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H-CLOUD

Horizon Cloud – The Forum for Strategy Focused Cloud Stakeholders

D2.2: H-CLOUD Community Building and Communication Strategy and Plan

Revision: v.1.0

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Abstract

This document defines the community building and communication strategy and describes the activities H-CLOUD pursues to guarantee broad visibility, promotion and up-take of the H-CLOUD driven activities, but also of CC projects and other relevant initiatives at European and international level.

Keywords:

Communication, Community building, Dissemination, Forum, online promotion, social media, events

Document Revision History

Version	Date	Description of change	List of contributor(s)
V0.1	26/03/2020	ToC	Martel
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V0.3	27/05/2020	Final review	Martel
V1.0	29/05/2020	Submitted version	

Disclaimer

Project co-funded by the European Commission in the Horizon Cloud Programme		
Nature of the deliverable:	R	
Dissemination Level		
PU	Public, fully open, e.g. web	√
CI	Classified, information as referred to in Commission Decision 2001/844/EC	
CO	Confidential to H-CLOUD project and Commission Services	

* R: Document, report (excluding the periodic and final reports)

 DEM: Demonstrator, pilot, prototype, plan designs

 DEC: Websites, patents filing, press & media actions, videos, etc.

 OTHER: Software, technical diagram, etc

EXECUTIVE SUMMARY

This deliverable describes H-CLOUD's Community Building and Communication Strategy, as defined in Task 2.1 ("Dissemination and Communication") of Work Package 2 ("H-CLOUD Community"). It details H-CLOUD's outreach strategy and framework and outlines the envisaged dissemination and communication activities, as well as the impact measures.

It is aimed to be a guiding document for the projects' partners to align on main objectives and planned communication and dissemination activities, but also to define a common framework for coordination with other main parties such as the EC (in particular our Project Officer and other representatives at DG CONNECT) and other related H2020 projects.

In this respect, the main objectives of H-CLOUD's Community Building and Communication Strategy are to:

- Connect, stimulate and engage a critical mass of stakeholders involved in a Cloud Computing (CC) ecosystem to make them aware of any relevant information and development, and encourage knowledge transfer, networking and collaborations.

- Promote CC projects' outcomes, best practices, success stories and maximise the collective outreach power of the ongoing projects, acting as an amplifier across the community for broader impact.

- Increase visibility and promote European Cloud Computing (ECC) initiatives and H-CLOUD as a community.

- Tackle unexpected global emergency situations, which are likely to have a long-lasting impact on the CC sector, such as the COVID-19 outbreak, by providing support to the CC community and beyond throughout our research activities.

H-CLOUD will reach out to the ECC of projects and organisations involved in EC-funded CC research and innovation, and to the outside world of research, industry, public authorities, policy makers and end users.

Knowledge and results generated by H-CLOUD will be shared with the identified target groups through dedicated tools and channels operated by WP2. All key outcomes will be made accessible and understandable by all target audiences.

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ABBREVIATIONS

CC	Cloud Computing
ECC	European Cloud Computing
EC	European Commission
H2020	Horizon 2020
GDPR	General Data Protection Regulation
SRIA	Strategic Research and Innovation Agenda

1   INTRODUCTION

1.1   Purpose of the document

The present deliverable is prepared in the context of **Work Package 2 (WP2) "H-CLOUD Forum"** and aims to develop an overall community building and communication strategy for H-CLOUD for outreach and impact creation, taking into account the characteristics of the information that needs to be disseminated, the target audiences and groups and the impacts to achieve. The expected outcomes and impacts, assessment metrics and tools are defined. This strategy provides the framework within the different awareness-raising, and promotional and community building activities will be carried out during the course of the project.

In this context, WP2 focuses on identifying the relevant stakeholders that have to be contacted in order to reach the right supporters at the right time. It also involves preparation of the promotional materials and organising dissemination activities to create an open, secured, decentralised, user-oriented and highly engaged H-CLOUD community.

The purpose of this deliverable is therefore to outline an inclusive communication and community building plan for the realisation of the above stated goals and in particular to:

● Identify target audiences, including a broad range of stakeholders of the ECC community

● Present the strategy put in place for the dissemination and communication of knowledge and results

● Depict the methods, tools and promotional materials that will be used in the project's dissemination and communication

● Provide a complete overview of the planned activities, as well as list potential opportunities to be exploited in the project

● Define the rules and procedures that will be applied to implement, monitor and evaluate all the communication and engagement activities.

This is a 'living' document, able to accommodate any required customisation. The dissemination planning will thus be constantly evaluated and revised in the course of the project. Major updates will be included in the yearly Community Building and Communication Reports (M12, M24).

1.2   Structure of the document

The sections of the deliverable at hand are organised in the following manner.

After the introductory **Section 1, Section 2** depicts the mission of H-CLOUD and the fundamental aspects of the community building and communication strategy, including the main objectives, the description of the target audiences and the strategic planning of the envisioned activities. **Section 3** presents the various types of dissemination activities and tools that will be used in order to support the project's dissemination and communication activities. **Section 4** describes H-CLOUD's community platform, the H-CLOUD Forum. **Section 5** depicts the metrics for the evaluation of the dissemination and communication activities. **Section 6** concludes the document.

1.3 Grounding H-CLOUD communication and community building strategy

The context for all H-CLOUD communication and dissemination activities is a firm dedication to the needs and the progress of the European Cloud Computing Community, in all its diverse components and perspectives while ensuring awareness of and synergy with the main relevant initiatives from the European Commission. Chief among them is the **European Data Strategy**, outlined in an EC Communication during February 2020[1].

Data-related forecasts over the period between 2018 and 2025 include a fivefold increase of the global data volume and a complete reversal of the 80/20 split between centralised computing facilities and smart connected objects. These are two of the main driving factors for the EU positioning itself to become a data leader, leveraging a planned investment in the range of 4-6 billion Euro.

Two high-impact projects are the focus of the European Data Strategy in the time window between 2020 and 2022. On the one hand, the creation and governance of *EU Data Spaces*, with specific attention to high-value data sets, is a fundamental step in the establishment of the Digital Single Market framework. On the other hand, addressing *Federated Cloud Infrastructure* in a smoothly interconnected, commercially fair, and energy-efficient way tackles many challenges that affect European Cloud Computing at large, such as market fragmentation, barriers to access for SMEs, and level playing field for Cloud services.

Cloud Computing is a prominent field connected to the European Data Strategy, but by no means the only one. In a wider context, large-scale data collection, storage, transmission and governance are related to the *Next Generation Internet*, not only an ongoing activity in the current H2020 framework, but also a proposed intervention area for the upcoming Horizon Europe. More specifically, both the *Internet of Things* (for the sheer number of devices and data-generating sensors) and *Artificial Intelligence* (for the large amount of good quality data needed for training and operation of Machine Learning at scale) are target use cases as well as technological enablers for a prosperous European data economy.

H-CLOUD communication and community building strategy considers both the case of content that is produced within the CSA project, namely in other work packages and through the engagement of the Advisory Board, Expert Groups and other specific communities, and the amplification, dissemination, and outreach based on output from related European Cloud Computing research and innovation projects. A worthy example in the first category is the analysis and discussion around three major themes within the European Commission vision for the 2021-2027 period: effective cloud federation models, edge computing, and end-to-end application of green computing principles to Cloud Computing delivery. Through multiple rounds of research, drafting, expert engagement and consultation, a public white paper will ultimately be produced and released to the public at large.

No less important is an example in the second category of content delivery and community engagement: a position paper on Cloud Computing, produced by the relevant RIA projects, will be received by H-CLOUD and correspondingly disseminated and positioned as the central pillar of appropriate community engagement actions.

Cloud Computing research and innovation community in Europe

Cloud Computing is still an active academic research area, while also being of extreme relevance for the direct and indirect support of industrial commercial R&D&I. It is therefore not surprising that the European research and innovation community is wide, thriving and diverse. Later sections of this plan will describe and analyse in detail how this community can be segmented into suitable classes of stakeholders, so that H-CLOUD communication and community building actions can be optimally tailored to meet the needs and expectations of each identified group. Here, an overall sizing and outline will provide an essential impression and set the stage for the rest. On the industry side, about 900,000 researchers in private

sectors are estimated to be interested in Cloud Computing solutions for data, research, publications, projects and organisations across borders and scientific disciplines. Similarly, an equivalent gross number of 900,000 researchers in government and higher education sectors across borders can be taken to potentially be using or being interested in science cloud solutions.

Relevant initiatives for Cloud Computing

The broad Cloud Computing Ecosystem includes the national, regional and international initiatives, ongoing H2020 projects and related EC-funded initiatives, as well as organizations contributing to and influencing the development, innovation, provisioning and adoption of cloud services. Some of the most relevant ones are briefly outlined in this subsection as a sample of the general targets for H-CLOUD liaisons and cooperation.

- *European Open Science Cloud* – https://eosc-portal.eu/
  European Open Science Cloud (EOSC) and the European Data Infrastructure (EDI) are high-level initiatives promoted by the European Commission in the context of the European Cloud Initiative to provide all researchers, innovators, companies and citizens with seamless access to an open-by-default, efficient and cross-disciplinary environment for storing, accessing, reusing data, tools, publications and any EOSC Resource for research, innovation and educational purposes.

- *European IoT Large Scale Pilot* – https://european-iot-pilots.eu
  The European Internet of Things Large Scale Pilots programme gathers Horizon 2020 projects focusing on the development and adoption of IoT by testing and validating new concepts, technologies and solutions via large scale pilots. The amount of data generated by IoT has pushed for an increasing adoption of Cloud Computing and on-demand delivery of computing power, database storage, applications and IT resources.

- *Next Generation Internet (NGI)* – https://www.ngi.eu
  The Next Generation Internet (NGI) initiative creates an Internet that respects human and societal values, privacy, participation and diversity, and builds upon the capability to provide a secure, decentralised and performant network and service infrastructure, which relies on advanced CloudComputing.

- *Cloud Standards Coordination* – http://csc.etsi.org/
  The Cloud Standard Coordination (CSC) is a joint initiative of the European Commission and the European Telecommunications Standards Institute (ETSI). The initiative delivered a series of reports, which underwent a public review and feedback cycle to be finally published in their final, ETSI-compliant form.

- *Big Data Value Association* – http://www.bdva.eu/
  The BDVA i-Spaces21 are "trusted Data Incubators targeted to accelerate take up of data driven innovation in commercial sectors like Manufacturing 4.0, Logistics, e-Commerce, Media, Aerospace, Automobile, Energy, Agriculture and Agroindustry, Pharmacy; as well as in non-profit sectors (e-Government, Environment, Pubic Health, Smart Cities)".

- *Cloud Native Computing Foundation* – https://www.cncf.io/
  CNCF serves as the vendor-neutral home for many of the fastest-growing projects providing foundations for the development of cloud native applications, fostering collaboration between the industry's top developers, end users, and vendors. Projects part of CNCF include Kubernetes, Prometheus and Envoy.

- *FIWARE* – https://www.fiware.org/
  The FIWARE Community has been growing as an open community committed to promote adoption and growth of the FIWARE platform as a de-facto standard to develop innovative cloud-based services and applications in multiple sectors, leading

to the recent creation of the FIWARE Foundation. Martel is a member of the FIWARE foundation and is heavily involved in the development and innovation initiatives pushed forward in a more commercial perspective.

1.4 Engagement of H-CLOUD Advisory Board

The Advisory Board members have been engaged in February 2020, informing them about the project activities and inviting them to a consulting role on the H-CLOUD Green Paper and contributing to the ongoing discussion on the policies of the future work programme.

The H-CLOUD Advisory board includes:

- Ludek Matyska: Masaryk University, expert in research Cloud federation, users technology and policy aspects in relation to sensitive data

- Alban Schmutz: CISPE and OVH, expert view of Cloud providers, involved in GAIA-X

- Ana Juan Ferrer ATOS, Chair of the Inter-cloud Challenges, Expectations and Issues Cluster, expert on cloud-edge and multi-cloud

- Dana Petcu: West University of Timisoara, leader of the Cloud research cluster on infrastructure, expert on HPC and Distributed computing, member of EC Cloud Expert Group

- Lutz Schubert: Uni Ulm, head of research of the distributed and Cloud Computing area, expert for the European Commission on different working groups related to Cloud

The Advisory Board met "virtually" with the H-CLOUD team on 28 February 2020 for a briefing on the project's ambitions and activities. This initial meeting has been followed by 1-to-1 timely exchange and participation to the Experts Webinars, which took place at the end of April. The Advisory Board has been granted access to the H-CLOUD Forum since April 2020, in order to allow quick review and comments to the ongoing editing of the Green Paper. Moreover, they have been invited to send their brief biography and picture in order to present them on the H-CLOUD website by the end of May 2020. The AB members will also be engaged in the Survey, which will be conducted by H-CLOUD to further validate the assumptions of the Green Paper, and invited to attend the open webinar, planned for June 2020.

2   COMMUNICATION AND COMMUNITY BUILDING STRATEGY

Efficient community building and communication actions during the H-CLOUD lifetime ensure short and long-term success of the project. Therefore, promotion, dissemination, stakeholder engagement and impact creation activities are central to the whole H-CLOUD effort and will be closely coordinated among the various WPs to create a cohesive plan of action for the effective engagement of all target stakeholders in the digital learning ecosystem. The H-CLOUD activities, including developed content, tools, actions and services, are geared towards the creation of value out of the ECC offering, as the most direct way of creating socio-economic impact in a multi-stakeholder and multi-disciplinary perspective. The following sections describe H-CLOUD's mission, overall communication and dissemination objectives, key stakeholders, communication phases and communication channels that will guide and streamline H-CLOUD communication and community building activities

2.1   H-CLOUD mission

H-CLOUD gathers the European Cloud stakeholders in a sustainable, informed and coordinated open community through the H-CLOUD Forum, which brings together innovators, policy makers, the demand and supply side of the Cloud market, to remove fragmentation and increase collaboration in Europe and beyond, while aligning on a common direction to help creating a Cloud agenda for the future of Europe.

2.2   Communication and dissemination objectives

H-CLOUD's dissemination and communication activities are overarching throughout the whole duration of the project and aim to ensure the development of a vibrant and disruptive community as an open, inclusive, sustainable and dynamic forum that will lead to increased and durable impact within Horizon 2020 and beyond in Horizon Europe.

The main objectives of the H-CLOUD community building and communication strategy are to:

● Communicate and disseminate towards the ongoing Cloud Computing (CC) projects, including those funded under different previous calls such as WP2014-ICT7, WP2015-ICT8, WP2016-ICT-06 as relevant, the ones from International collaboration with Japan, Korea and Brazil, and those upcoming and funded under ICT-15-2019-2020, item a), to make them aware of any relevant initiative / news / contents / policy / standard / events, etc., and encourage knowledge transfer, networking and collaborations via the Forum.

● Promote the CC projects' outcomes, best practices, success stories. One key goal for H-CLOUD is to maximise the collective outreach power of the ongoing projects, acting as an amplifier supporting and complementing communication and dissemination efforts across the community for broader impact. This aims to guarantee:

  ○ H-CLOUD efforts as uniquely identifiable initiatives sharing a common identity/brand that is the one H-CLOUD will develop.
  ○ Accessibility to CC projects' outputs projects to ensure broad reach and increased adoption of CC concepts and technologies in Europe, which can give major impulse to the Digital Single Market objectives.

● Ensure broad visibility and promotion of the ECC initiatives and of the H-CLOUD Forum beyond the specific programme borders. H-CLOUD will promote strategic and operational coordination of the CC community through dedicated efforts embracing all target stakeholders both within the European broader ecosystem, including the 5G PPP, the IoT-LSP, the NGI, etc., and in the global context, in coordination with the ongoing CC projects with international reach/focus. Liaisons both in terms of know-how

exchange and coordinated activities, including events organisation and participation, will also be pursued with initiatives led by other directorates at the EC.

2.3 H-CLOUD stakeholders

To ensure broad visibility and promotion of CC initiatives and of H-CLOUD as a community, our communication efforts will target the following stakeholders:

- Primary Audience: 3,000,000 people (directly involved as developers/primary professional users of Cloud Computing as per latest EUROSTAT number).
- Enlarged Audience: 150 million people (citizens and extended business users, including SMEs)

The audience macro-groups are segmented as follows:

- Industry players: across Europe and beyond 250 enterprises through different associations (European Cloud Alliance, EGI, OpenStack Foundation) and initiatives (C-SIG)
- Users:
  - Enterprises: 26% of EU enterprises (almost 7 million enterprises) used Cloud Computing in 2018, mostly for hosting their e-mail systems and storing files in electronic form.25 (see BDVA, NESSI)
  - End users/citizens: 144 million people, over one third of EU Internet users use cloud services. In the EU, half of younger Internet users aged 16 to 24 years took advantage of cloud services (see BEUC, ANEC associations)
- Researchers/Industry: 900,000 researchers in private sectors potentially interested in Cloud Computing solutions for data, research, publications, projects and organisations across borders and scientific disciplines. (see EOSC, EUDAT, NGI, FIWARE)
- Researchers/Academic & Government: 900,000 researchers in government and higher education sectors across borders potentially using or interested in science cloud solutions. (see EOSC, EUDAT, GEANT, NESSI, Open Research Cloud Alliance)

H-CLOUD will reach: 70% of the primary audience thanks to the links to the related initiatives, events, newsletters, website, specialized press, conference attendance and presentations. It will strive to reach 20% of the enlarged audience, with a focus on European SMEs and start-ups and end users through technology-prosumer events and media educational coverage. The following table lists the main categories of stakeholders we plan to engage with, as well as dissemination actions to be directed towards them. A detailed description of the methods of outreach can be found in Section 3.

Table 1: H-CLOUD Stakeholders

Group	Description	Dissemination message	Dissemination strategy
European Cloud Computing and Data Services players:	Organisations involved in past, ongoing and upcoming EC projects	Capitalise Cloud investments and achieve a greater impact through the support and	- Engage at the and with the H-CLOUD Forum; - Promote achievements (H-CLOUD Portal) - Give voice to experts (e.g. videos, interviews, case studies)

		coordination of H-CLOUD	• Amplify knowledge transfer (e.g. publication repository; participation to working groups)
Technology Providers	Developers in the CC landscape	Contribute to the Digital Single Market with new technologies and solutions to complement and/or extend existing Cloud infrastructures	• Invite to participate in the H-CLOUD Forum (e.g. invited talks, demos) • Engage with at selected industry events • Amplify knowledge transfer (e.g. publication repository; participation to working groups)
End Users	Public and private organisations and Startups/SMEs	Benefit from Cloud technologies and resources to minimise up time-to-market for applications and services	• Promote the outputs of the CC projects (newsletters, social media, pitched articles) • Engage with at selected events (e.g. EGI Conference) • Give voice to experts (e.g. videos, interviews, case studies) • Document success stories (case studies)
Research-focused initiatives	BDVA, EOSC, NGI, IoT-LSP and related national and international	Adopt CC solutions Enrich CC development with specific requirements	• Promote the outputs of the CC projects (newsletters, social media, pitched articles) • Engage with at selected events (e.g. EGU, ICRI) • Document success stories (case studies) • Amplify knowledge transfer (e.g. publication repository; participation to working groups)
Policymakers and public authorities	Actors committed to support the development of the full economic potential of Europe	Make informed strategic decisions and plan targeted CC activities, investments and calls	• Promote the outputs of the CC projects (newsletters, social media, pitched articles) • Amplify knowledge transfer (e.g. publication repository; participation to working groups) • Summarise developments, promote roadmaps (white papers, dedicated communications)

			• Participation to dedicated workshops (e.g. EOSC Stakeholder Forum)
Open source and standards communities	Communities and bodies such as CNCF, Open Stack, ETSI	Promote the ECC experiences of successful and sustainable uptake and deployment of the CC concepts and technologies	• Promote the outputs of the CC projects (newsletters, social media, pitched articles) • Amplify knowledge transfer (e.g. publication repository; participation to working groups) • Summarise developments, promote roadmaps (white papers, dedicated communications)

In addition, H-CLOUD will engage with the Clusters of European Projects on Cloud[2], which aim to create an environment where projects funded by the European Community (in particular, the recipients of ICT7 and H2020 grants) can interact and find synergies. The H-CLOUD consortium will check whether the projects pertaining to the clusters are still active and reach out to them.

2.4 Communication phases

H-CLOUD follows a phased approach to defining, planning, organising and exploiting a rich set of activities and instruments in the most effective way towards building a strong and vibrant H-CLOUD community in the EU that will make a difference in the future development of the field and ECC scene at large. Some of the plans foreseen at the beginning of the project have been adapted due to the COVID-19 emergency as described below. The project follows a 3-stage approach to outreach and impact creation, as described in Figure 1 below:
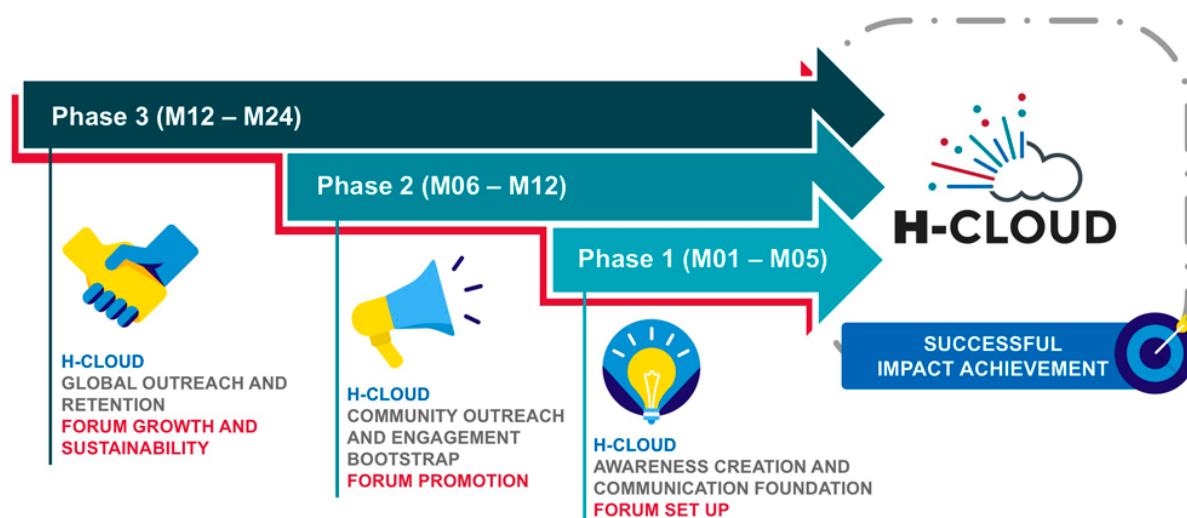

Figure 1: H-CLOUD impact creation approach

2.4.1 Phase 1 – Awareness creation and communication foundation - Forum set up (M01-M05)

During this current phase, we have designed the community building and communication strategy, including target groups, planned activities and a selection of dedicated communication tools and community building activities. Moreover, we have started defining the liaisons and interaction mechanisms with the rest of the domain entities and players, including relevant research and innovation projects.

Outcomes/measures: H-CLOUD web portal (www.h-cloud.eu) created and launched (D2.1), including a calendar of relevant events. The current document (D2.2). Dedicated social media channels animated – H-CLOUD on Twitter and LinkedIn. The first H-CLOUD newsletter was distributed at the beginning of May 2020. The design of a first flyer in the form of an H-CLOUD bookmark was designed and uploaded on the project's website and it will be distributed at future events. Four expert webinars with ECC stakeholders gathering feedback on the Green Paper, replacing the first experts workshop, which had to be cancelled due to COVID-19. Set up of the H-CLOUD Communication Task Force with a first meeting by the end of May (see annex). A project presentation (slides). A dedicated mailing list for Advisory Board and various Interest/Working Groups. A first version of the online community platform "H-CLOUD Forum".

2.4.2 Phase 2 – Community outreach and engagement bootstrap - Forum promotion (M06-M12)

Phase 2 of the H-CLOUD community building and communication strategy will actively reach out the main target stakeholders to generate interest in H-CLOUD activities and outcomes, and set a solid foundation for the planned dissemination, community building and consultation activities. Stakeholders will also be approached to provide support for the mapping activities, knowledge sharing, best-practices documentation, consultations and road mapping activities led by WP1 (H-CLOUD Landscape) and WP3 (H-CLOUD Strategy). In this phase, the planning for first events participation and organisation will commence, including the first edition of the H-CLOUD Summit and the second experts workshop, which will be co-located with the H-CLOUD summit. Additional webinars on the EU data strategies will be organised in June and September 2020.

Outcomes/measures: Official launch of the H-CLOUD Forum (major promo campaigns online and offline), publication of best-practices and success stories (curated contents / storytelling from WP1), first edition of the H-CLOUD Summit with co-located experts workshop, first video interviews from EC representatives and experts in the domain to raise awareness, animation of social media channels, a number of news items pushed out via the H-CLOUD website and media, newsletters, webinars and participation in selected events to facilitate networking, outreach and community building, described in D3.3.

2.4.3 Phase 3 – Global outreach and retention - Forum growth and sustainability (M12-M24)

Phase 3 of the H-CLOUD community building and communication strategy will actively engage target stakeholders on a pan-European level, beyond the NGI and H2020 initiatives for the creation of an ecosystem of engaged communities and players as a solid basis to ensure a self-sustainable living "hub" to continue in Horizon Europe. The main idea is to ensure effective community building mechanisms to be strengthened by increased participation of active ECC projects and actors, while extending outreach of the H-CLOUD efforts to connect with media, specialized press (i.e., Techcrunch, Wired, IECC, ACM, etc.) and overall society.

Outcomes/measures: Promotional material in various forms, presentation, publications, established liaisons with relevant research and innovation projects, publication of a number of news items via the project's website and media channels, additional editions of the e-newsletter, interviews, video, dedicated webinars, participation in events, a major community event (possible co-location opportunities currently evaluated), including the second edition of the H-CLOUD Summit (at M22) and two additional expert workshops to consolidate the road mapping activities and finalise policy recommendations (one at M14, the other at M22).

2.5 Sustainable outreach approach

The H-CLOUD Community Building and Communication Strategy takes into account the sustainability principles for the organisation of events and the production of communication materials. For this purpose, we will:

- Organise virtual meetings and workshops instead of face to face events
- Avoid using material resources where possible (avoiding printing flyers when unnecessary and promote the online download, producing promotional materials using recycled materials and avoiding single-use products, for example)
- Encourage the reduction of emissions through sustainable mobility practices (e.g., recommending bicycle use, public transport at H-CLOUD events and rewarding these actions)
- Work with suppliers (printers, caterers, etc.) that use sustainable products and materials
- Try to measure the carbon footprint and compensation of emissions of partners' traveling to dissemination events.

3   MEANS AND ACTIVITIES

3.1 Project's brand identity

As an EC co-funded Coordination and Support Action project, a clear project brand identity needs to be implemented in order to have an impact with the dissemination of respective work and achievements.

The recognition and perception of a brand is highly influenced by its visual presentation. A project's visual identity is the overall look of its communications. Effective visual brand identity is achieved by the consistent use of particular visual elements to create distinction, such as specific fonts, colours, and graphic elements.

The visual identity and sets of guidelines have been finalised since the early stage of the project in order to secure a strong and unique brand. It will be incorporated in all promotional and dissemination materials produced during the project and will be used by all project partners in their communication activities.

The H-CLOUD logo (see Figure 2) is built with a graphic element on top and the name at the bottom. The illustration is an abstraction of a Cloud and thanks to the colouring and the shape itself it creates a feeling of movement, evolution, circularity, embracing and gathering. The font has a contrast between rounded and straight shapes, with a solid thick and a slightly different shade for the "H" to put an accent on that letter as acronym of "Horizon". The font is modern, very stable, well readable (even on small sizes) and the rounded aspect makes it moderate and non-aggressive, which are important aspects for a coordination action.
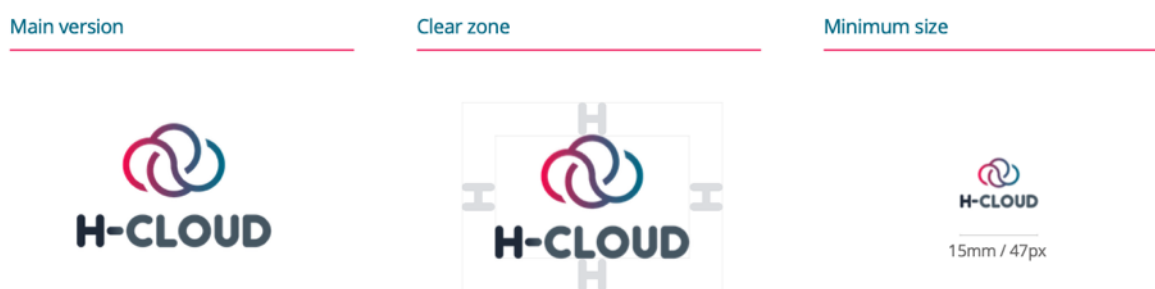

Figure 2: H-CLOUD logo

The guidelines of the brand identity are composed of visual elements such as the **fonts, colour palette and templates for documents and presentations**. The palette of H-CLOUD's corporate colours presented in Figure 3 is inspired by innovation, creativity and technology together with the complementary grey scale colours. This palette will help to create a solid identity for the project, using both the "warm" and the "cold" colours of the shading for different purposes, elements and/or messages.
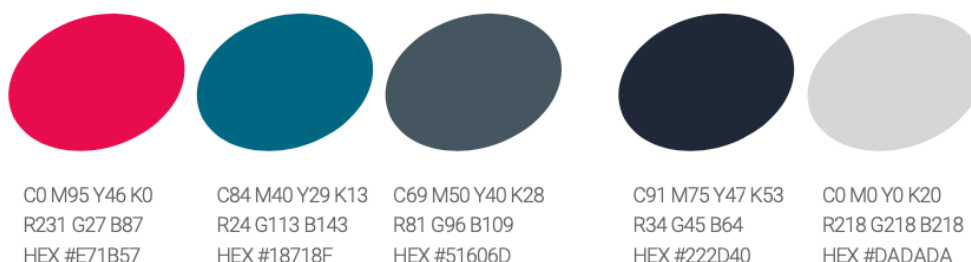
Palette of corporate colors

C0 M95 Y46 K0	C84 M40 Y29 K13	C69 M50 Y40 K28	C91 M75 Y47 K53	C0 M0 Y0 K20
R231 G27 B87	R24 G113 B143	R81 G96 B109	R34 G45 B64	R218 G218 B218
HEX #E71B57	HEX #18718F	HEX #51606D	HEX #222D40	HEX #DADADA

Figure 3: H-CLOUD corporate colours

A general "brand guidelines" document has been developed and distributed to the partners since the beginning of the project to ensure a consistent look and feel in all of H-CLOUD's communication activities. This is the base of a solid identity and facilitates the recognition of H-CLOUD wherever is presented. All dissemination materials refer to the project name, the project's website and Horizon 2020 with associated graphic elements in line with the European Commission's guidelines.

A **PowerPoint presentation template** was created to be used by the partners to create their presentations for all external and internal events, meetings, etc., based on a common look and feel. The annex gives an impression of the template.

3.2   Online tools and channels

3.2.1   Project website

The H-CLOUD project website (see Figure 4) is a fully functional website that contains comprehensive information on the H-CLOUD aims and objectives with easy access and a friendly interface to retrieve information and any public material generated within the project, as well as materials gathered via the various work packages activities about ongoing projects and relevant initiatives. The H-CLOUD website is the entrance point for all the CC community players / stakeholders (existing and newcomers) to the activities, services, material and information that H-CLOUD is planning to create, collect and share.

Web design experts within the project consortium conceived its design and structure to promote the outcomes to the relevant target groups. The design of the website is strongly brand-oriented to consolidate the image of the H-CLOUD identity. The dissemination material produced within the project and for the interaction with social networks will use the website as a reference, in order to have a consistent communication and an easy-to-recognise image/brand. To support multimodal access, it adopts responsive design principles aimed at providing an optimal viewing experience: the interface adapts the layout to the viewing environment by using fluid, proportion-based grids (see Figure 4). A first release of the website was publicly accessible since the first month of the project at https://www.h-cloud.eu/. Further updates will be promptly applied as necessary.
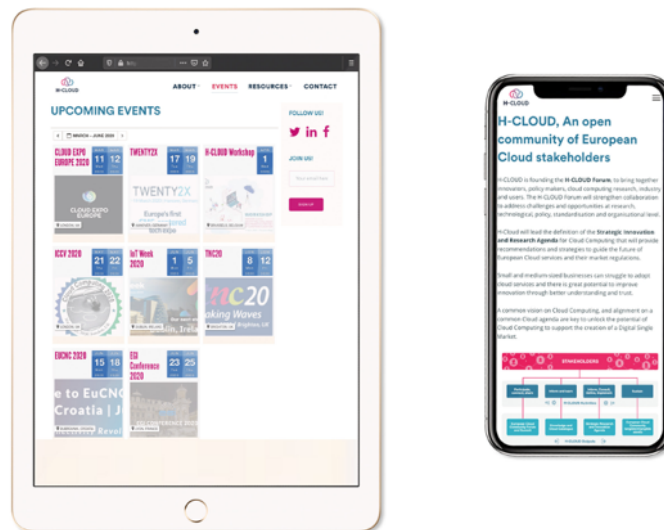
Figure 4: Responsive design H-CLOUD website

As shown in Figure 5, the **project website's home page** has evolved into a clear and clean communication interface that is easily navigable, containing all relevant project related public information. The site includes the H-CLOUD logo and the EU flag with the respective message and is structured into the following sections:

- **About**: This section provides information on H-CLOUD's vision & strategy, the consortium members and the advisory board. For the advisory board page we are currently collecting pictures and biographies of the board members.

- **Projects**: This page includes an overview of all CC projects at the centre of the Cloud Computing research community in Europe, more details are provided in Section 3.2.2.

- **Forum**: This page provides information on the soon to be launched H-CLOUD Forum, which aims to provide CC stakeholders with a platform to interact and engage with each other.

- **News**: This section includes H-CLOUD news items.

- **Events**: This page includes information on past events as well as forthcoming events, organised by the project or where project partners will have a relevant participation (e.g. keynote speech).

- **Resources:** Contains all H-CLOUD publications, deliverables, presentations, promotional materials and newsletters.

- **Contact**: This page allows visitors to directly contact the project through a dedicated form and it includes links to H-CLOUD's social media channels.
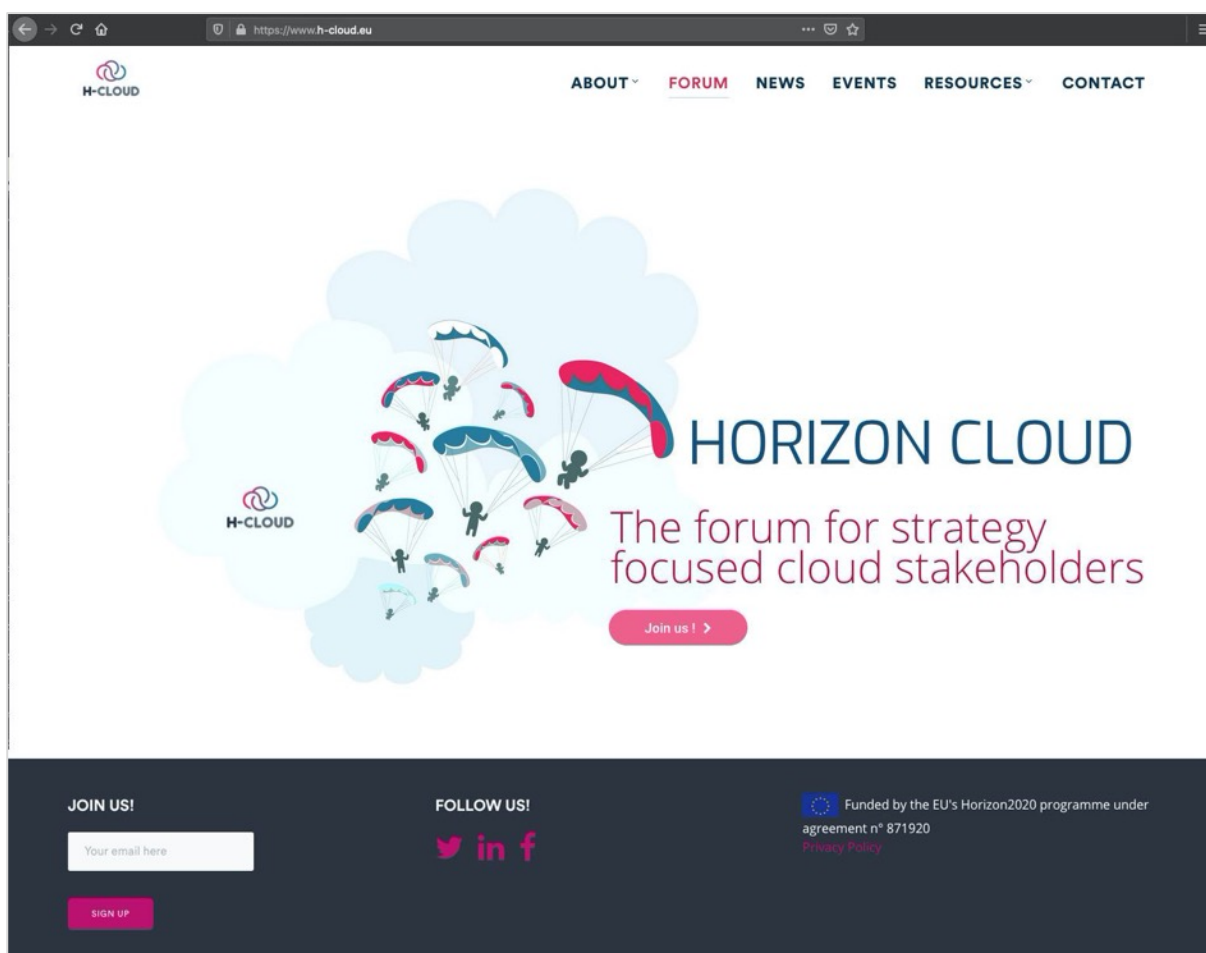
Figure 5: H-CLOUD website

Messages sent via the contact form are forwarded to info@h-cloud.eu, which is forwarded to the concerned project partners, who receive the message and respond to it. It should be noted that all information and e-mails collected are protected under GDPR. Contacts will only be made to those who have submitted their inquiries and newsletters will only be sent out to those who have explicitly requested to receive them. Any person who has subscribed will be allowed to remove their e-mail upon request.

As one of the main dissemination channels and dynamic tools, the website will undergo a major streamlining, and it will be continuously updated throughout the lifetime of the project. From 1 December 2019 (when the landing website was created, before the official start of the project), to 20 May 2020, **the H-CLOUD website received 1058 visits with 702 new users and 3014 page views**. The increased generated web traffic shows a clear interest in the project's topics.

3.2.2   Creating visibility for EC Cloud projects

One of H-CLOUD's main goals is to create visibility for and connect all CC stakeholders active in Europe. To this end, we already reached out to all European funded CC projects, informing them about H-CLOUD's aims and objectives and inviting them to share information on their project with us. Using this information, we are currently curating on our H-CLOUD website a dedicated page listing all European funded Cloud projects, see Figure 6.

In addition, we invited all CC project coordinators and their Communication and Dissemination Managers to join the **H-CLOUD Communication Task Force**. The overall aim of this Task Force is to amplify and orchestrate the communication efforts of the European Cloud

Computing community. During the monthly Communication Task Force meetings, every participant has the opportunity to share news, events and foster collaboration with other CC projects. The community will be informed about relevant activities and news will be channelled through the H-CLOUD website. Currently, the H-CLOUD Communication Task Force counts 23 members. The first remote meeting took place on 28 May 2020.
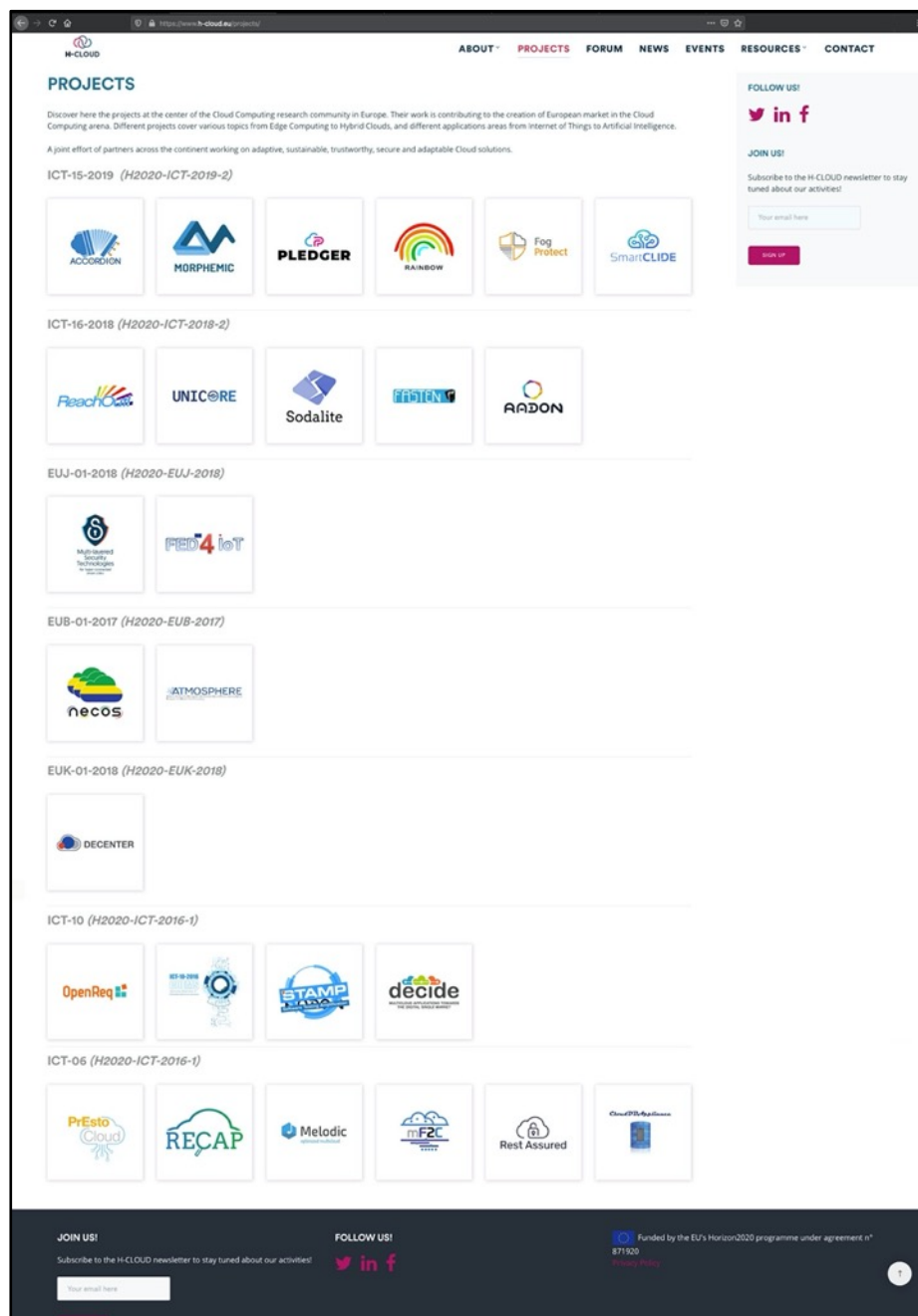

Figure 6: Overview H-CLOUD projects webpage

3.2.3   H-CLOUD Social media channels

Various social networks were established as communication tools in order to promote activities and outputs of the project on a regular basis, while also encouraging a wider discussion on the topics related to CC activities. So far, H-CLOUD created an active presence on the most popular social media channels, such as Twitter and LinkedIn, which are linked to the project's website. The YouTube channel will be open as soon as the first video is released (planned at M09).

Below we present a brief overview of the social media channels created for H-CLOUD.

LinkedIn

The H-CLOUD LinkedIn Group (https://www.linkedin.com/groups/8852793/) allows reaching a professional audience with more elaborated news and/or specific events highlights. Group members may publish the news directly in the H-CLOUD LinkedIn group, which aims to attract Cloud professionals and industry players and invites group members to publish their own updates and open interesting subjects, relevant for the whole community. It is also a push-pull medium as LinkedIn automatically delivers the group's news to the members email accounts upon posting. The **H-CLOUD LinkedIn group today counts at the time of writing (May, 2020) 43 members**. We intend to engage all the ECC projects in the dialogue on this platform, while promoting the H-CLOUD initiatives across LinkedIn relevant groups, with a direct link to the H-CLOUD group, to further increase this social media audience and diversify the group's user base, engaging more vertical representatives/managers.
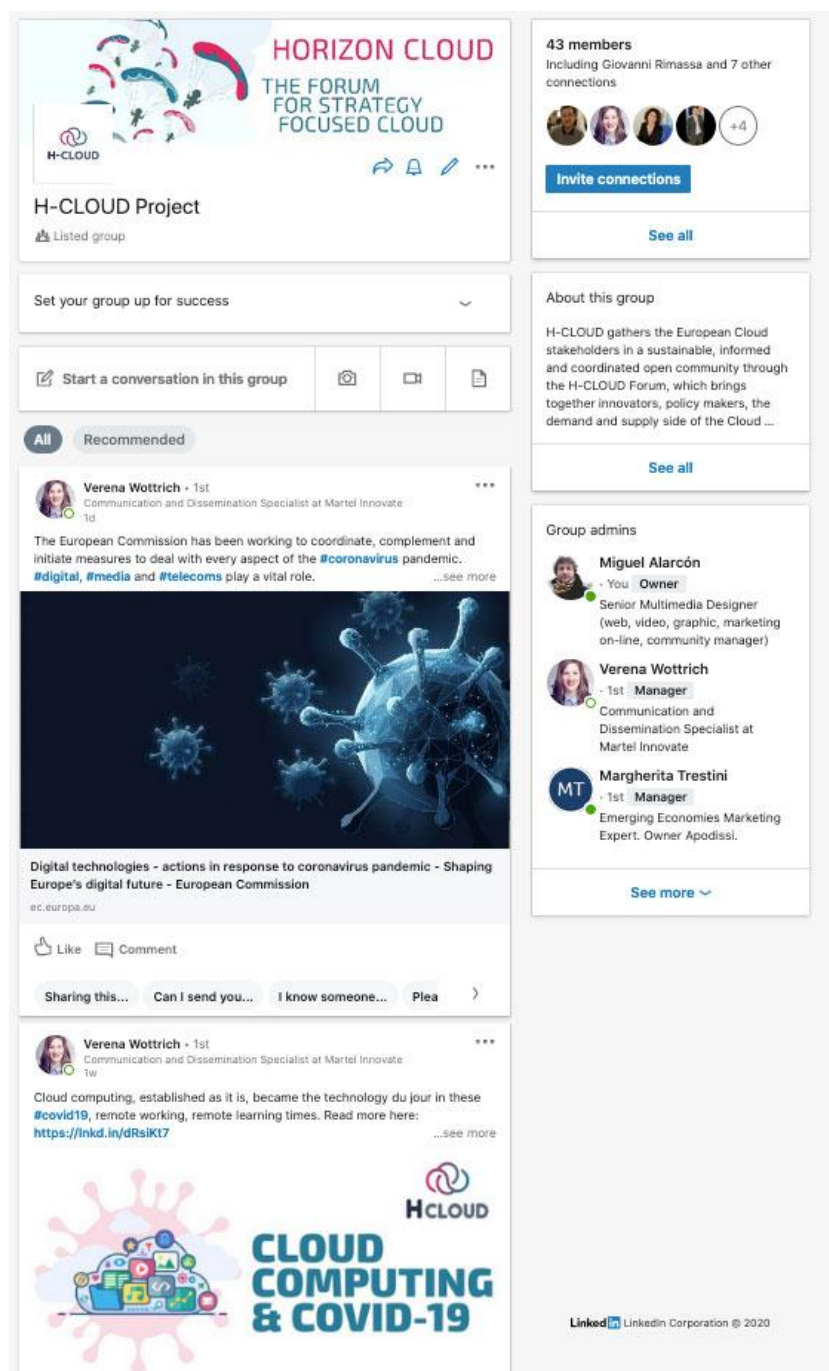
Figure 7: H-CLOUD LinkedIn page

Facebook

The consortium has decided to suspend the communication activity through the Facebook account, considering it less valuable in terms of reach. The profile of Facebook users and its interactions, in fact, are less professional/research driven and less in line with the H-CLOUD communication targets and ambition.

Twitter

H-CLOUD has established its Twitter account *(@H-CLOUD_Project)* already in November 2019 and since then has used the social medium to inform and engage the relevant audience.

As a Horizon 2020 project, H-CLOUD follows the official Twitter account of the Horizon 2020 programme *@EU_H2020* thus becoming a part of the community of H2020 projects on social media. Following the guidelines received from the EC[3] we intend to use a hashtag *#ResearchImpactEU* and tag *@EU_H2020* whenever announcing important news which clearly show the real impact of our research. Moreover, relevant hashtags, such as: #CloudComputing, #CloudServices, #cloud #DigitalSingleMarket, #EOSC, #greencloud, #H2020, #horizoneurope are included the posts to widen the visibility of the project's communication. Other hashtags and accounts that are frequently used according to the content of the posts, are: *@5GPPP @NGIoT4eu @AIOTI_EU #EUfunding @DSMeu @NGI4eu* together with hashtags relevant to the project partners´ organisations and representatives, hashtags of initiatives and events related to the project and the content, accounts of important participants of these events, accounts of the Project Officer of the EC, and more.

The H-CLOUD social media manager has made sure that the project's account follows the channels of all the current European Cloud projects to ensure timely retweet. Moreover, we have created an H-CLOUD Twitter list to maintain a constant overview of the latest projects' communication. The projects have been invited to handle @H-CLOUD_project to reinforce the community's communication.

The Twitter account is used for promoting and disseminating the development of H-CLOUD, including news, events, outcomes, etc. Moreover, re-tweets are made of relevant and interesting content from disparate sources.

Figure 7 gives an overview of the H-CLOUD Twitter channel. After the first four months of the project, H-CLOUD has **91 followers**, has posted 20 tweets and retweets several more. It follows **46 relevant accounts**.
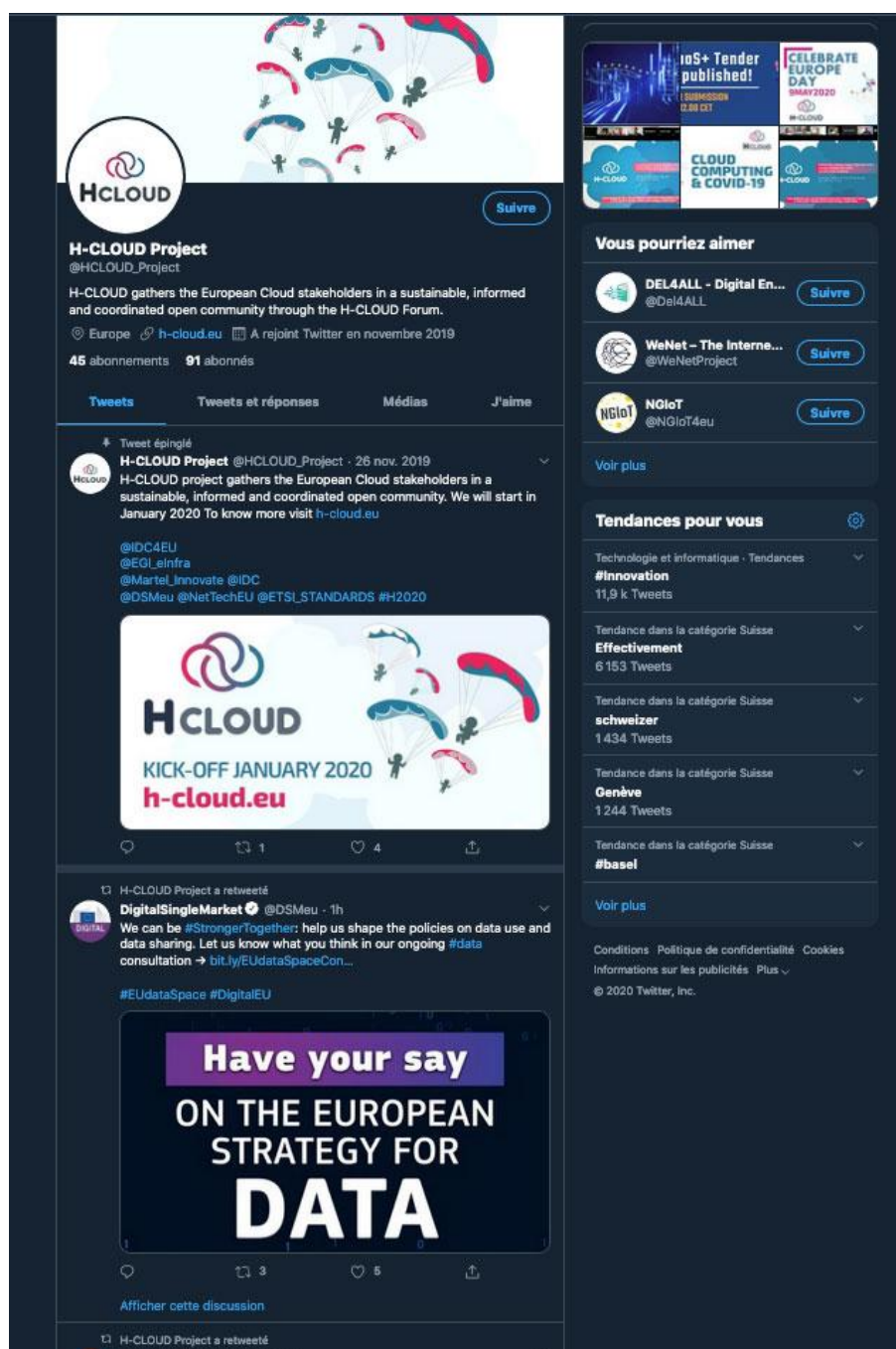
Figure 8: H-CLOUD Twitter page

3.2.4   H-CLOUD e-newsletter

An e-newsletter is produced by the H-CLOUD consortium on a quarterly basis, which provides regular updates on trends of CC research and innovation practices, project findings and results, news from industrial partners, among others. The newsletters also contain information regarding the upcoming tasks and events in an attempt to inform the audience on how they can get in touch with the project and the connected initiatives. As such, a typical e-newsletter of the project contains highlights (major outcomes, links, contacts, and dissemination activities), the most important news, announcements and a schedule of the major upcoming events. Project partners will provide information for the e-newsletter and ensure that the content is accurate. All the e-newsletter issues will be uploaded on the project website. A mailing list is being created at the moment, based on subscription, giving the possibility to share the e-newsletter via mass mailing as well to inform interested users about project news, achievements and planning of events. A registration functionality allowing the interested visitors to subscribe to the newsletter is already available on the H-CLOUD website.

The **first issue of the newsletter was published on 12 May 2020 and sent to an audience of 131 subscribers** (see Figure 8). The newsletter covered recent project activities from the kick-off meeting to the latest article related to the COVID-19 situation. The results of the first newsletter are positive with an opening rate of 46,9% and a click rate of 19,2%.
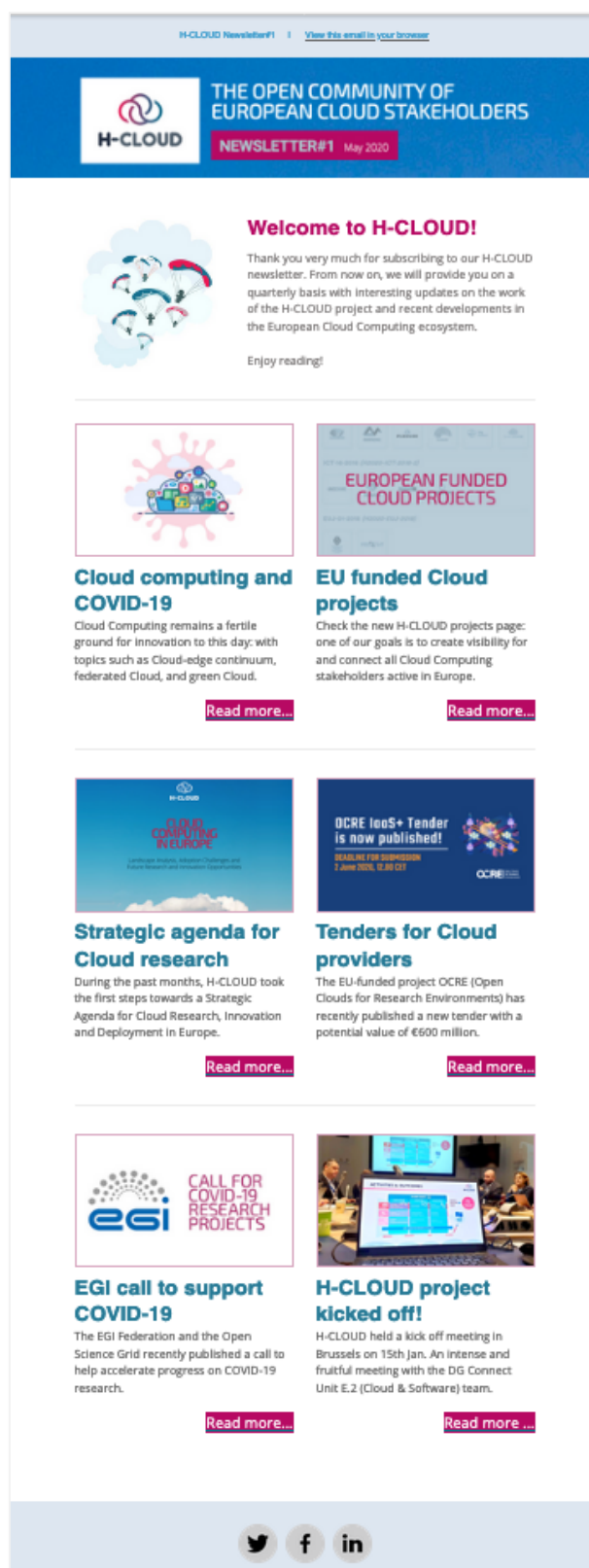
Figure 9: First H-CLOUD newsletter

3.2.5 e-Publications

Significant project developments, news and announcements, white papers, but also articles introducing H-CLOUD will be published on third-party portals, including professional and specialised platforms, Cordis, relevant thematic blogs and collaboration platforms, partners' web portals, as well as through several freely accessible tools.

A preliminary list of the freely accessible portals includes:

- Cordis projects & results: http://cordis.europa.eu/projects/homeen.html
- ELTIS: http://www.eltis.org/
- Horizon Magazine http://horizon-magazine.eu/
- Research*eu results magazine http://cordis.europa.eu/research-eu/homeen.html
- Headlines on the Commission's Research & Innovation website www.ec.europa.eu/research/infocentre/allheadlinesen.cfm
- CORDIS Wire http://cordis.europa.eu/wire/

Beyond these, other documents produced by the project will be properly presented through the H-CLOUD Forum, including the **Green Paper**.

The European Commission is actively setting priorities for the upcoming Multiannual Financial Framework of the European Union covering the 2021-2027 period. Among the different identified priorities, "A Europe fit for the digital age" explicitly supports digitalisation. Cloud Computing, as a fundamental brick of a digital Europe, will play an even stronger role in European economy and society by embracing core European values, spanning fundamental individual rights to market openness and environmental friendliness.

The H-CLOUD Green Paper aims to support the work on the definition of priorities for the upcoming programmes (Multiannual Financial Framework of the European Union covering the 2021-2027 period) with a focus on the priority "A Europe fit for the digital age". It explores the question of how supply and demand can be increased to boost European innovation in the following cloud computing areas:

1. Effective cloud federation models to stimulate the creation of a European public cloud service market leveraging existing capacities;
2. Edge computing, its market growth, and the implications of the edge/cloud infrastructure balance switching from today's 20% data at the network edge and 80% in cloud-based infrastructure to 80% at the network edge and 20% in cloud-based infrastructure;
3. Adoption of green computing principles to the whole lifecycle of Cloud Computing delivery to support the transition toward a carbon-neutral (if not carbon-negative) digital society by 2050.

In response to this, the paper summarises a supply and demand analysis conducted by the H-CLOUD project aiming at identifying the status, challenges, and opportunities that Europe is facing with regards to the adoption and provision of Cloud Computing with a specific focus on federated cloud, edge computing, and green computing. The paper explores key challenges and opportunities from the perspective of demand in five key sectors: public administration, healthcare, transport, energy and climate. In addition to

these, the paper focuses on the needs of small-and medium-sized enterprises (SMEs). These six perspectives are referred to as "demand scenarios".

The H-CLOUD Green Paper is going through several iteration phases, where inputs gathered from the Advisory Board (first), from experts' attending the webinars (second), from ECC projects (third and ongoing). The process is coordinated with the EC and will be further validated through an online survey (under preparation) which will be widely distributed through H-CLOUD mailing list, experts lists, 5G PPP and NGI mailing lists and promoted through H-CLOUD social media channels. The Green Paper should be then made public (once validated by the EC) before summer 2020, through the H-CLOUD Forum, becoming a cornerstone for further discussion with the cloud computing stakeholders.

3.2.6   Press releases

Press releases will be developed on a regular basis (approximately every six months) and coincide with key project achievements (e.g. organisation of a large event, implementation of key activities within the project, etc.).

Press releases will be published in national and European media, thus contributing to the wider dissemination of the project. All partners will be responsible for engaging with their local media outlets to ensure a wider reach of the press release. All press releases will be published on the project's website.

3.2.7   H-CLOUD webinars

A series of webinars (at least six until the end of the project) will be organised for general audiences, which will be available on the project website as well as on the project YouTube channel. After defining important CC topics, selected experts (both internal and external) will prepare the material in the form of presentations. The topics of these webinars can include aspects relevant for WP1 and WP3 to facilitate dialogue, involvement and the exchange of feedback and experiences with respect to the work of H-CLOUD.

The first open webinar will be held in June 2020 and it is currently being organised by the H-CLOUD consortium. Aim of this webinar entitled "Shaping the role of the European Cloud Community in the new EU Data Strategy and Industrial Strategy" is to consult the Cloud/Edge Community on the recommendations flowing from the new EC Data Strategies. To support H-CLOUD's Cloud research roadmap activities and the consolidation of related Working Groups in the H-CLOUD Forum's activities, a webinar is planned for September 2020. The webinar will build on the research position papers developed by the Cloud Computing projects and present and discuss the related main findings.

Beyond that, following the evolution of H-CLOUD outcomes, other webinars may be scheduled along the year to, for example:

- Present new releases of the Green Paper / White Paper and collect public feedback
- Present the outcomes of the good practise research
- Discuss challenges related to specific domains, in case needed to support the SRIA activities.

Additional webinars replacing expert workshop 1

Due to the fact that the first experts workshop planned at M04 in Brussels had to be cancelled due to the COVID-19 emergency, H-CLOUD organised a series of four experts' webinars discussing the challenges and opportunities of Cloud Computing for the next EU work programmes spanning from research and innovation (Horizon Europe) to deployment (Digital Europe and Connecting Europe Facility 2) of Cloud technologies. The aim of the webinars was to gather feedback on the draft of the soon-to-be-published Green Paper "*Cloud Computing in Europe: Landscape Analysis, Adoption Challenges and Future Research and Innovation Opportunities*" developed by the H-CLOUD project and to help H-CLOUD to define future actions. Figure 9 shows how the webinars looked like.

These four invite-only webinars were open to a selected group of ECC experts. The webinars were organised on Zoom and started with a short introduction on the H-CLOUD project and its strategic positioning within the ECC landscape, followed by a topic presentation on the focus of the specific webinar and a discussion round (including online polls). The experts provided valuable input on topics such as green ICT (webinar 1), accelerating Cloud adoption by SMEs (webinar 2), public administration Cloud services (webinar 3) and smart mobility with Cloud (webinar 4). Participation of the webinars ranged from 22 to 46 participants per webinar. The H-CLOUD consortium is currently incorporating the feedback received into the Green Paper.
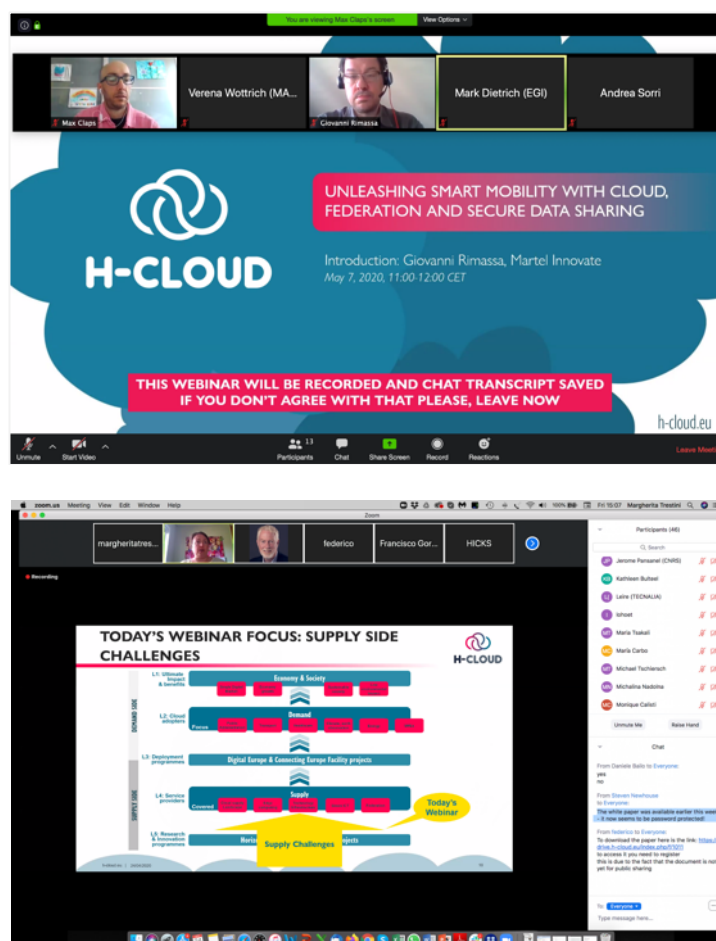

Figure 10: H-CLOUD webinar

3.2.8   Surveys

To gauge the views and collect suggestions from the ECC community, H-CLOUD will conduct online surveys among relevant CC stakeholders. A first online survey is planned for June 2020,

which aims to identify possible recommendations and actions flowing from the European Commission's two new Strategies, that is, the European Data Strategy and the Industrial Strategy. The questionnaire is currently being prepared by the H-CLOUD consortium. Data collection is expected to take place in June 2020. Survey results will be directly incorporated into the Green Paper. A second online survey is planned for July 2020 and will aim to deepen the analysis of the European Cloud landscape and provide relevant inputs for the development of the Strategic Research and Innovation Agenda.

3.3 Offline tools and channels

3.3.1 H-CLOUD Promotional materials

A first version of an H-CLOUD bookmark has been created (see Figure 11) that will be used for informing interested people about the project's objectives and activities. The bookmark will be uploaded to the H-CLOUD website and shared as a printed version during relevant events.

Figure 11: H-CLOUD bookmark

Moreover, **roll-ups** will be created, matching the look and feel of the website and the overall project design concept to meet the needs of the project.

Posters of a smaller size (A0) will be produced. H-CLOUD will also consider producing event focused posters of smaller size, if considered necessary, where the content of the poster will be replaced to fit the needs (theme) of the event.

Both the roll-up and the posters will be prepared in English (local languages to be considered if appropriate or necessary) to raise awareness of the stakeholders and a variety of relevant audiences about the project with succinct textual and graphical information.

Printable versions of the posters will also be created and provided to partners to be printed and used at the events they participate in.

The design will be easily adjustable to the requirements individual partners have, in case an additional or a more specific version is required.

The project logo, the EU flag & acknowledgement along with the H-CLOUD website and the social media links will be clearly displayed on all promotional materials.

3.3.2   Events

Events-based dissemination is a critical part of the H-CLOUD strategy and activities. It targets liaison with CC stakeholders via organisation of dedicated events, as well as coordinating participation in major EC/Non-EC conferences and events. These activities will contribute our goal to better utilise and reinforce the research and innovation excellence of Europe in the field of CC, to advocate a strategy that focuses on a European Cloud agenda, as well as to build and sustain an ECC network involving various stakeholders.

The following sections give an overview of the events the H-CLOUD consortium intends to organize and attend. Given the current COVID-19 containment measures, however, we expect that many of these events will be cancelled or turned into digital events.

Events organisation

Dedicated events, such as two expert workshops per year and two editions of the H-CLOUD Summit, will be organised to help stimulate collaboration among key stakeholders, facilitating dialogues and consultations, increasing visibility and impact of ECC efforts. Flagship events and selected key events will be planned closely in line with the iterative process around the roadmap development and policy recommendation activities proposed by H-CLOUD.

The objective of the **expert workshops** is to consult ECC stakeholders, collect needs and experience, validate the project results (e.g., on the SRIA) and encourage the exchange of views obtaining engagement in light of a future implementation. The first expert workshop was foreseen at M04 in Brussels, however, due to the COVID-19 emergency situation, it had to be cancelled. Instead, we consulted ECC experts by organising four online webinars as described in section 3.2.7. The second expert workshop will be co-located with the first edition of the H-CLOUD Summit. The other expert workshops are foreseen at M14 and at M22.

The two editions of the **H-CLOUD Summit** serve as the flagship annual meetings of the European Cloud Community, hosting thematic workshops and sessions, working group and interest group meetings, and sessions where stakeholders, initiatives and projects will showcase their research and innovation results. They will present the best practices of CC related initiatives and discuss topics about and beyond the state-of-the-art of ECC. In addition, the events will have a forward-looking theme, debating the outlook of future opportunities and policies in the area of ECC.

The H-CLOUD consortium is currently in the planning phase of the first H-CLOUD Summit 2020. Possibly, the event will be co-located with the EGI Conference 2020, which takes place

from 2-4 November 2020 in Amsterdam, nevertheless the consortium is still evaluating alternative options such as Cloud Expo Europe at the beginning of November. The one-day event, expecting approximately 200 participants, will be held on 3 November 2020, provided the COVID-19 emergency situation allows for a physical event to be organised. Otherwise, the event will be held virtually.

The following global conference concept for the H-CLOUD Summit 2020 has already been defined:

- Opening Speech by DG CONNECT representative

- Keynote Session by selected experts in CC fields, as well as collaborating initiatives

- Presentations / workshops from H-CLOUD consortium members on current challenges for CC

- Exhibition area / pitch sessions from SMEs and start-ups to demonstrate their last CC technologies

- Panel discussion with consortium members and CC experts reflecting on recent H-CLOUD project achievements

- Panel Discussion with EC representatives on future of CC and policy making

Events participation

Although event participation might be hindered due to the current COVID-19 emergency, H-CLOUD will try to be presented at a number of events aiming to promote and communicate, by all relevant means and tools, all relevant information that will increase the project´s visibility in terms of the CC aspects. Participation in events is also an opportunity to increase and strengthen the network of relevant parties interested in becoming part of the H-CLOUD audience.

The H-CLOUD representation at the events can take place in different ways, including paper or project presentations, poster presentations, simple participation for liaising or networking purposes, workshop organisation or general support. Promotional materials such as brochures, a poster or a roll-up (where relevant) will be also used for dissemination purposes.

The consortium has identified a number of events highly relevant to H-CLOUD that will be the target for organising workshop sessions, presenting in, or participating in (see Table 1):

Table 2: Relevant events considered for a wide dissemination

Title of event	Type	Date	Location
EOSC Stakeholder Forum	To attend - key event	18-19 October 2020	Berlin, Germany
EGI Conference	To attend - key event	2-4 November 2020	Amsterdam, The Netherlands
Cloud Expo Europe	To attend - key event	4-5 November 2020	Frankfurt am Main, Germany
ICT 2020 & NGI Forum	To attend - key event	1-3 December 2020	Cologne, Germany

IoTBDS Internet of things Big Data and Security	To attend - key event	23-25 April 2021	Prague, Czech Republic
International Conference on Cloud Computing and Services Science, CLOSER 2021	To attend - key event	28-30 April 2021	Prague, Czech Republic
ICT 2021 & NGI Forum	To attend - key event	n/a	n/a

The level of involvement in the events will vary, according to the nature and scope of the event. A thorough procedure for deciding on our participation and dissemination activities will be followed to identify those events which are "tailored" to fit the project's dissemination goals with each specific group within the target audience, giving a clear priority to the events organised and suggested by the EC.

In addition, industrial and thematic workshops related to CC will be utilised as dissemination channels to inform potential stakeholders and engage all relevant communities to the CC technologies, initiatives and policy making activities.

After every event, the H-CLOUD partner(s) who joined the event will be requested to update the shared events list with all the relevant information to capture the experience and update the News section of the website with the relevant information and visual materials. The project's participation in events will be dynamically promoted through the social media channels, to exploit the opportunity for the new audience engagement and further networking opportunities.

3.3.3   Liaising with other initiatives

H-CLOUD will benefit from its partners' and AB members' involvement in initiatives related to the CC domain, building a strong collaboration with them. In addition, H-CLOUD has already been in touch, and will get in touch, with a broader range of initiatives in the EU, to establish collaborations and synergies. A first list of initiatives is presented in Table 2

Table 3: Liaisons with other initiatives

Initiatives where H-CLOUD partners are directly involved or will/have already established liaisons
Cloud Data and Information Service providers (DIAS)
&1
OVH
pCLoud

box
RosettaHUB
UpCloud
CloudSigma
Tresorit
JOttaCloud
Livedrive
Exoscale
Open Telekom Cloud

The collaboration with these initiatives will happen on several levels including, but not limited to:

- Co-organisation of events
- Exchange of information related to project achievements
- Mutual promotion: dissemination and communication using social media and online presence tools
- Interviews with key stakeholders
- Invitation for participation in H-CLOUD events, and vice versa
- Collaboration on other publications.

3.4 Communication and community building recovery plan in times of COVID-19

The current COVID-19 outbreak brings about opportunities and challenges for the community building and communication activities of H-CLOUD. For H-CLOUD, the crisis has two-fold significance: on the one hand, CC technologies are currently in high demand due to the COVID-19 confinement measures, which contributes to a much greater amount of relevant information to curate and disseminate within a short period of time. This means the demands for and attention to our project are expected to increase.

On the other hand, H-CLOUD has rapidly taken up the challenges responding with the following approaches:

- To inject new expert impulses related to COVID-19 and CC into our H-CLOUD community and to raise awareness for the project itself, we will regularly address the topic in blogs and news items on the H-CLOUD website and social media.
- To ensure that project outcomes will not be significantly affected by event cancellations due to COVID-19, we will carefully rethink our events. Face-to-face partners meetings

and events might be organised as virtual events, as done, for instance at M04, when our offline experts workshop had to be transformed into a series of webinars (see section 3.2.7). The H-CLOUD consortium closely monitors the current COVID-19 situation, trying to anticipate early on the next steps that need to be taken.

4   THE H-CLOUD FORUM

4.1   Objectives and target

The H-CLOUD Forum aims to connect cloud stakeholders, increase awareness and collaboration across different stakeholder groups, provide cross-fertilization opportunities and stimulate the adoption of research and innovation outputs so as to ensure technological sovereignty and global competitiveness of Europe. The ambition of the H-CLOUD Forum is to remove fragmentation and increase collaboration within Europe and beyond, while aligning on a common vision for the future of CC in Europe. It is open to all stakeholder groups including Cloud technology innovators, application developers and open standards contributors, Cloud providers, user communities, policy makers, public authorities and standards groups. The official launch of the H-CLOUD Forum is planned for M09.

4.2   Forum description

The soft launch of the H-CLOUD Forum took place at M04, including initial functionalities. The FORUM in its initial release has been reviewed by the H-CLOUD consortium and is constantly being monitored for applying changes if needed. We progressively started inviting new members to the forum. During the first set of H-CLOUD webinars conducted in April (see section 3.2.7), the FORUM was used to distribute the draft of the Green Paper among webinar participants. The forum will be progressively populated and enriched during the next months until it will be fully launched in September 2020.

4.3   Adopted solution

In order to build a robust online community platform, which allows its members to communicate and coordinate with each other, we have started developing a combination of the discussion/forum platform Discourse, and the file sharing platform Nextcloud.

Discourse is built mainly as a modern forum platform. Community members are allowed to start discussions and all members can participate, adding their own replies using text, images, hyperlinks, code snippets and so forth.
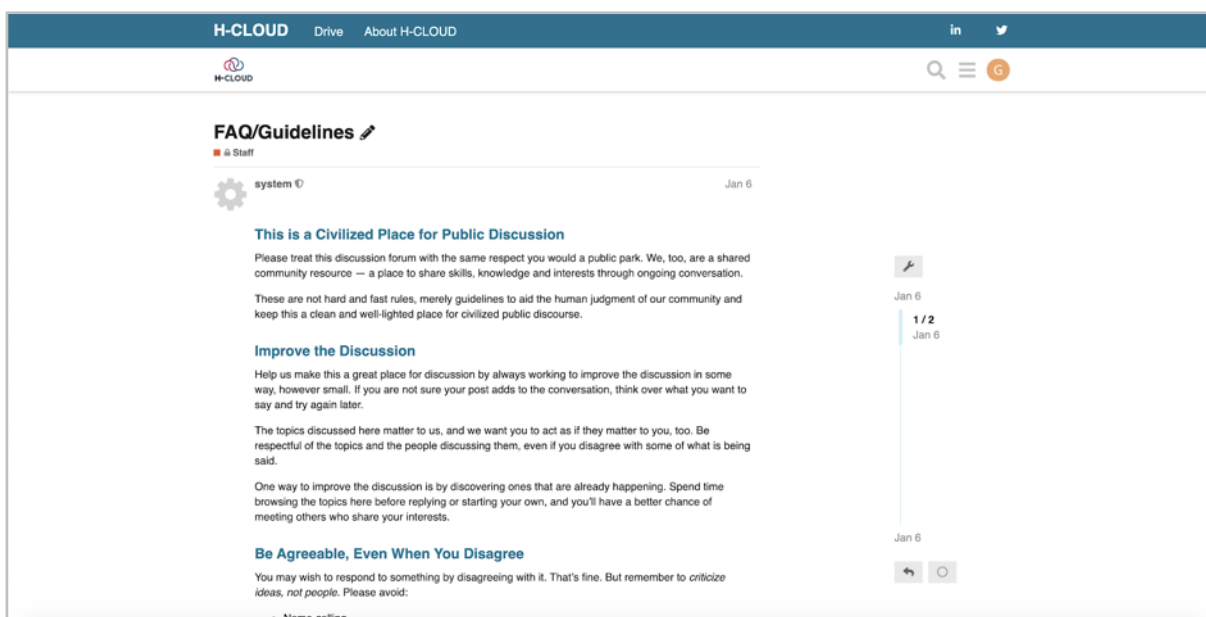
Figure 12: Interface of the H-CLOUD discussion forum

A notification system keeps community members up to date with their discussions and there is the possibility to communicate directly with other users via private messaging.

On the admin side, the H-CLOUD consortium has access to a full set of moderation tools (discussions editing/removal, spam filters, user permissions and so forth), as well as analytics for the community.

The User Interface (UI) of the forum is responsive and intuitive, expanding discussions as the user scrolls down rather than relying on multiple fixed pages. The interface is built to be perfectly adapted to other devices like pads or smartphones.

Discourse is a fully Open Source platform, which makes it more flexible and easily adaptable to whatever needs. There is an interesting catalogue of plugins available to extend the platform's functionalities.

Nextcloud is a file sharing platform which allows its members to make their files available to other community members. Since Discourse only allows attaching files to discussions in a very basic manner, leveraging Nextcloud's functionalities is essential to allow the community members to work together more efficiently.

Files can be uploaded on the platform, synced locally on the members' personal devices thanks to Nextcloud's desktop and mobile clients, or edited directly from the web interface.

Like Discourse, Nextcloud is 100% Open Source and it puts the customer in control over their data in the most literal and direct sense. Nextcloud is a very easy-to-use responsive platform with a high level of accessibility.
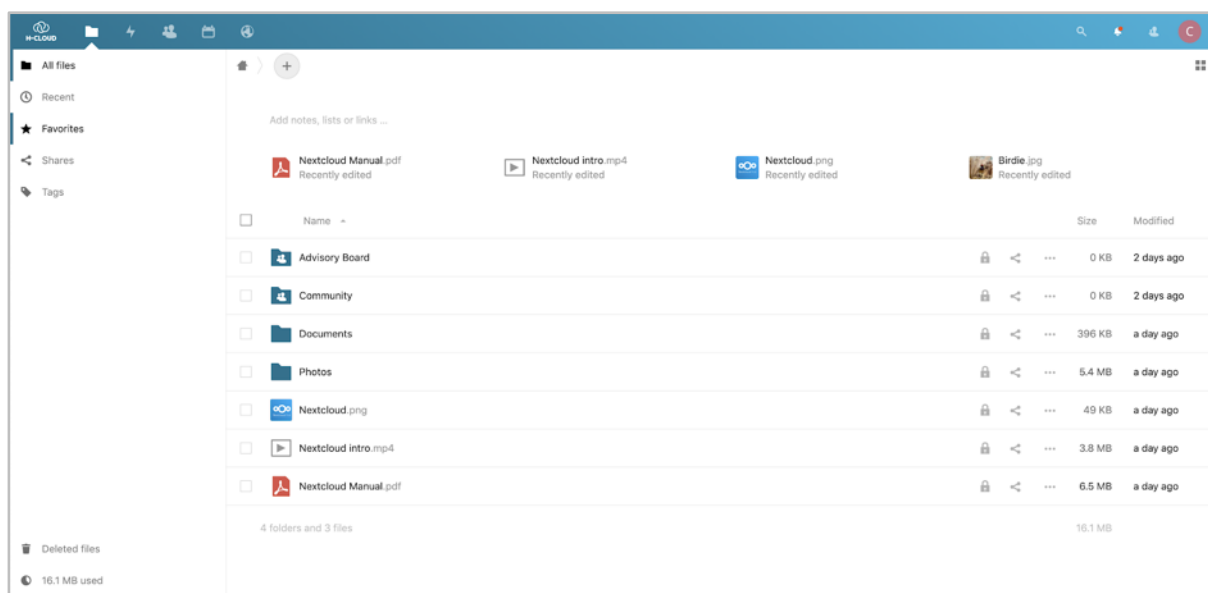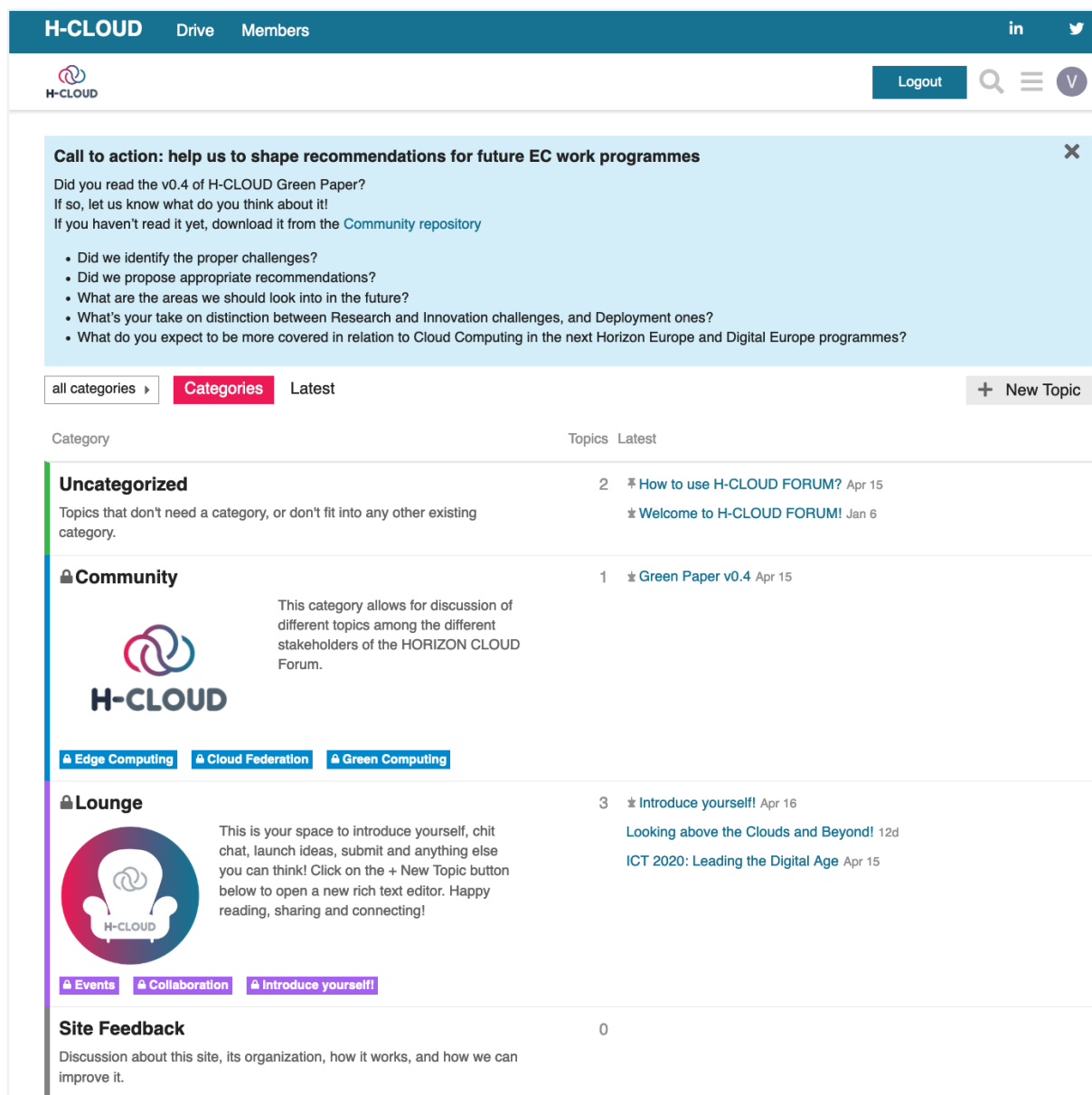
Figure 13: Interface of the H-CLOUD file sharing platform

In order to facilitate the access to both functionalities and since both Nextcloud and Discourse allow **Single-Sign-On**, users just need to log in once to have access to both platforms seamlessly.

4.4 Forum features

The H-CLOUD Forum is mostly a **communication and file sharing tool** where knowledge is shared for the sake of the ECC community. As can be seen in Figure 14, the landing page of the forum contains a user-friendly interface with the most recent **call to action** at the top and an overview of the main **discussion categories** in the middle of the page. The different categories allow forum users to structure the conversations online. As we are still in the soft launch phase at the moment, the forum currently contains the following categories:

- **Uncategorized:** Here users find information on how to use the forum and they can share information here that does not fit under the other categories.

- **Community:** Here users can start discussions on different topics and engage with the community. Currently, users can discuss the most recent draft of the Green Paper here.

- **Lounge:** This is a more informal area, where forum members can introduce themselves, interact with each other and foster collaborations.

- **Site feedback:** H-CLOUD aims to continuously tailor the platform to the needs of CC projects and initiatives; hence this category gives forum members the opportunity to provide feedback on the forum.

Figure 14: Landing page of the H-CLOUD Forum

Under each category, forum users can start creating specific **discussion topics.** As can be seen in Figure 15, these topics allow for a more structured conversation within a certain forum category.
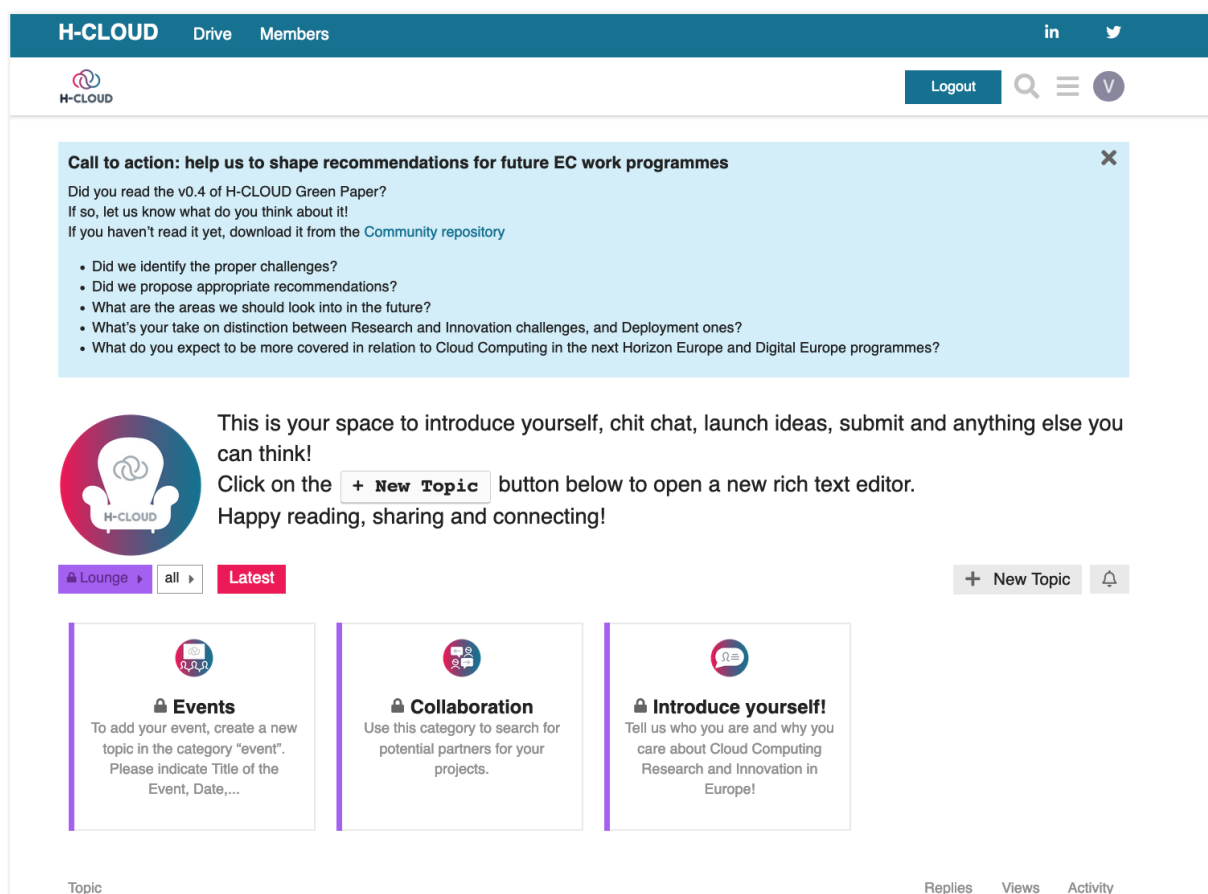
Figure 15: Topics within the "Lounge" Category

In addition to the categories and discussion topics, the H-CLOUD Forum contains the following features:

- **Community directory:** A directory to access all members of the community is available.

- **One-to-one chat:** Text conversations can be started in private by community members.

- **One-to-many chat:** Private groups / spaces can be created to communicate about a topic of interest.

- **Drive:** The forum offers direct access to to H-CLOUD file sharing platform

4.5 Launch phase and maintenance process

The H-CLOUD Forum was already opened for a selected group of webinar participants at M04 and will be officially launched for a broader audience at M09. Social media communication and dissemination activities as well as news items on the H-CLOUD website and in the quarterly newsletter will help create awareness for the forum. Moreover, the Forum will be introduced during online meetings of the H-CLOUD Communication Task Force as well as the open webinars, encouraging people to join and actively participate in the forum. An initial communication announcing the launch of the H-CLOUD Forum was already included in the first edition of the H-CLOUD newsletter published at M05.

The following strategy for administration, animation and moderation of the H-CLOUD Forum has been developed:

- **Consistency/Content:** The strategy will be oriented to create and guide the content of the groups to consistent categories. To start with, the H-CLOUD consortium has already created specific categories and initial topics to foster the interaction, so they must be participative topics more than informative in line with the ECC strategy.

- **Designed to share:** A key element for the interaction within the H-CLOUD Forum is the convenience to easily share files. Moreover, not only to share but also to quickly find the elements that have been shared inside the groups. To this purpose thematic repositories were created in the Drive.

- **Engaging/Caring:** For each communication through the H-CLOUD Forum, the moderator will use a positive and motivating language.

- **Force communication through the forum:** Especially when launching the H-CLOUD Forum, the H-CLOUD consortium will animate the discussions and stimulate active participation of the community. For example, moving e-mail discussion to specific groups of discussion so that members will get used to interacting via the forum.

- **The place to be:** The H-CLOUD consortium will generate the buzz around the community. Relevant stakeholders shall feel the need to register to the forum because it is the place to stay tuned for everything that happens around the ECC initiative.

- **Feeding into the website** Through the H-CLOUD Forum, it will be possible to collect news items and events information that will feed H-CLOUD's website and social media.

- **Close coordination with the ongoing ECC projects:** It is crucial to be well coordinated among all the initiatives in order to optimise the outcomes and avoid overlapping of efforts. The H-CLOUD Forum needs to be the place to discuss and present ideas, developments, proposals, etc. to keep everybody aware of what is going on

4.6 Growth hacking plan

To incentivise forum participation, promote its benefits and keep it alive, the H-CLOUD consortium defined the following membership programme:

- **Stay tuned:** Access to the H-CLOUD Forum online community hosted by the H-CLOUD community platform that provides an easy and secure way to initiate and participate in specific discussions, collaborative exchange of information and documents. The community also offers the possibility of creating and discussing content (e.g. blog posts, events, job positions offers/requests, news from projects or publications, launch or products, information about policies, regulations and standards, etc.). Best content will feed the H-CLOUD and EC media channels on Cloud Computing.

- **Gain visibility and get in direct contact with main stakeholders in the ECC scene** participating in Interest / Working Groups, online discussions, workshops and events organised in the community. All registered participants are given the option to be listed as members, including the logo, a URL and a short presentation of their organisation in the H-CLOUD website.

- **Gain a spot on the H-CLOUD Forum stage!** Among the H-CLOUD Forum members, each month we will pick the best researcher of the month and the best innovator in

town within the scope of our "CC on the spot" campaign. A video interview and an accompanying news (plus social media noise) will be created and published via the H-CLOUD channels.

- **Apply as an expert speaker** for the H-CLOUD Summit – 5 spots in the agenda will be reserved to H-CLOUD Forum candidates.

- **Apply to become an H-CLOUD Ambassador**. In order to pursue the building of a strong and representative community, the H-CLOUD Forum will be looking for key actors across Europe to act as ECC Ambassadors that will promote the H-CLOUD Forum initiative in their communities/regions, representing their ecosystem at EU level and contributing to foster the European convergence in the CC landscape.

- **Explore participation in EU and other publicly funded research and innovation programs** and actions, receiving information about upcoming calls, cascade funding opportunities, etc.

- A**ccess to high level think-tank and policy makers events**: the H-CLOUD Forum members will have reserved seats and reserved tracks with the guest speakers of the H-CLOUD Summit.

In addition, participation in the H-CLOUD Forum will be promoted by established collaborations with Horizon 2020 reference projects (in CC, IoT, 5G, NGI, AI areas), Big Data initiatives and European organizations pooling together stakeholders from specific Cloud groups. Strategic partnerships with the European Open Science Cloud, the EGI Federation, the BDVA i-Spaces and the pan-European network of Digital Innovation Hubs etc. will function as multipliers to promote participation and gather input from key stakeholders. The established working partnership with major online relevant communities such as: Funding Box, Edgeryders and F6S will allow a cross-promotion and cross-posting activity with H-CLOUD Forum.

5   H-CLOUD IMPACT ASSESSMENT

By implementing the H-CLOUD Community Building and Communication Strategy we expect to communicate relevant outcomes to each of the target groups, as well as to attract their interest and generate engagement that will influence the overall impact of the project. The complete set of communication and dissemination activities will be closely monitored and evaluated by the WP4 lead in order to keep track of all ongoing activities. The deliverable "Community Building and Communication Strategy Report" will document all the related conducted activities in two versions: D2.3 (M12 & M24).

The evaluation of the Communication Strategy concerns both qualitative and quantitative indicators. Once measurable objectives are defined, we will then evaluate to what degree the project has achieved the objectives set. Process evaluation will involve examining the progress of the strategy's implementation and will refer to an outreach activity that is quantifiable through the attendance of persons present from the audiences, quantity of material distributed, number of events participated in, the development and dissemination of messages and materials, media presence and traffic created in social media.

There are various key issues associated with measuring and controlling the outreach and impact creation strategy and plan. Achievement is often more difficult to measure and compare, and thus needs to be carefully quantified and measured according to the specific type of action involved. The objectives chosen must be realistic, clearly defined, relevant, and coherent; the means of measurement must be objective, clearly defined and quantified, and the measurement process must not involve significant levels of cost relative to the objectives themselves. The evaluation needs to be continuous or incremental as much as possible, in particular for non-repetitive actions. Finally, the measurement of different actions must allow some degree of comparison with other actions and/or alternatives.

The proposed **analysis framework** will aim to measure various quantitative figures, as well as the impact of promotional efforts on the attitude of the receivers of the communications messages. This will be feasible through the combination of a set of measurement procedures, which will provide a clear view of the promotional activity outcomes in terms of behavioural trends.

In full accordance with the H-CLOUD needs, we take on **a five-step measurement cycle model**, spanning from objective identification to data driven optimisation:

- We identify our core objectives (e.g. raise awareness, increase engagement – i.e. acquire more contacts, acquire more participants to our events).

- We set goals for our promotional tactics. We concentrate on how to accomplish our objectives (e.g. inform visitors through the content of our website, intensify events promotion, etc.).

- We identify our Key Performance Indicators (KPIs) – the metrics that play a crucial role to the success of the aforementioned utilized tactics and set the expected achievable qualitative and quantitative targets.

- We measure the progress and impact of the conducted activities based on these metrics on a regular basis. Such metrics will allow us to have a constant view of the amount and the effectiveness of the dissemination activities conducted.

- We adjust and optimise the communication strategy towards achieving the expected outcomes and maximising visibility.

The tools, products and activities outlined in this strategy will be monitored, measured,

evaluated and realigned on an ongoing basis.

Table 3 below presents the Key Performance Indicators (KPIs) and the achievable targets set for each type of the communication activities.

Note: Among the various social media platforms, Twitter, LinkedIn and YouTube are the most essential social media tools for H-CLOUD because this is where the audience of the project is mainly active. For this reason, we decided not to use Facebook and to use LinkedIn instead.

Table 4: H-CLOUD Communication KPIs

Measure	Indicators	Target	Currently (M05)	Source and methodology
Flyers Posters/roll-ups	N. of flyers N. of posters/roll-ups (by the end of the project)	> 4 > 4	1	Distribution via participation to and organisation of dedicated events. Electronic distribution via the project website
H-CLOUD Website	N. of unique visitors to the website (average per year)	> 2500	702	News, Publications, Videos, Newsletters, Deliverables, webinars, etc.
H-CLOUD Forum online community	N. of new registered members in the Forum (average per year)	> 150 (y 1) > 300 (y 2)	59	Promotion via all online and offline channels, presentations, newsletters, webinars, periodic promo campaigns
Social Networks	N. of followers Twitter N. of followers LinkedIn N. of followers YouTube (average new followers per year)	> 700 > 150 > 200	91 43 -	Keeping H-CLOUD profiles on such networks active via regular posting and monitoring
e-Newsletter (published every 3 months)	N. of subscribers (by the end of the project)	> 500	135	Recording of subscribers to the electronic newsletter
Videos	N. of videos published on the H-CLOUD	4 videos per year and 200	-	Introduction, informative and educational videos to

	YouTube channel and average number of views	views per video		support awareness creation and stakeholders' engagement
H-CLOUD Summit (one major event per year)	Average number of participants per edition	At least 200 participants	-	Attendance proof, presented material, photos, animation of social media channels, event's reports
Participation to events and presentations	Number of external events partners attended to present H-CLOUD, support the community and increase outreach	At least 20 events and presentations by the end of the project	-	Attendance proof, presented material, photos, animation of social media channels, events' reports
Webinars (at least 6 by the end of the project)	Average number of participants	~ 25-30 participants per webinar	1st Open Webinar planned at M06	Attendance proof, video-streaming, presented material, animation of social media channels
Expert consultation workshops	Number of workshops engaging experts in WP3 activities	4 with at least 30 participants for each event	4 webinars held in April 2020 held replacing expert workshop 1	Presentations, informative and promotional material, reports

Table 5: H-CLOUD Communication Deliverables and Milestones

No.	Name	Lead	Type	Diss' level	Due	Status
D2.1	Project Portal	Martel	OTHER	PU	M02	Submitted
D2.2	Community Building and Communication Strategy	Martel	R	PU	M04	To be submitted at M05
D2.3	Community Building and Communication Strategy Report	Martel	R	PU	M12, M24	

| MS2 | Landscape creation and Forum bootstrapped | ALL | OTHER | PU | M04 | Completed |

6 CONCLUSIONS

This deliverable presents the H-CLOUD Community Building and Communication Strategy providing guidelines and a consistent framework for all planned activities to disseminate and sustain the concepts, achievements, as well as knowledge results developed within the project.

Dissemination, communication and engagement activities are essential to the achievement of the H-CLOUD mission and objectives, having possibly an impact on CC policy making as well as planned research and innovations priorities and investments. It will be a coordinated and cooperative effort throughout the project's lifetime and integrated within all its work packages. The present plan illustrates in clear terms the rationale behind the strategy and clarifies all dimensions and tools necessary to communicate the core messages of the project in a very effective and comprehensive way.

Various activities will be realized throughout the project's lifetime in order to help H-CLOUD achieve its purpose. Promotion of the project online and via participation in events (possibly online), organisation of webinars, writing of news, producing high-quality promotional material as well as collaboration with other projects and relevant initiatives are essential planned activities.

The current report will act as a handbook for every project partner in order to perform their dissemination activities, as it lists all stakeholders, communication channels, dissemination activities and corresponding key performance indicators. It also addresses the European Commission that will be an essential partner in the realisation of this plan.

In order to measure the achieved progress and impacts of the proposed strategy and plan, a monitoring and evaluation framework has been defined and a number of indicators have been recognised and reported. Knowing that some activities might be impacted by the COVID-19 crisis even further, close coordination with the EC will be pursued so as any corrective measure might agilely be put in place.

ANNEX

The H-CLOUD PowerPoint Template

The H-CLOUD PowerPoint Template
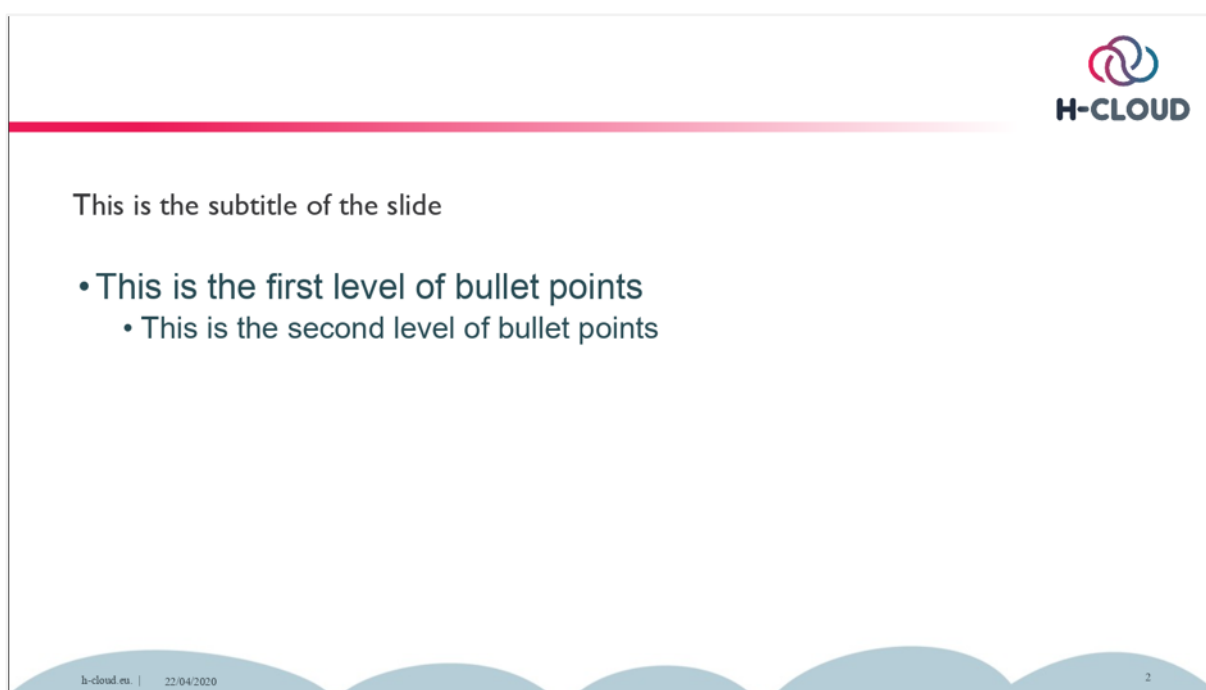
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THANK YOU FOR YOUR ATTENTION

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Screenshot of first online meeting of the H-CLOUD Communication Task Force
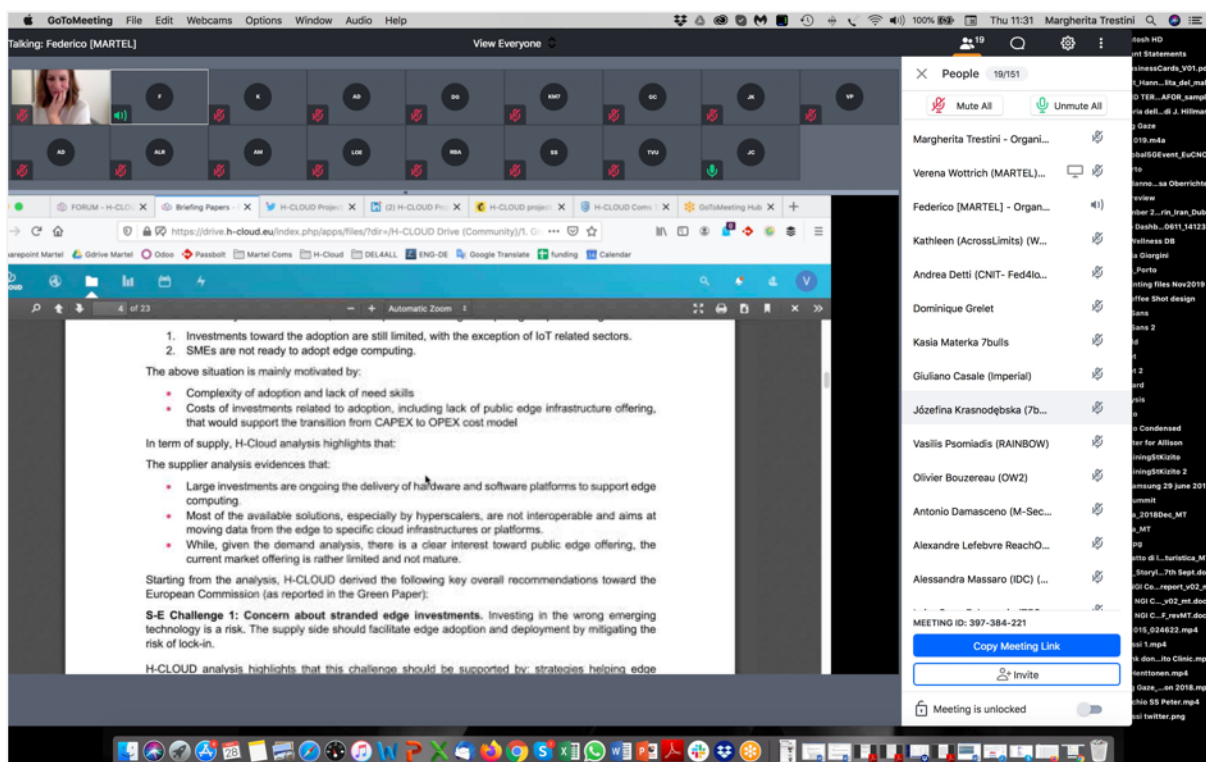
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