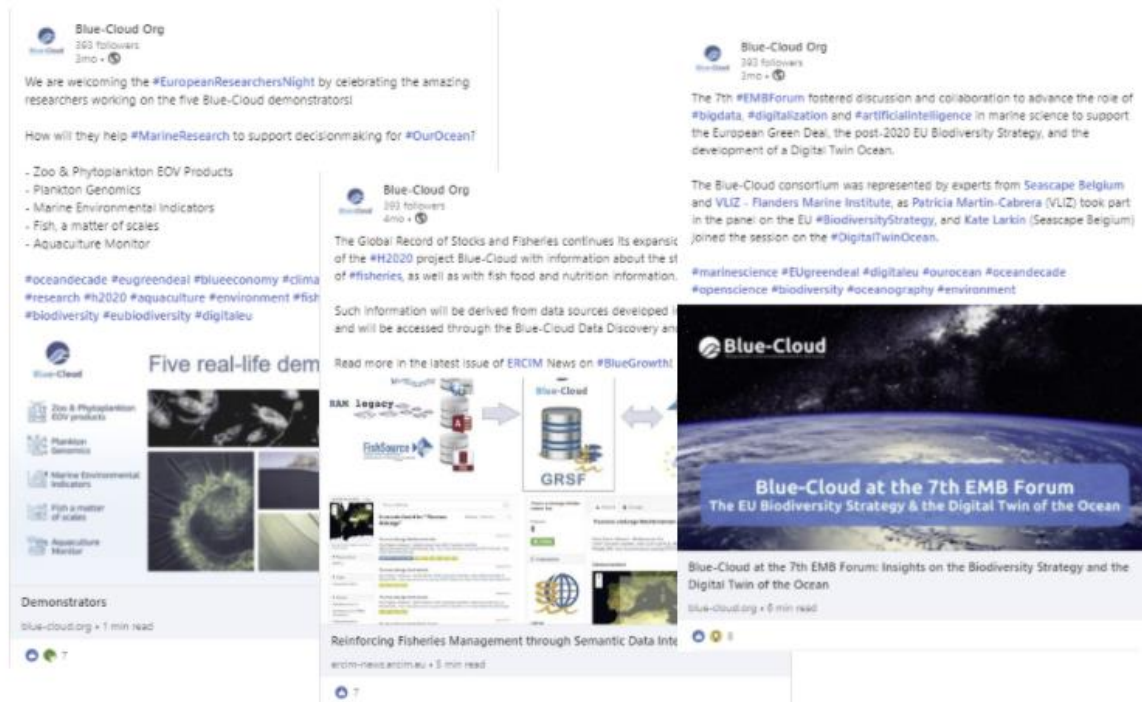
Figure 22 Examples of successful posts on Blue-Cloud LinkedIn

YouTube

All the relevant videos and webinars produced by Blue-Cloud are uploaded to the Blue-Cloud YouTube channel, and collected in specific playlists where necessary (webinars, specific events).

Figure 23 Blue-Cloud YouTube header

As of February 2021, the Blue-Cloud channel features a total of **24 public videos, with a total of over 3.000**:

- 5 webinars;
- 6 interviews;
  - 5 with representatives of demonstrators;
  - 2 with representatives of data infrastructures.
- 3 videos from the All-Atlantic Ocean Research Forum 2020;
- 8 videos from the Blue-Cloud workshop "Improving the knowledge of our oceans and seas and bringing them closer to citizens";
- 1 promotional video for the EU Research & Innovation Days 2020;
- 1 promotional video for the first Blue-Cloud webinar.

At the beginning of Year 2, WP5 launched a series of video interviews with representatives of each of the 10 marine data infrastructures involved in the project. The first one was published in December

2020, featuring Jean Oliver Irisson, who provided an overview of the web application EcoTaxa (see Figure 24). Shorter versions of these interviews are used on social media channels as video pills.

Figure 24 A screen from the interview with Jean Olivier Irisson (EcoTaxa)

2.3 Communication Toolkit & Newsletters

Blue-Cloud Newsletters include details about upcoming and past events, as well as achievements and relevant messages for the Blue-Cloud community. Its content is shaped around the milestone results of the work plan, featuring comments and articles published on the Blue-Cloud website.

So far, 13 newsletters were circulated (see Table 7 Blue-Cloud newsletters) to an audience of more than 440 contacts highly engaged in the blue economy. This community has shown interest in receiving constant updates from the project, after participating in Blue-Cloud events, such as the webinar series introducing the 5 Demonstrators and following the contribution to the first public consultation towards building the Blue-Cloud Roadmap to 2030.

The percentage rate of opened articles has been quite stable in the last year, despite the fact that lately the amount of issues sent has increased, and the audience has grown as well. A percentage rate of open issues between 33 and 37 is good and shows interest in the content of the project.

Table 7 Blue-Cloud newsletters

N	Title	Date	Total opens (%)	Total clicks (%)
1	All You Need To Know About The "Improving The Knowledge Of Our Oceans And Seas" Workshop, 5 February	04.02.2020	70,8	43,1
2	Thank You For Your Participation At The "Improving The Knowledge Of Our Oceans And Seas" Workshop	14.02.2020	47,2	25
3	Welcome To The Blue-Cloud Newsletter: Get To Know The Blue-Cloud Project And Read What They Say About Us	14.05.2020	45	14
4	Join Webinar 19 June 2020	Blue-Cloud Demonstrators - Helping Translate Marine Research Into Innovation For The Blue Economy	09.06.2020	41,7	10,1
5	Webinar Recording, Plankton Demonstrator, New Synergies & Much More	25.06.2020	40,9	11,4
6	Roadmap To 2030, Marine Environmental Indicators Demonstrator, New Webinars & Much More	30.07.2020	42,3	12,4

D5.2 Communication, Dissemination & Stakeholders Engagement Interim Report

N	Title	Date	Total opens (%)	Total clicks (%)
7	Join Us For The Webinar 25 September 2020 | The European Research & Innovation Days | Blue-Cloud Roadmap To 2030 & Much More	21.09.2020	32,7	15,6
8	Join Us Tomorrow 14 Oct For The New Webinar | Have Your Say! On The Roadmap 2030 | Events With Blue-Cloud & Much More	13.10.2020	38	11,5
9	Have Your Say On The Roadmap 2030 By 6 November | The Next Webinar On Marine Environmental Indicators | Events & Much More	04.11.2020	37	7,5
10	Blue-Cloud Newsletter: Join Us On 4 December For The New Webinar "Marine Environmental Indicators"	02.12.2020	37,4	11,7
11	Our Season's Greetings Come With Latest News-->Synergies Overview, Save The Date For The Next Webinar In February & Much More	23.12.2020	33,6	9,2
12	Next Webinar 12.02 | The First Of New Interviews' Series With Jean-Olivier Irisson - EcoTaxa | First Results Of Roadmap & More	02.02.2021	36,5	8,8
13	The Public Workshop On 23 March, The Virtual Research Environments Explained, Next Events And Much More	05.03.2021	33,6	11,2
		Average	**41,28**	**14,73**

Concerning communication materials, besides the logo, a complete communication toolkit[13] has been prepared and will be further developed during the project for all partners to use, in either digital or printed formats, for promoting Blue-Cloud (see Table 8 Blue-Cloud Communication materials by M18). The materials will be developed based on analysis of needs during the project lifetime and will be used to raise awareness and understanding of the Blue-Cloud offer. The production of a **booklet** with Blue-Cloud final legacy is foreseen, which will include user-stories covering Blue-Cloud Data Discovery Access Service and other Blue-Cloud services (e.g Demonstrators).

Table 8 Blue-Cloud Communication materials by M18

Type	Produced by M18
Posters	2 posters: o Blue-Cloud Poster_70x100 o Blue-Cloud Poster EOSC-Hub Week
Flyers	1 flyer: Blue-Cloud Flyer_A5
Rollup banner	1 rollup banner: Blue-Cloud Roll-up Banner
Press Release	1 Press release: Launch of Blue-Cloud, a ground-breaking project piloting innovative services for Marine Research & the Blue Economy - Dec 2019
PPT template	1 template: Blue-Cloud PPT Template
Videos	24 videos (more info under chapter "Social media")

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[13] https://www.blue-cloud.org/communications-kit

Type	Produced by M18
Give aways	Pens and notepads (see Figure 25)

Figure 25 Blue-Cloud Notepad and pen

2.4 Press and Media Coverage

A Press Release was delivered after the kick-off meeting and others will be spread in conjunction with the main project milestones to ensure timely communication of the progress of the project. In support of Blue-Cloud awareness raising and visibility, a selection of press and media channels are targeted. Blue-Cloud already had dedicated articles in the following magazines:

● Article about FORTH's role in Blue-Cloud project[14];

● "Marine Science in the Cloud" on the ECO Magazine[15];

● "Understanding and Managing Ocean Sustainability: The Blue-Cloud Project"[16] on the special issue of ERCIM News on Blue Growth (see Figure 26);

● The paper "On the Evolution of Semantic Warehouses: The Case of Global Record of Stocks and Fisheries"[17] was also presented at the 14th International Conference on Metadata and Semantics Research (MTSR 2020) and awarded as one of the best two papers.

Figure 26 Tweet promoting Blue-Cloud special issue on the Blue-Growth magazine

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[14] Link: https://www.patris.gr/2020/01/10/protoporiako-programma-to-ite-katagrafei-tin-pagkosmia-alieia/

[15] Link: https://www.blue-cloud.org/news/blue-cloud-featured-latest-issue-eco-magazine

[16] Link: https://www.blue-cloud.org/news/blue-cloud-featured-special-issue-ercim-news-blue-growth

[17] Link: https://www.blue-cloud.org/news/blue-cloud-paper-fisheries-team-awarded-mtsr-2020

2.5 Future Plans

The **editorial plan** for the next months includes interviews with representatives of different stakeholders' groups, namely blue data infrastructures, the developers behind Blue-Cloud services and the adopters of the services, amongst others. As usual, timely updates about project achievements and relevant topics for the marine community (even if not directly related to Blue-Cloud) will be prepared. The overall aim, besides informing the Blue-Cloud audience about project updates, is also **to give a voice to the community**. The goal is to collect 30 interviews or blog posts, focusing on different stakeholder groups, from at least 10 different countries.

Following the evolution of the Blue-Cloud technical framework and the development of the five demonstrators, the **Blue-Cloud website** is undergoing frequent updates to showcase these changes for the benefit of its expanding audience.

A new menu item featuring the **Blue-Cloud Services** was launched in Q1 2021, and its content is planned to be updated and expanded in Q2 2021. The planned pages are as follows:

- Blue-Cloud Data Discovery and Access Service;
- Blue-Cloud Virtual Research Environment;
- Blue-Cloud Catalogue;
- Technical architecture interface with EOSC.

A **Blue-Cloud Zenodo community** is about to be officially launched and connected to the Blue-Cloud Catalogue. The link to Zenodo will also be featured on the Blue-Cloud homepage.

As the beta versions of all five demonstrators are released via the Blue-Cloud Gateway on D4Science by the end of Q1 2021, the dedicated section on the Blue-Cloud website will include **direct links to these Virtual Labs** in order to allow researchers to test them and experience first-hand the potential of the Blue-Cloud Virtual Research Environment.

A **support centre** collecting FAQs, guidelines and useful materials for users will also be featured on the Blue-Cloud website in Q2 2021.

Regarding social media, the Blue-Cloud communication team aims to prepare even more Twitter and LinkedIn cards, giving more visibility to researchers and partners involved in Blue-Cloud, in order to showcase the vibrant community behind it. A stronger focus will be put in place to engage with relevant stakeholders on LinkedIn, via tagging and posting in dedicated groups on marine research and blue economy. Furthermore, social media efforts will be dedicated to promote, during the next months, major updates on the Blue-Cloud project, related to the Roadmap, Demonstrators and Services development, along with user stories, interviews from stakeholders and the blue infrastructures involved in the project, as well as synergies.

Communication materials will be produced according to the project's needs. So far, the following materials are foreseen: a booklet with all synergies established; a branded booklet with the final Blue-Cloud Roadmap to 2030; and a booklet featuring successful user stories of the Blue-Cloud services. Regarding **newsletters**, even if Blue-Cloud surpassed the KPI of sending 12 newsletters till the end of the project (by March 2021, 13 newsletters have been sent), the project will keep informing its community with latest Blue-Cloud updates and trendiest topics from the blue sector.

The project will also aim to increase the number of publications and references in **press and media channels**, since it's a relevant channel to expand the project visibility to new audiences. For the moment, the project is discussing the publication of an article at the Patterns Cell Press, an open access journal publishing ground-breaking original research across the full breadth of data science.

More generically, now that the project is in its second phase, **the Blue-Cloud copy strategy for future communications and dissemination** efforts will be focused on the creation of "user stories'' about the demonstrators and the VREs that are easily understandable by Blue-Cloud stakeholders. Transform the technical knowledge and features into "Agile User Stories'', listing what are the benefits the KERs will bring to its target audience. How do services bring a positive impact to the Blue economy? How can stakeholders get concrete benefits from Blue-Cloud outputs? How do the synergies established between Blue-Cloud and other initiatives represent a win-win gain for the sector? How can different blue economy players benefit together from Blue-Cloud? With this in mind, demonstrations of Blue-Cloud services will be organised and the promotion of the project KERs value propositions will be promoted, to increase the levels of service adoption by future users.

3 Events activities and coverage

3.1 *Blue-Cloud Events*

3.1.1 *Blue-Cloud Roadmap Workshops*

As explained in Section 5, two separate Roadmap workshops were organized in July and December 2020, both bringing B-C ESEB members together to guide initial steps towards building the Blue-Cloud Roadmap to 2030 and to exchange reflections on the preliminary results of early stakeholder dialogue with the B-C Community. In between, a third "policy dialogue" workshop ("Blue-Cloud Policy Dialogue: Co-creating the Roadmap to 2030"[18]) was held in November 2020 with over 20 representatives from different DGs of the European Commission (including DG RTD, DG GROW, DG DEFIS, DG MARE DG CONNECT, amongst others). Due to the COVID-19 pandemic, all workshops were converted into online events.

Figure 27 "Blue-Cloud Policy Dialogue: Co-creating the Roadmap to 2030" promotional image

The purpose of this policy session was to consult key **Directorate-General**'s (DGs) of the **European Commission** on their **vision** and **expectations** for **Blue-Cloud**, in order to build their input into early discussions on the **Blue-Cloud Roadmap to 2030** (see Table 9). Contributions gathered during the meeting have been taken into consideration into the production of the first draft of the Blue-Cloud Roadmap 2030. ESEB member Nicolas Segebarth (Policy Officer) played a key-role in engaging with representatives from the different DGs, bringing them on board for this online event.

Table 9 Blue-Cloud Roadmap Workshop draft agenda

Time	Theme	Speakers
10:00-10:15	**Welcome and objectives, including** *"Tour de Table" of participating DGs*	• **Nicolas Segebarth** (Policy Officer; DG Research & Innovation) • **Francesca Spagnoli** (Blue-Cloud Project Coordinator; Trust-IT Services)
10:15-10:35	**Session 1: Introduction to the Blue-Cloud project -** Overview of objectives, activities and assets of the Blue-Cloud project and synergies activated with other initiatives. *Q&A session*	• **Francesca Spagnoli** (Blue-Cloud Project Coordinator; Trust-IT Services) • **Dick Schaap** (Blue-Cloud Technical Coordinator, MARIS)

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[18]   https://www.blue-cloud.org/events/blue-cloud-policy-dialogue-co-creating-roadmap-2030

Blue-Cloud

Time	Theme	Speakers
10:35-11:25	**Session 2: The Blue-Cloud Roadmap to 2030**. Building policy priorities and expectations of the European Commission into the development of the Blue-Cloud ● Overview of the Blue-Cloud's stakeholder engagement process towards co creating the Blue-Cloud Roadmap to 2030 and initial perspectives on the first online consultation to the Blue-Cloud community. ● Structured dialogue with participating DG representatives to identify and discuss: ○ The vision for the development and long-term sustainability of the Blue-Cloud and how far it should build into the Digital Twin Ocean; ○ The policy priorities of the different DGs and how the Blue-Cloud can contribute to meeting their "user needs" in support of their objectives in the short, medium and long term.	**Kate Larkin** & **Julia Vera** (Seascape Belgium) *Discussion facilitated by Seascape Belgium*
11:25-11:30	**Wrap up and next steps**	**Francesca Spagnoli** (Blue-Cloud Project Coordinator; Trust-IT Services)
11:30	**Closure**	

A fourth Roadmap workshop is planned to take place in May 2021 to gather feedback from the B-C ESEB on the first early draft of the B-C Roadmap, which will be produced by March 2021. Following this workshop, the first draft of the B-C Roadmap to 2030 will be released for wide public consultation in June 2021.

3.1.2   Blue-Cloud Open Workshop

Due to the COVID-19 pandemic, the first edition of the Blue-Cloud Open Workshop was postponed from M14 (November 2020) to M18 (March 2021). Considering that the main goal of these workshops is to showcase the Blue-Cloud Demonstrators, and some beta versions would only be ready by February 2021 and not in November 2020 due to the pandemic, the consortium suggested the possibility of postponing it, which was accepted by the European Commission.

The first Blue-Cloud Open Workshop, "Open Science for Ocean – meet the Blue-Cloud demonstrators"[19]took place on 23 March 2021, as a virtual half-day event. The main goal of the event has been to demonstrate the technical innovations that the Blue-Cloud demonstrators are achieving through the use of the B-C infrastructure and services.

Figure 28 "Blue-Cloud Open Science for Ocean Workshop" promotional image

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[19] https://www.blue-cloud.org/events/open-science-ocean-meet-blue-cloud-demonstrators

The event included an **open and moderated discussion**, **featuring participants from the ESEB and other initiatives** (e.g. FNS-Cloud) who are working with Blue-Cloud on facilitating smart sharing of multi-disciplinary datasets.

Taking into account the Roadmap work plan, the **event also shared initial reflections on the Blue-Cloud Roadmap to 2030** for the future exploitation of Blue-Cloud KERs, well embedded as a leading system in the wider marine community, as well as reflecting on the preliminary approach and next steps towards the B-C Roadmap to 2030.

The **workshop gathered representatives of marine data infrastructures, research infrastructures and e-infrastructures, Policy Makers, blue economy industry, researchers & scientists, ICT industry, producers, distributors and users of marine data and representatives of other European initiatives.** Table 10 offers an overview of the agenda of the workshop.

Table 10 Blue-Cloud Open Workshop draft agenda

Time	Theme	Speakers
11:00-11:45		
11:00 - 11:05	The relevance of Blue-Cloud within the EC Framework Programmes	Nicolas Segebarth, Policy Officer, unit Healthy Oceans & Seas at European Commission
11:05 - 11:10	Demonstrating the potential of Open Science in the Marine domain	Sara Pittonet, TRUST-IT and Blue-Cloud Coordinator
11:10-11:15	Setting the scene of the Marine data landscape: the Blue Cloud Flagship project	Dick Schaap, MARIS and Blue-Cloud Technical Coordinator
11:15 - 11:30	The Blue-Cloud Lab	Pasquale Pagano, CNR-ISTI
11:30 - 11:45	Coffee break	--
11:45 - 13:00	Unlocking the potential of Open Science: Meet the B-C Demonstrators	
11:45 - 11:55	<u>Fisheries & Aquaculture</u> Fish, a matter of scales and Aquaculture Monitor (Demonstrators	● Anton Ellenbroek, FAO
11:55 - 12:05	<u>Plankton biodiversity & genomics</u> Plankton Genomics Demonstrator Zoo and Phytoplankton EOV products Demonstrator	● Pavla Debeljak, Sorbonne University ● Patricia Cabrera, VLIZ
12:05 - 12:15	Marine Environmental Indicators Demonstrator	Massimiliano Drudi, CMCC
12:15 - 12:45	**Open, Moderated Discussion**	Introduced by **Sheila JJ Heymans,** Executive Director of the European Marine Board, **Jaume Piera,** Chair at the European Citizen Science Association (ECSA), **Robert Huber,** Marine Geologist and Information Specialist at MARUM
12:45 - 13:00	The Blue-Cloud Roadmap to 2030	Julia Vera and Kate Larkin, Seascape Belgium
13:00	**Wrap-up & conclusions**	Sara Pittonet Blue-Cloud Coordinator and Project Manager at Trust-IT Services

Figure 29 Blue-Cloud Open Workshop Official page (top part)

Blue-Cloud used several communication channels to reach stakeholders, also considering many media and specialised channels catering to larger audiences. A sample of the formats used is provided in the table below. Along with these ones, Blue-Cloud exploited the networks of partners and contacted organisations with whom already established synergies with.

Action	Description
Social Media	Twitter: tweets inviting potential attendees to join the workshop, using handles of speakers, blue-economy associations, municipalities and multipliers. LinkedIn: LinkedIn posts describing the event, followed by messages posted in key groups.
Newsletters	Launch of newsletters with call-to-actions to join the event, with a copy strategy to immediately grab the reader's attention.
Press Releases	Dissemination of press releases to media, associations, initiatives, synergies and EOSC Secretariat Liaison Platform, followed by follow-up actions.

Figure 30 Formats to promote Blue-Cloud Open Workshop and engage with end-users

The **impact analysis** of the workshop was based on the number of:

- **Number of participants, classified by stakeholder, having as KPI over 50 participants**: total of 208 participants, being almost half from Research and Academia (48%), followed by Horizontal e-Infrastructures (17%) and Blue Data Infrastructures and Research Infrastructures (10%) alongside with NGOs and international organisations (10%) (see Figure 31);

- **Number of visitors on Blue-Cloud website, as well as newsletters subscriptions**: there was a peak of website visitors on the day before of the workshop (340+ users), achieving also a high number of website visitors on the workshop day (220+) (see Figure 32);

Blue-Cloud

- **New followers on Twitter, Twitter impressions/interactions, as well as on LinkedIn**: a peak of impressions on Twitter was reached on 23rd March. LinkedIn also had a peak on the workshop day (see Figure 33);
- **New users in the Blue-Cloud VREs**: a 9% growth during March (compared to February), connected to the workshop (new users: 11 for Blue-Cloud Lab, 6 for Marine Environmental Indicators, 5 for Zoo-Phytoplankton-EOV, 1 for Fishery Atlas and 8 for Alien and Invasive Species). Furthermore, there was a 30% increase in the number of sessions (2134 in March against 1666 in February);
- **Feedback collected from participants**, which will contribute to improve the Blue-Cloud outputs and also the next edition of the Open Workshop. A dedicated news article was published on Blue-Cloud website[20] focused on the main outcomes and comments collected from participants.
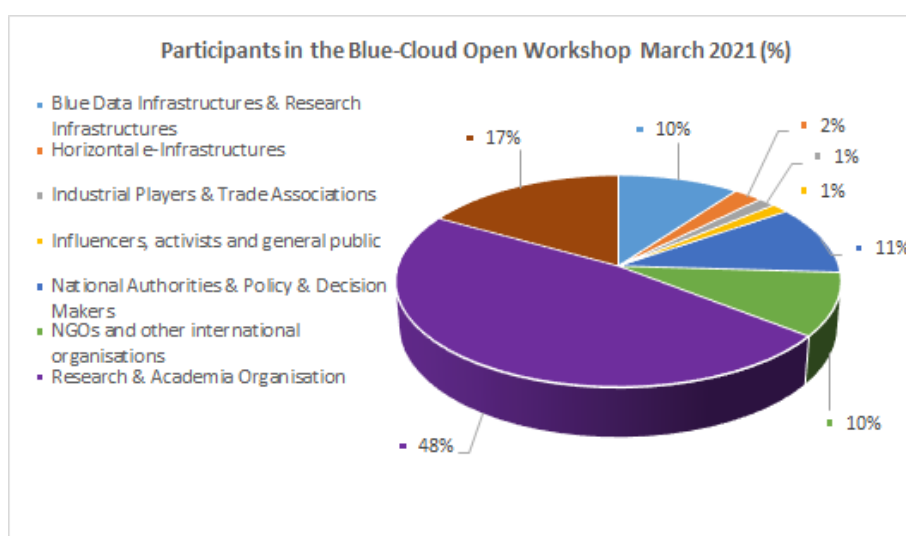
Figure 31 Participants in the Blue-Cloud Open Workshop March 2021 (in %)
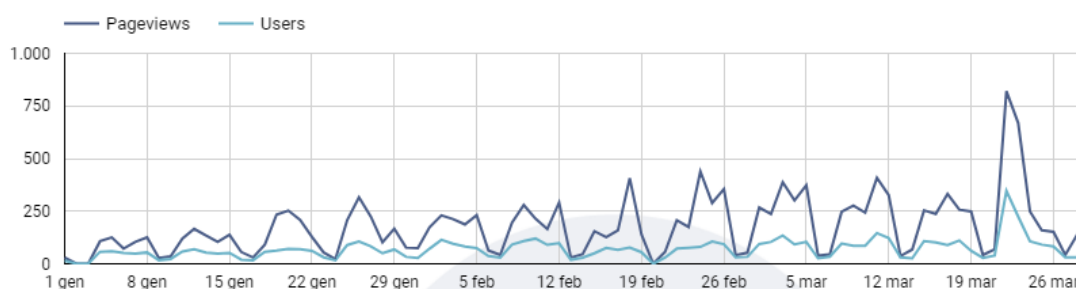
Figure 32 Peak of Blue-Cloud website visitors during the Blue-Cloud Workshop

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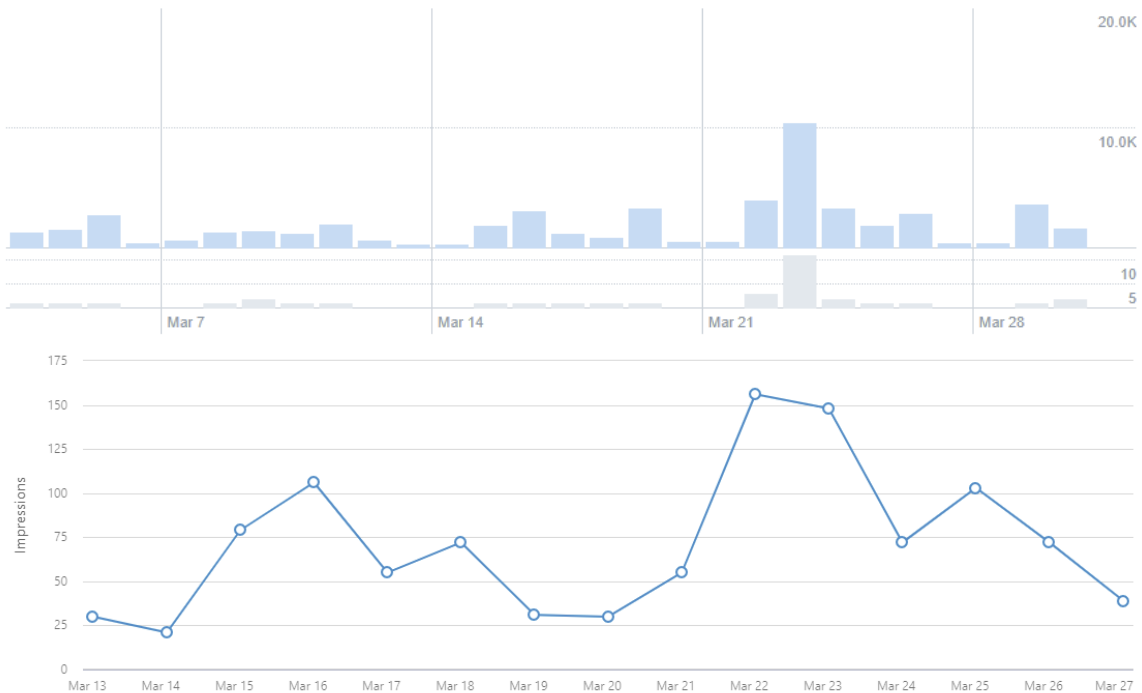
Figure 33 Peak of impression on Blue-Cloud Twitter (left) and LinkedIn (right) during the workshop

3.1.3   Blue-Cloud events co-organised with other initiatives

On 5 February 2020, Blue-Cloud co-organised a half-day workshop with AANChOR and AORAC-SA projects and the AtlantOS program, in Brussels (Belgium), titled "Improving the knowledge of our oceans and seas and bringing them closer to citizens"[21].
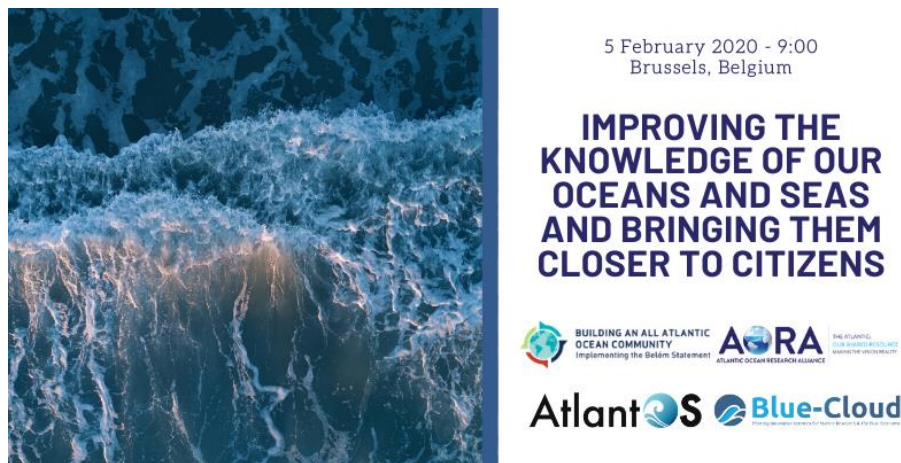
Figure 34 Promotional image of the joint-workshop at All-Atlantic Ocean Research Forum

The event brought together 110 Blue-Economy experts (policy makers, funding agencies, e-infrastructures, research infrastructures, data providers, research & academia, researchers, industry, maritime business and Blue economy projects) from countries located in different countries across the Atlantic (EU, USA, Brazil, Canada, Mexico, and South Africa), to collect feedback about the

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[21] https://www.blue-cloud.org/events/knowledge-oceans-seas-citizens

sector' priorities. The event was also broadcasted online for those who did not attend the event in Brussels. The main goals of the workshop were:

- Contribute to the implementation of the Galway[22] and the Belém Statements[23];
- Understand the international data/e-infrastructure landscape;
- Understand the needed federation efforts to accelerate the establishment of a global "Blue-Cloud" able to bring the wealth of ocean data available to the benefit of society.

As main impacts, the Blue-Cloud was able to collect new insights for the blue sector, related to "Science at Ocean Preservation Service", "Citizens contribution to data collection & usage", "Industry & Ocean Data", "Connecting data infrastructures across the Atlantic" and "Communicate Blue Science". Furthermore, the project also increased its international network to contribute to Blue-Cloud Roadmap and workshop contributed to the implementation of a better understanding of the international data/e-infrastructure landscape and the needed federation efforts to accelerate the establishment of a global "Blue-Cloud", able to effectively and efficiently bring data at the service of society.

Figure 35 Presentations and Panel discussions at the "Improving the knowledge of our oceans and seas and bringing them closer to citizens" workshop

The icing on the cake was the presentation the Blue-Cloud Coordinator Sara Garavelli (Blue-Cloud Coordinator from October 2019 up to August 2020) made on the following day, during the All-Atlantic Ocean Research Forum, to an audience of over 600 individuals. Another highlight was the fact that Blue-Cloud was mentioned by Mariya Gabriel (European Commissioner for Innovation Research Education and Youth) as one of the key projects to support ocean sustainability mentioned in the European Green Deal, making Blue-Cloud known as a ground breaker initiative in the innovation and sustainability of blue economy (see Figure 36). This was a golden opportunity for Blue-Cloud to join key initiatives in the international blue economy landscape.

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[22] https://www.marine.ie/Home/sites/default/files/MIFiles/Docs_Comms/SignedGalwayStatement24MAY2013.pdf
[23] https://allatlanticocean.org/uploads/ficheiro/ficheiro_5cdbfcea3c7e9.pdf

Figure 36 Blue-Cloud presentation with Sara Garavelli (left) and Mariya Gabriel speech (right)

**Blue-Cloud will organise a second workshop as a side-event to the All-Atlantic 2021 Conference –
All-Atlantic R&I for a Sustainable Ocean: Ministerial High-Level & Stakeholders Conference to take
place the 3 - 4 June 2021.** The All-Atlantic 2021 conference will take place under the Portuguese
Presidency of the Council of the European Union, in close cooperation with the European Commission,
and aims to support the **All-Atlantic Ocean Research Alliance** by strengthening R&I cooperation
across and along the Atlantic Ocean.

3.1.4 Blue-Cloud Final Conference

The culmination of the Blue-Cloud work will take place at the final policy-oriented event, to be
organised at the end of the project. This event will widely promote the main outcomes of the project,
benefits and legacy: Blue-Cloud Roadmap to 2030, uptake of Blue-Cloud by multiple VRE applications,
connect additional marine data infrastructures and showcase the demonstrators with their respective
pilot users.

The event will aim to attract speakers and participants from European and non-European countries,
while becoming a playfield for these international experts to exchange opinions and gain significant
knowledge on future applications and on the sustainable evolution of Blue-Cloud. Furthermore, the
conference will aim to provide preliminary insights on the final version of the Blue-Cloud Roadmap to
2030. It will be a last opportunity to collect feedback on the final version of the Roadmap, along
building plans for future uptake and sustainability.

As mentioned in *"D5.1 Communication, Dissemination & Stakeholders Engagement Strategy & Plan"*,
the optimum communication strategies for the Final event will be developed by Trust-IT, in
collaboration with Seascape Belgium and other project partners, to ensure all the network channels
are fully engaged to promote the Blue-Cloud Final event and Roadmap, through multiple channels and
methods. The goal is to ensure the presence of major stakeholders involved in the project and
presence of high-level EC representatives. Date and location of the event will be defined during 2022.

3.2 Blue-Cloud Training

3.2.1 Blue-Cloud Webinars

The series of 10 Blue-Cloud webinars aim to showcase the added value that the Blue-Cloud framework
and demonstrators can bring to communities dealing with grand societal challenges, as well as
educate these communities on how to use the services and data made available by the project for
future adoption also beyond Blue-Cloud. So far, 5 webinars were organised and over 400 different
individuals attended. The webinars topics were a general presentation of the demonstrators and
presentation of the beta-version of 4 out of the 5 demonstrators. The final webinar of this first round

of webinars (presenting the beta-version of the demonstrators) will happen in April 2021 and concerns the 2nd demonstrator (Plankton genomics).

As seen in the table below (Table 11 Overview, as of 23nd of February 2021, of the registrants, effective participants, YouTube views of all webinars.), the average number of participants registered was 124, with an average participation of 83 unique viewers. These results surpass the KPI of having at least 30 participants per webinar. Globally for all the webinars that already happened, there was in effect a 67% rate of effective participants of the total registered. On top of this, the recordings of the webinars, accessible after the webinar through either Blue-Cloud's website or YouTube channel, were watched 82,5 times on average. This brings the average effective participation up to 165,5 persons (149 persons if accounting for the YouTube views of the Zoo- & Phytoplankton EOV products of which the numbers as of yet not accessible).

Table 11 Overview, as of 23nd of February 2021, of the registrants, effective participants, YouTube views of all webinars.

Webinar	Registrants	Unique viewers	% of registrants effictively participating	YouTube views	Unique view + YouTube views
19-06-2020 Blue-Cloud demonstrators"	121	102,0	84,3%	101,0	203,0
25-09-2020 Aquaculture Monitor"	135	88,0	65,2%	70,0	158,0
14-10-2020 Fish, a matter of scales	94	62,0	66,0%	77,0	139,0
04-12-2020 Marine Environmental Indicators	98	61,0	62,2%	82,0	143,0
12-02-2021 Zoo & Phytoplankton EOV Products	174,0	102,0	58,6%		102,0
AVERAGE	**124,4**	**83,0**	**67,3%**	**82,5**	**149,0**

3.2.2 Hackathon

The development of a virtual hackathon by January 2022 is foreseen **(**MS38) to support the Blue-Cloud Stakeholder & User Engagement Plan.

Delivered as a **virtual hackathon**, it will seek to promote the Blue-Cloud to various user communities and serve as a training and capacity building activity, promoting the testing, uptake and further use of the Blue Cloud services, but also to collect user feedback on such services. It is expected to reach at least **60 participants** from different user communities, tentatively including:

- Users of marine data & data service providers;
- Students;
- ICT experts and hacktivists;
- Innovators, both from the public and private sector (blue economy & industry);
- Government officials and policy makers.

The hackathon will typically attract more technically-minded participants, but the "challenges" presented to participants will be designed to foster the development of potential applications and solutions that are societally relevant.

Results from the virtual hackathon will be used to inform the Blue-Cloud Roadmap, providing ideas for user-focused applications of blue data services. It will follow a co-design approach towards its delivery, gathering ideas from the Blue-Cloud community to jointly prioritise, choose and develop challenges. The Blue-Cloud General Assembly in 2021 will provide a window of opportunity to gather ideas from partners towards identifying and developing such potential "challenges". From a preliminary selection, an online open consultation will be launched through the Blue-Cloud website and social media channels by September 2021 to decide the final challenges. The hackathon will:

- Welcome participants from diverse backgrounds (coders, communicators, marine researchers, data scientists, students, citizens, etc.);
- Be coached by experts (Blue-Cloud Partners, experts linked to marine data and Research Infrastructures, etc.);
- Explore and use the Blue-Cloud VREs and tools to develop innovative solutions to pre-identified, specific challenges;
- Provide an opportunity to build public awareness on the Blue-Cloud, engaging businesses, NGOs and citizens in the co-creation of solutions.

The design, planning and delivery of the hackathon will be a collaborative effort engaging different Blue-Cloud Partners (mainly SSBE, Trust-IT, MOi, MARIS, CNR, Ifremer and VLIZ). This event will count on an extensive online promotion via the Blue-Cloud channels, as well as by promoting the event through the network of synergies that are being established in 2021.

3.3 Blue-Cloud at third-party events

During these first 18 months, Blue-Cloud has actively participated in 28 events, from Marine, Blue Economy and Earth Sciences, Open Science and Technical fields, as illustrated in Table 12 Blue-Cloud presence at third-party events, being on a good track to reach the KPI of 50+ events by the end of the project. Blue-Cloud presence at events was achieved through paper submission and presentations, as well as participations in panel sessions. Despite the COVID-19 pandemic, the project is ensuring consistent and wide promotion of Blue-Cloud activities, since most of the physical events were converted into virtual ones (see

Figure 37 Blue-Cloud Virtual Stand at the "Realising the EOSC" virtual event), which allows for the project to reach a more global audience.

Figure 37 Blue-Cloud Virtual Stand at the "Realising the EOSC" virtual event

Table 12 Blue-Cloud presence at third-party events

N°	Event	Location	Audience	Activity
1	SIST workshop – November 2019	Toulouse, France	Data Managers	Presentation & short workshop
2	Open Science Conference – November 2019	Montpellier, France	Data Managers	Presentation
3	EOSC Symposium – November 2019	Budapest, Hungary	Research & Academia, Business & industry, EOSC projects, EU eInfrastructures and Research Infrastructures, policy makers, funding agencies, industry representatives, HPC centers, SDOs, citizen scientists, publishers, data service providers.	1 presentation and 2 panels
4	EuroSea kick-off meeting – November 2019	Brussels, Belgium	Professionals of ocean observation and forecasting	Presentation
5	General Assembly of the EuroMarine Network – January 2020	Piran, Slovenia	Ocean research network, small and large laboratories of research and academic organisations	Presentation
6	Ocean Decade Med Sea workshop – January 2020	Venice, Italy	Mediterranean Sea stakeholders	Presentation
7	ENVRI Week – February 2020	Dresden, Germany	Environmental Research Infrastructures and eInfrastructures	Poster Presentation
8	All-Atlantic Ocean Research Forum – February 2020	Brussels, Belgium	Marine scientists, policy makers working on the Atlantic Ocean	Presentation & Workshop
9	EMSO Conference – February 2020	Athens, Greece	Marine researchers, engineers, and representatives of industry, Institutions, Research Infrastructures and Funding Agencies.	Presentation
10	PHIDIAS HPC Webinar: Building a prototype for Earth Science Data and HPC Services – February 2020	Webinar	HPC community, Big data scientists, Earth observation researchers, Marine life experts, Research and academies	Presentation
11	Advancing Data Stewardship Workshop – February 2020	Oostend, Belgium	Environmental and Life Science Research Infrastructures	Presentation
12	Open Belgium – March 2020	Hasselt, Belgium	industry, research, government and citizen stakeholders	Presentation
13	EGU – May 2020	Online	Scientists, researchers and experts in all fields of geoscience	Presentation
14	NEAC workshop in IEEE CCGrid 2020 – May 2020	Online	Network communications researchers	Paper presentation
15	EOSC-hub Week – M19ay 2020	Online	Research & Academia, Business & industry, EOSC projects, EU eInfrastructures and Research Infrastructures, policy makers, funding agencies, industry representatives, HPC centers, SDOs, citizen scientists, publishers, data service providers	Poster presentation
16	GFCM Virtual Seminar on Aquaculture and Marine	Online	Aquaculture stakeholders	Presentation

N°	Event	Location	Audience	Activity
	Spatial Planning – June 2020			
17	WEBINAR: Boosting the use of cloud services for marine data management, services and processing – June 2020		Big Data and HPC communities, Scientific Communities, ocean and marine initiative and projects, Research infrastructure staff, repository managers	Presentation
18	European Research & Innovation Days 2020 – September 2020	Online	Policy makers, researchers, entrepreneurs and the public	Panel
19	ESA Phi week – September 2020	Online	Scientists, political and economic decision makers involved in AI, Earth Science and Cloud computing	Presentation
20	SIST 2020 – September 2020	Online	Data Managers Network	Presentation
21	Sea Tech Week 2020 – October 2020	Online	Ocean and genomic observation data, open access to marine data and oceans monitoring professionals	Presentation
22	IODE: International Data Sharing Workshop for Non-UN IGOs, Global and Regional Organizations and Projects, NGOs and Private Sector – October 2020	Online	Oceanographic data professionals	Panel
23	EMB Big Data in Marine Science – October 2020	Online	Professionals from big data, digitalization and artificial intelligence in marine science	Presentation
24	SeaDataCloud Plenary Group meeting – October 2020	Online	Ocean and marine data management experts	Presentation
25	Realising the European Open Science Cloud – November 2020	Online	Social science and humanities researchers, data experts, research funders, policymakers, research infrastructures, service providers, research libraries and archives, the EOSC Ecosystem, and ESFRI Cluster projects	Virtual stand
26	Online courses on the use of Geographic Information Systems (GIS) in the establishment of Allocated Zones for Aquaculture – November 2020	Online	Aquaculture and marine spatial planning professionals	Presentation
27	16th Working Party on Data Collection and Statistics (WPDCS16) – November 2020	Online	Data Collection and Statistics experts from Indian Tuna Ocean	Presentation
29	IEEE CloudCom conference 2020 – December 2020	Online	Cloud Computing professionals	Presentation
30	EuroSea Annual Event	Online	EuroSea consortium	Presentation

3.4   Future Plans

The next **Blue-Cloud Roadmap Workshop** is planned to take place on May 19th, 2021 (M20, two months earlier than expected) as a virtual event. The final workshop is planned to take place in July 2022 and it will be one of the last opportunities to collect final feedback for the final version of the Roadmap.

The first **Blue-Cloud Open Workshop** took place on March 23rd, 2021[24]. Its second edition is planned to take place by Autumn/Winter 2021 and will be dedicated to present the final version of the Blue-Cloud demonstrators, giving also some visibility with the new iteration of the Blue-Cloud Roadmap.

In terms of **webinars**, the following and last webinar of this first round (6th webinar) for Blue-Cloud will happen in April 2021 (exact data not yet set). The second round of webinars, which will be used to present the final results and tool training of the demonstrators, will start in February 2022. The provisional schedule of this second round of webinars is as follow:

- 7th webinar (M29 Feb 2022): Demo #5 (FAO);
- 8th webinar (M30 Mar 2022): Demo #4 (FAO);
- 9th webinar (M31 Apr 2022): Demo #3 (CMCC);
- 10th webinar (M32 May 2022): Demo #2 (EMBL);
- 11th webinar (M33 June 2022): Demo #1 (VLIZ).

Depending on the evolution of the project other additional webinars may be planned, to showcase some of the Blue-Cloud services, present the roadmap or any other relevant topics. However, this will be considered on a case-to-case basis and presented for approval at the Blue-Cloud steering committee.

The **Blue-Cloud hackathon** is planned to take place by January 2022 and a communication strategy will be put in place to recruit as many participants as possible, targeting at least 60 individuals.

Regarding **Blue-Cloud presence at third-party events** in the future, the project will have a presentation at the IMDIS event in April 2021 and will have visibility at the "Blue-Week'' that is being organised by the NEANIAS project in April 2021. At the time of writing of this report, Blue-Cloud is planning the organisation of an event to be co-located at the "All-Atlantic2021 – All-Atlantic R&I for a Sustainable Ocean: Ministerial High-Level & Stakeholders Conference'', which takes place in June 2021. An application was also sent to the EU Green Week Exhibition. The project will also look for opportunities to promote its activities at events which have an audience composed of industrial players, trade associations NGOs and general public.

Last but not least, as mentioned in chapter 3.1.4 Blue-Cloud Final Conference, The Blue-Cloud Final Conference will take place by the end of the project, in Summer 2022.

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[24] https://www.blue-cloud.org/events/open-science-ocean-meet-blue-cloud-demonstrators

4 Synergies in the Blue Community and Open Science

4.1 Established synergies

Blue-Cloud is working on the identification of relevant EU and international initiatives connected to the blue economy, marine research and open science, to promote a structured dialogue to align and cluster common opportunities and goals. The established synergies will aim to enhance the scientific and economic potential and exploitation opportunities of the Blue-Cloud services, demonstrators and applications. Moreover, the collaboration with the partners involved provides a horizontal contribution to the Blue-Cloud's 2030 Roadmap. Blue-Cloud has established synergies in three areas:

- **Data Discovery and Access Services**: The initiatives involved support the Blue-Cloud project in enabling users and machines to find and collect data from a broader array of marine data infrastructures. The cooperation with several EU projects and infrastructures contributes to strengthening the Blue-Cloud EOSC framework, following FAIR principles;
- **Cyber Infrastructure and Virtual Research Environment**: The established partnerships contribute to better connect computing platforms and services on remote ones. In addition, the partners support the Blue-Cloud team in better shaping the (VRE);
- **Demonstrators**: The synergies established in this area contribute to better analysing the data related to the five thematic demonstrators, thanks to the increased amount of information included in the database. In addition, the cooperation in this area helps the Blue-Cloud project to prepare joint webinars, seminars and events which help share the research results.

By March 2021 (M18), there are a total of 32 projects and organisations interested in cooperating with Blue-Cloud, which heavily surpasses the intended KPI for M36 (10). The list of the current established synergies can be found in the table below. Dedicated pages for each synergy established are available on the Blue-Cloud website[25].

Table 13 Blue-Cloud synergies by M18

N	Project / Organisation	Synergy area	Stakeholder Category	Activities
1	EMODnet	Data Discovery and Access service & Cyber Infrastructure and VRE	Data Infrastructure & Horizontal e-Infrastructure	● Support in building the B-C infrastructure
2	WekeO	Data Discovery and Access service & Cyber Infrastructure and VRE	Data Infrastructure & Horizontal e-Infrastructure	● Support in building the B-C infrastructure
3	Euro Argo	Data Discovery and Access service	Data Infrastructure & Horizontal e-Infrastructure	● Support in building the B-C infrastructure
4	SeaDataNet	Data Discovery and Access service & Cyber Infrastructure and VRE	Data Infrastructure & Horizontal e-Infrastructure	● Support in building the B-C infrastructure
5	ENA (European Nucleotide Archive)	Data Discovery and Access service & Cyber Infrastructure and VRE	Data Infrastructure & Horizontal e-Infrastructure	● Support in building the B-C infrastructure
6	Euro Bioimagine	Data Discovery and Access service	Data Infrastructure & Horizontal e-Infrastructure	● Support in building the B-C infrastructure

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[25] Source: https://www.blue-cloud.org/synergies

![Blue-Cloud logo](Piloting innovative services for Marine Research & the Blue Economy)

N	Project / Organisation	Synergy area	Stakeholder Category	Activities
7	ICOS (Integrated Carbon Observation System)	Data Discovery and Access service	Data Infrastructure & Horizontal e-Infrastructure	● Support in building the B-C infrastructure
8	Eurobis	Data Discovery and Access service	Data Infrastructure & Horizontal e-Infrastructure	● Support in building the B-C infrastructure
9	EcoTaxa	Data Discovery and Access service	Data Infrastructure & Horizontal e-Infrastructure	● Support in building the B-C infrastructure
10	EUDAT Collaborative Data Infrastructure	Data Discovery and Access service & Cyber Infrastructure and VRE	Data Infrastructure & Horizontal e-Infrastructure	● Support in building the B-C infrastructure
11	FNS Cloud	Data Discovery and Access service & Cyber Infrastructure and VRE & Demonstrators	Relevant EU-funded project	● Contribution to the B-C Roadmap ● Joint dissemination / communication activities ● Fisheries and Aquaculture data integration between B-C and FNS Cloud infrastructures
12	Ocean4Biotech	Data Discovery and Access service & Demonstrators	Relevant EU-funded project	● Contribution to the B-C Roadmap ● Joint dissemination / communication activities ● Biodiversity, Aquaculture and Genomics data integration between B-C and Ocean4Biotech infrastructures
13	NEANIAS	Data Discovery and Access service & Demonstrators	Relevant EU-funded project	● Contribution to the B-C Roadmap ● Joint dissemination / communication activities ● Fisheries, Aquaculture and Environmental Marine indicators data Integration between B-C and NEANIAS infrastructures
14	D4SCIENCE Infrastructure	Cyber Infrastructure and VRE	Data Infrastructures & Horizontal e-Infrastructures	● Support in building the B-C infrastructure
15	Copernicus	Cyber Infrastructure and VRE	Data Infrastructures & Horizontal e-Infrastructures	● Support in building the B-C infrastructure
16	EOSC-Hub	Cyber Infrastructure and VRE	Relevant EU-funded project	● Integration of the EOSC e-infrastructures
17	EOSC Secretariat.eu	Cyber Infrastructure and VRE	Relevant EU-funded project	● Integration of the EOSC e-infrastructures
18	EOSC Enhance	Cyber Infrastructure and VRE	Relevant EU-funded project	● Integration of the EOSC e-infrastructures
19	OpenAIRE	Cyber Infrastructure and VRE	Relevant EU-funded project	● Contribution to the B-C Roadmap ● Integration of the EOSC e-infrastructures
20	ENVI-Fair	Cyber Infrastructure and VRE	Relevant EU-funded project	● Integration of the e-infrastructures
21	Phidias	Cyber Infrastructure and VRE	Relevant EU-funded project	● Contribution to the B-C Roadmap ● Joint dissemination / communication activities
22	OpenCoastS	Cyber Infrastructure and VRE	Relevant EU-funded project	● Marine environmental indicators data integration between B-C and OpenCoastS infrastructures

D5.2 Communication, Dissemination & Stakeholders Engagement Interim Report

Blue-Cloud

N	Project / Organisation	Synergy area	Stakeholder Category	Activities
23	EuroSea	Demonstrators	Relevant EU-funded project	• Contribution to the B-C Roadmap • Joint dissemination / communication activities • Marine environmental indicators data integration between B-C and EuroSea infrastructures
24	Odyssea	Demonstrators	Relevant EU-funded project	• Marine Environmental indicators data integration between B-C and Odyssea infrastructures
25	Cos4Cloud	Demonstrators	Relevant EU-funded project	• Contribution to the B-C Roadmap • Joint dissemination / communication activities
26	AtlantECO	Demonstrators	Relevant EU-funded project	• Contribution to the B-C Roadmap • Genomics and Marine Environmental indicators data integration between B-C and AtlantECO infrastructures
27	BeOpen	Demonstrators	Relevant EU-funded project	• Joint dissemination / communication activities • Marine Environmental indicators data integration between B-C and BeOpen infrastructures
28	Jonas	Data Discovery and Access service	Relevant EU-funded project	• Contribution to the B-C Roadmap • Integration between B-C and Jonas infrastructures
29	Aqua-Lit	Data Discovery and Access service & Demonstrators	Relevant EU-funded project	• Contribution to the B-C Roadmap • Joint dissemination / communication activities • Fisheries and Aquaculture data integration between B-C and Aqua-Lit infrastructures
30	CoastObs	Data Discovery and Access service	Relevant EU-funded project	• Contribution to the B-C Roadmap • Joint dissemination / communication activities • Fisheries and Aquaculture data integration between B-C and CoastObs infrastructures
31	FORCOAST	Data Discovery and Access service & Demonstrators	Relevant EU-funded project	• Contribution to the B-C Roadmap • Fisheries and Aquaculture data integration between B-C and Forcoast infrastructures
32	HiSea	Data Discovery and Access service & Demonstrators	Relevant EU-funded project	• Contribution to the B-C Roadmap • Fisheries and Aquaculture data integration between B-C and HiSea infrastructures

The above synergies have been built with 12 Data Infrastructures & Horizontal e-Infrastructures and 20 Relevant EU-funded projects. The EU-funded initiatives contribute to the organisation of joint events and initiatives to share the project's results to a broader community and contribute to the development of the Blue-Cloud roadmap. Moreover, some EU projects are also willing to share their data and make them interoperable with Blue-Cloud through blue data infrastructures engaged in the project.

In the second half of the project, Blue-Cloud will continue looking for new relevant initiatives, with the same category of stakeholders identified by M18 as they share similarities with Blue-Cloud in terms of stakeholders and technical competencies. Therefore, it makes technical collaborations and exploitation opportunities possible.

4.2 Future Plans

Blue-Cloud has developed relationships with several European partners in just 18 months since kick-off. As next steps, the Blue-Cloud team would like to further exploit the collaboration with international players too. For this reason, first introductory meetings with the Australian Integrated Marine Observing System (IMOS) and the Global Ocean Observing System (GOOS) will be organised by M24, to better understand and shape the areas of possible collaborations.

In order to gain higher international exposure, Blue-Cloud is going to take part in the All Atlantic Ocean event on 3-4 June 2021. The All-Atlantic Conference (as mentioned in the 3.3 section) gives the opportunity to discuss marine R&I cooperation and enhance stakeholder participation to co-design and invite them to participate in future actions and to monitor the progress of the cooperative efforts. As Blue-Cloud is co-organising a workshop with AANChOR and the G7 Future of the Seas and Oceans Initiatives, more stakeholders are going to learn more about the Blue-Cloud project. This international exposure represents for Blue-Cloud the ground base for establishing new potential collaborations and connections with players at global level. In addition, Blue-Cloud and its established synergies are going to work together to develop the Strategic Roadmap 2030 and thus shape the strategic development of Blue-Cloud in wider marine communities.

5 Blue-Cloud Roadmap dissemination & promotion

The Blue-Cloud Project has recently concluded its first year of operations, and with it the first round of stakeholder consultations towards building the Blue-Cloud Roadmap to 2030 – the strategic vision that will seek to guide the further development and evolution into the medium and longer-term future. Led by Seascape Belgium, Trust-IT and MARIS, this first phase of stakeholder dialogue was specifically geared at establishing initial conversations with closer members of the Blue-Cloud Community, including Project Partners, the Blue-Cloud External Stakeholder & Expert Board (ESEB), representatives of the European Commission and key stakeholder communities (marine researchers, marine data infrastructures, research infrastructures and e-infrastructures).

Starting with a workshop gathering the Blue-Cloud ESEB in July 2020, an online survey to the wider community in October 2020 (which collected over 130 contributions), a Policy Dialogue workshop in November 2020, and a second ESEB workshop in December 2020, this first phase wrapped up in January 2021 by bringing the Project Partners together to reflect on the preliminary results of these conversations and guide the next steps forward. An intensive communication campaign was put in place, with the launch of newsletters, social media messages, promotion on webinars, ESEB members and messages sent to initiatives requesting to both fill in and promote the call in their networks (see Figure 38).

Figure 38 Promotional image for the Roadmap Open Consultation (left) and promotion on social media (right)

This first open consultation aimed to gather as many contributions as possible from the wider marine & maritime community in Europe and internationally, as well as other actors across all key stakeholder groups conforming the Blue-Cloud Community:

- The **marine & maritime research community**, which produces and analyses data to create knowledge of the Ocean;
- The "**blue economy**" **entrepreneurs**, **SMEs** and **industry** that make use of the Ocean and of available knowledge to deliver products and services that satisfy society's needs;
- The **Policy, decision-making** and **governance institutions** that provide the legal and administrative frameworks to manage and preserve the Ocean;
- The **marine data, RIs** and **e-infrastructures** that are in dialogue with the Blue-Cloud but also other existing ones that are contributing towards the abundance of FAIR and open data in the marine domain;
- The **European Open Science Cloud**, which the Blue-Cloud seeks to connect to, to enable trans-disciplinary and transformative research and innovation;

- The **ICT sector** that is driving new breakthroughs in the use of artificial intelligence, big data and machine learning.

A first draft of the Roadmap will be released by the end of March 2021 to the Project Partners and ESEB and released to the public in June 2021, for wide stakeholder consultation and feedback throughout the Summer and Fall 2021. A survey will be developed to support the consultation, gathering and recording feedback from all relevant target audiences, as well as facilitating the analysis of responses. It will be made available through the Blue Cloud's website and it will be promoted through the following channels, to maximise its visibility:

- Blue-Cloud events (Project meetings and webinars);
- Blue-Cloud's social media challenges (Twitter and LinkedIn);
- Partner organisations, ESEB members and their networks;
- International initiatives with whom Blue-Cloud synergised with;
- Delivery of a press release to be published in key websites (e.g. EOSC Liaison Platform, EOSC Portal) and distributed to media channels;
- Newsletters.

6 COVID-19 Contingency Plans

The COVID-19 pandemic which started in March 2020 had minor impacts in the Blue-Cloud project, which were analysed and contingency plans adopted to overcome the challenges faced during 2020. The table below captures the mitigation activities implemented to not compromise Blue-Cloud technical work and to effective roll-out engagement activities with the Blue-Cloud community.

Table 14 Blue-Cloud mitigation plans due to COVID-19 pandemic

Mitigation Activity	Description
Blue-Cloud Open Workshop	The workshop, initially foresee to be a physical event co-located with the Blue-Cloud Roadmap workshop, was postponed from November 2020 to March 2021 since the demonstrators 2 and 5 were not ready by that time
ESEB Meetings	The ESEB meetings were all turned into virtual events due to the impossibility of travelling and health safety reasons. A close contact with ESEB thanks to the dedicated mailing list was important to ensure an effective engagement with the members.
Demonstrators	Most demonstrators had a small delay that was absorbed after a few months due to Covid-19. Only demonstrator 2 has kept a specific delay in delivery of their beta version by 3-4 months compared to the other demonstrators.
Webinars	An additional webinar was added to present the Blue-Cloud project globally so that it was relevant to hold one so soon (in June 2020) as most demonstrators had a more or less small delay, depending on the demonstrators, in their work advancement. This 'global' (additional) webinar took place before all the individual demonstrators webinars. The order of the webinars was also rearranged in order to take into account the delay some demonstrators had due to the COVID and restrictions it had on the recruitment for some of them. This concerned more specifically demonstrator 2 and slightly also demonstrator 3.
Blue-Cloud Roadmap Workshops	The circumstances created due to the worldwide COVID-19 pandemic dictated an adjustment in the original work plan and roadmap activities were turned into virtual events (e.g. Blue-Cloud Roadmap Workshop). The second-phase of the roadmap consultation has been planned for June 2021, to allow for more time for the co-design of the draft #1 by partners and the ESEB in Spring 2021, owing to a slight delay due to home working/life adjustments.

All in all, despite the Covid-19 pandemic and the mandatory restrictions to travel and working from home, the WP5 work plan has continued as planned under normal circumstances: news items, updates to the communication and dissemination strategy, meetings and workshops. The biggest change was the fact that meetings and events became all online.

By the time of writing of this report, the pandemic is not over yet, which will require from the Blue-Cloud team a careful control of the work plan to implement contingency plans again and mitigate risks, if necessary.

7 Key Performance Indicators Achieved

The table below summarises the status of communication and engagement KPIs to date as compared with targets.

Table 15 KPIs achieved by M18 and KPIs for M36

Topic	Results by M18	KPI by M36 (Year 3)
Communication & Dissemination Strategy Plan"	The submission of this document represents the updated plan for M18	Updated plan by M18 and final by M36
Website	● Visitors 10.785 ● Sessions 18.091 Note: data from M16	● Visitors 13.200 ● Sessions 28.800
Social media community	Total of 1.126 members, more specifically: ● Twitter: 788 followers, 562.100 impressions, 484 tweets ● LinkedIn: 397 followers & 25.383 impressions ● YouTube: 8 videos & 358 views per video Note: data from M17	Total of 2.000 members, more specifically: ● Twitter: 1.000 followers, 700.000 impressions, 700 tweets ● LinkedIn: 200 followers & 100.000 impressions ● YouTube: 6 videos & 500 views per video
Website content customised to each Blue-Cloud target stakeholder	16 interviews/blog pieces	30 interviews/blog pieces about different stakeholder groups from at least 10 different countries
Presence at third party events	30 physical and virtual events	50+ third party physical and virtual events
Communication materials	● 1 flyer ● 2 posters ● 1 rollup banners ● 30 presentations (note: considering the presence at 3rd-party events) ● 24 videos ● 2 give-aways	● 4 fliers ● 4 posters ● 2 rollup banners ● 50 presentations ● 6 videos ● 2 give-aways
Newsletters	13	1 newsletter every 3 months, total of 12 newsletters
Virtual Hackathon	Planned to M28. Organisation started.	By M28, with at least 60 participants
Synergies with European and international initiatives	33	Establish 10 new synergies documented via fact sheets
Profiled Dissemination database	1.100+ of individual contacts	2,000 qualified contacts at the end of the project
Blue-Cloud Open Workshops	1 workshop being organised on M18	2 workshops by M14 and M22, with at least 50 participants.
Blue-Cloud roadmap workshops	1 workshop organised by M15	3 workshops by M14, M22 and M34.
Blue-Cloud final event	Planned for M34	1 event by M34 with at least 100 participants and a post-event report
Webinars	5 webinars organised, with an average of 124,4 participants	10 webinars, with at least 30 participants each

All Blue-Cloud deliverables and main documents are available in the data infrastructure D4Science. Furthermore, the project will also exploit the new Horizon Results Platform, launched in 2019 by the European Commission, an online space to showcase Blue-Cloud results in view of future exploitation in research, business and politics, to desired audiences and key stakeholders.

8 Timeline of Action Plan of activities from M18 till end project

The timelines presented in Figure 39 and Figure 40 outline the main Blue-Cloud communications, dissemination and engagement milestones from M18 to the end of the project (note that the timeline only includes the most relevant activities). This timing is subject to change, particularly as regards events, and outputs and activities performed by other project WPs.
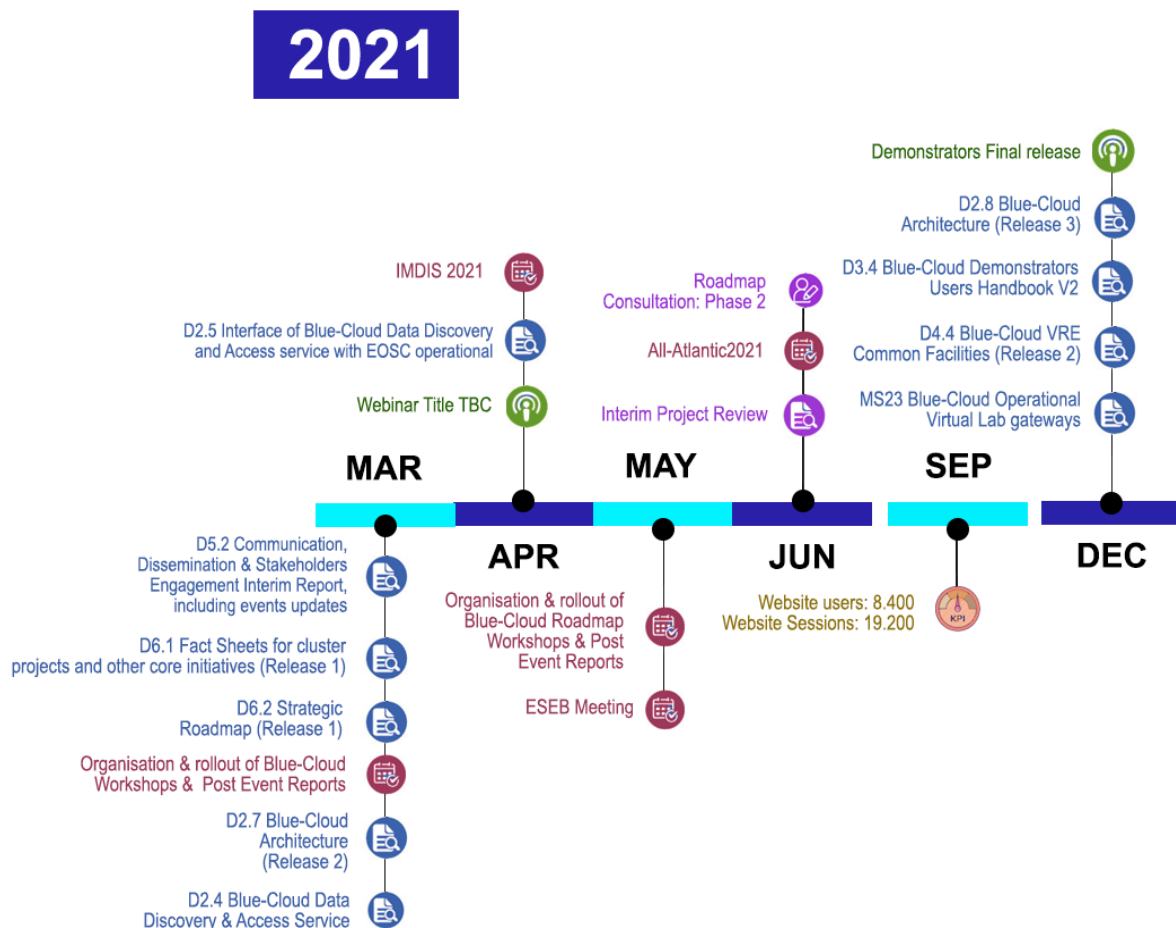

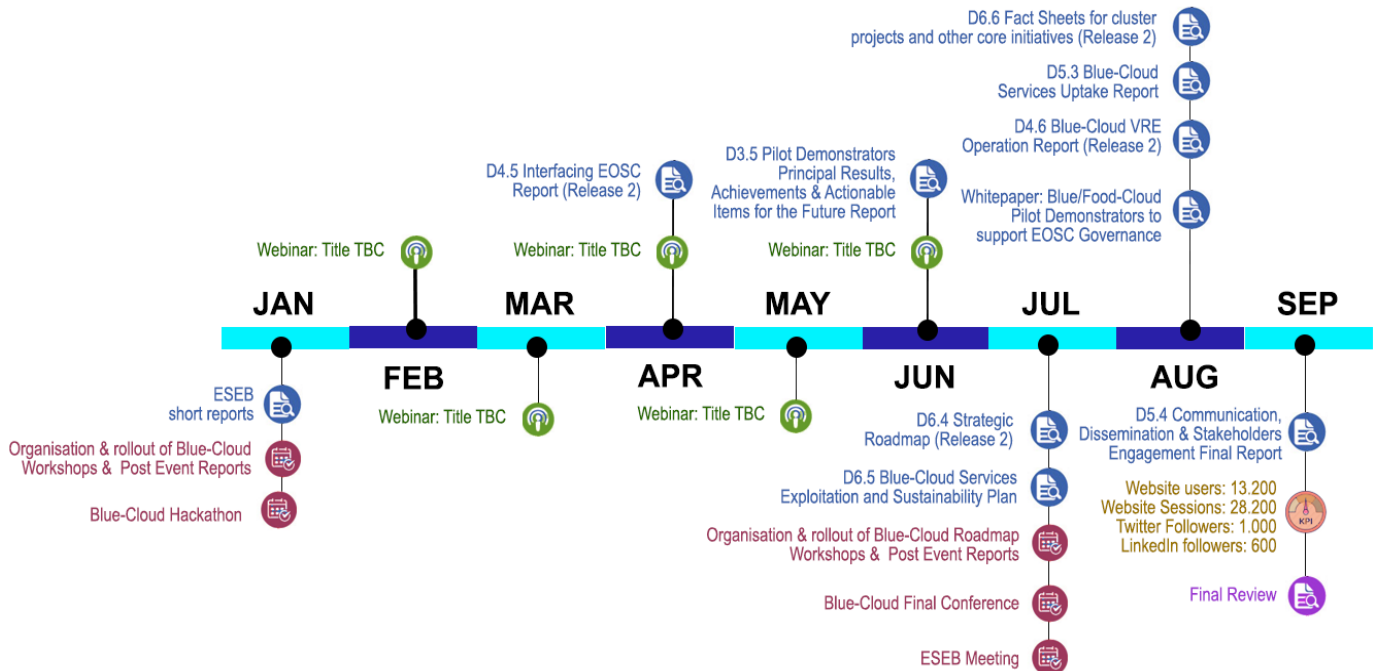*Figure 39 Blue-Cloud timeline of activities for 2021 (forecast)*

Figure 40 Blue-Cloud timeline of activities for 2022 (forecast)

While in 2021 most of the efforts will be focused on engaging with stakeholders through events, workshops & webinars, in 2022 the efforts will be allocated to the promotion not only of the technical services but also on delivering the final B-C Roadmap to 2030. It will be the consolidation year for stakeholders' engagement, partnerships with other projects and EOSC initiatives. Table 16 Plan of activities from M18 to M36 (forecast) reports a more detailed plan of activities from Mach 2021 until September 2022.

Table 16 Plan of activities from M18 to M36 (forecast)

Month	Activities
M18, March 2021	● Interview with the Data Infrastructure ENA ● Blue-Cloud Open Workshop ● Promotion of Blue-Cloud Webinar in April 2021 ● Promotion of D6.2 Strategic Roadmap (Release 1) ● Social media & community db updates ● KPIs monitoring
M19, April 2021	● Interview with the Data Infrastructure EURO-ARGO ● Announcement of Blue-Cloud Roadmap Workshop ● Blue-Cloud Synergies booklet ● Blue-Cloud Webinar ● Promotion of Blue-Cloud participation at IMDIS 2021 ● Promotion of D2.4 Blue-Cloud Data Discovery & Access Service ● Promotion of D2.7 Blue-Cloud Architecture (Release 2) ● Social media & community db updates ● KPIs monitoring

Month	Activities
M20, May 2021	● Interview with the Data Infrastructure EMODnet Bathymetry and Chemistry ● Blue-Cloud ESEB meeting ● Blue-Cloud Roadmap workshop ● Announcement Blue-Cloud session at All-Atlantic2021 ● Promote D2.5 Interface of Blue-Cloud Discovery and Access service with EOSC Operational ● Interview about Blue-Cloud Blue-Cloud Data Discovery and Access Service ● Social media & community db updates ● KPIs monitoring
M21, June 2021	● Blue-Cloud mid-term project review ● Blue-Cloud session at All-Atlantic2021 ● Social media & community db updates ● KPIs monitoring
M22, July 2021	● Interview with the Data Infrastructure EurOBIS and EMODnet Biology ● News item on Blue-Cloud mid-term review outcome ● New item on Blue-Cloud session at All-Atlantic2021 ● Social media & community db updates ● KPIs monitoring
M23, August 2021	● Social media & community db updates ● KPIs monitoring
M24, September 2021	● Interview with the Data Infrastructure ICOS ● Social media & community db updates ● KPIs monitoring
M25, October 2021	● Blue-Cloud session at EOSC Symposium event (to be confirmed) ● Announcement of Blue-Cloud Hackathon ● Announcement Blue-Cloud Open workshop ● Social media & community db updates ● KPIs monitoring
M26, November 2021	● Interview with the Data Infrastructure SeaDataNet ● Announcement the Blue-Cloud Demonstrators final release ● Social media & community db updates ● KPIs monitoring
M27, December 2021	● Interview Blue-Cloud Demonstrator 1 ● Social media & community db updates ● KPIs monitoring
M28, January 2022	● Blue-Cloud Hackathon ● Blue-Cloud Open workshop ● Announce Blue-Cloud webinar ● Interview Blue-Cloud Demonstrator 2 ● Promote D2.8 Blue-Cloud Architecture (Release 3) ● Promote D3.4 Blue-Cloud Demonstrators Users Handbook V2 ● Promote D4.4 Blue-Cloud VRE Common Facilities ● Promote Blue-Cloud Operational Virtual Lad Gateways ● Social media & community db updates ● KPIs monitoring
M29, February 2022	● Podcast about Blue-Cloud Data and Service Catalogue ● Interview Blue-Cloud Demonstrator 3 ● Announce Blue-Cloud Webinar ● Blue-Cloud webinar ● Newspiece about Blue-Cloud Open Workshop ● Newspiece about Blue-Cloud Hackathon workshop

Month	Activities
	● Social media & community db updates ● KPIs monitoring
M30, March 2022	● Announce Blue-Cloud Webinar ● Blue-Cloud webinar ● Interview Blue-Cloud Demonstrator 4 ● Tutorial video about Blue-Cloud VRE Common Facilities ● Social media & community db updates ● KPIs monitoring
M31, April 2022	● Announce Blue-Cloud Webinar ● Blue-Cloud webinar ● Interview Blue-Cloud Demonstrator 5 ● Social media & community db updates ● KPIs monitoring
M32, May 2022	● Announce Blue-Cloud Webinar ● Announce Blue-Cloud Roadmap workshop & Final Conference ● Blue-Cloud webinar ● Promote D4.5 Interfacing EOSC Report ● Social media & community db updates ● KPIs monitoring
M33, June 2022	● Blue-Cloud webinar (with presentation about the the Blue-Cloud Data and Service Catalogue interoperability within EOSC) ● Social media & community db updates ● KPIs monitoring
M34, July 2022	● Blue-Cloud Roadmap ESEB workshop ● Blue-Cloud Final event ● ● Promote D3.5 Pilot Demonstrators Principal Results ● Social media & community db updates ● KPIs monitoring
M35, August 2022	● Press Release: outcomes from Blue-Cloud final event ● Publish Blue-Cloud & Food Cloud white paper ● Publish the Blue-Cloud User Stories booklet ● Promote D6.4 Strategic Roadmap (Release 2) & publication of Roadmap booklet ● Press Release about Blue-Cloud Roadmap ● Promote D6.5 Blue-Cloud Services Exploitation & Sustainability Plan ● Social media & community db updates ● KPIs monitoring
M36, September 2022	● Blue-Cloud Final Review ● Publication of synergies booklet ● Promote Blue-Cloud VRE Operation Report ● Promote D5.3 Blue-Cloud Services Uptake Report ● Promote D6.6 Fact sheets for cluster and other initiatives (Release 2) ● Social media & community db updates ● KPIs monitoring

9 Conclusion

This deliverable is the final and revised version of "*D5.1* Communication, Dissemination & Stakeholders Engagement Strategy & Plan". This document outlines the communication and dissemination activities to be carried out from the time of writing to the end of the Blue-Cloud project. They are built on the firm foundations created during the first half of the project - a consolidated community of individuals, projects and initiatives with a shared interest in the development and adoption of Blue-Cloud services and results.

The goal for the next period is to broaden the community (expanding our underlying database of contacts) and supporting the uptake of the technology provided by Blue-Cloud. This will be done through a rich mix of actions, including the organisation of webinars, a virtual hackathon, several Blue-Cloud events and, especially, the exploitation of synergies that will be consolidated in the following months, jointly addressing different stakeholder categories. The future on boarding of the services into the EOSC Portal will also represent a key-achievement of the project, which will be supported by a communication campaign.

A special effort will be placed on engaging with blue economy SMEs and industrial players, as well as bridging the gap between ocean science and the blue economy, increasing the societal impact of Blue-Cloud results. Last but not least, the WP5 team will work closely with WP6 not only on synergies but also on the promotion of the consultation towards delivering the B-C Roadmap to 2030 and giving wide outreach to its final version, as a policy document that will guide the evolution of Blue-Cloud's efforts into the future.

This deliverable will be followed by "D5.4 Communication, Dissemination & Stakeholders Engagement Final Report", by end of the project (M36, September 2022), which will report on the marketing, communication & dissemination activities carried out by the Blue Cloud project, along with its achieved impact.