# Helix Nebula – The Science Cloud

**Deliverable Title**: D7.1_Communication, Dissemination Outreach & Stakeholder Engagement Plan

**Partner Responsible**: TRUST-IT

**Work Package**: WP7

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**Nature**: Report

**Abstract:** Report including the communication, dissemination, and stakeholder engagement strategy and covering all communication and outreach activities planned across the target groups. It also defines the performance measures that can be used to monitor the effectiveness of the plan. An updated version of the plan is foreseen at month 18.

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| V0.1 | 18/07/2016 | First draft version available for partners' input and specific contributions | Sara Garavelli & Alex Muscella (Trust-IT Services) |
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## Document Approval

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# Executive Summary

The purpose of work package 7 — Stakeholder Engagement, Dissemination, Communication, and Exploitation — is to raise awareness on the HNSciCloud project and outcomes, stimulate uptake of HNSciCloud services among key stakeholders, and ensure such stakeholders become actively involved in the Pre-Commercial Procurement (PCP) action.

To achieve these goals, an effective and efficient communication and stakeholder engagement strategy must be defined. This document is the first version of two Communication, Dissemination, and Stakeholder Engagement plans (the second iteration is due by M18, June 2017). In month 30 (June 2018), a report of the outcomes of the two previous plans will be delivered. The strategy plan covers the full project duration.

As PCP, the implementation of the platform follows a precise scheme articulated in different phases with different objectives and outcomes, and therefore different communication, dissemination, and stakeholder engagement purposes.

The table below summarizes the specific communication, dissemination, and stakeholder engagement objectives that will be set to ensure the successful achievement of the project objectives. In addition, the main target stakeholder groups for each phase are also identified. Primary stakeholders of the PCP are: HNSciCloud users[1], service providers, and policy makers.

| **Phase 0: Solution Exploration (M1-M10)** | |
|---|---|
| *Comm., Diss., & Stakeholder Engagement Objectives* | ▪ **OB1**: Actively supporting the PCP tender promotion to ensure high visibility of the tender among its key stakeholders and to make sure that the maximum number of EU cloud service providers, including SMEs, have access to the tender<br>▪ **OB2:** Facilitating the dialogue among demand and supply side in the preparation phase of the PCP to ensure that suppliers have a complete understanding of the specifications<br>▪ **OB3:** Raising awareness on the HNSciCloud project and the expected results |
| *Primary stakeholders* | ▪ Cloud Service Providers (CSPs) |
| **Implementation Phase (M10-M30)**<br>✓ **Phase 1: Solution Design (M10-M14)**<br>✓ **Phase 2: Solution Prototyping (M15-M22)**<br>✓ **Phase 3: Pilot Deployment (M23-M30)** | |
| *Comm., Diss., & Stakeholder Engagement Objectives* | ▪ **OB1:** Raising awareness of the HNSciCloud future offer among key stakeholders (users & policy makers) to stimulate the adoption of the resulting platform, creating an international network of potential users including research organisations, industry, and suppliers<br>▪ **OB2:** Training users on the usage and the benefits of the HNSciCloud services |

[1] HNSciCloud users include the ten procurers; their related communities operating in the high-energy physics, astronomy, life sciences, photon/neutron science fields and all the potential beneficiaries of the resulting hybrid-cloud platform such as publicly funded research organisations & infrastructures; government agencies; industry & SMEs; and end users, including the long tail of science.

| | |
|---|---|
| | ▪ **OB3:** Building an international, multi-disciplinary community and educating it on the pros and cons, lessons learnt, and best practices related to the usage of PCP instruments, to the procurement of cloud service, and to the usage of a hybrid cloud platform<br>▪ **OB4:** Promoting the impact that the resulting platform can have at a European socio-economic level, highlighting its potential positioning on the market and how such a platform can contribute to the establishment of a European Cloud Initiative[2]<br>▪ **OB5:** Providing continuous updates on the progress and the results of the PCP phases and widely disseminating documents and templates that can help and facilitate the work of similar initiatives in the future |
| *Primary stakeholders* | ▪ HNSciCloud users<br>▪ Policy Makers |

For each phase, a specific communication, dissemination, and stakeholder engagement plan has been defined, including specific actions (such as social media campaigns, website population, direct email marketing, dissemination of press releases and publications, production of animated videos, etc.) aimed to engage target stakeholders and Key Performance Indicators to monitor the effectiveness of the strategy.

Clearly, due to the dynamic nature of communication and to the rapidly evolving scenario of the cloud computing landscape, the communication and stakeholder engagement plan has to be considered a "living document".

[2] https://ec.europa.eu/digital-single-market/en/%20european-cloud-initiative

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# 1. Communication, dissemination & stakeholder engagement objectives

The overarching objective of the HNSciCloud Pre-Commercial Procurement (PCP) is to build a **European hybrid cloud platform able to support the deployment of high-performance computing and big-data capabilities for scientific research.**

To achieve this objective, an effective and efficient communication, dissemination, and stakeholder engagement strategy is fundamental for **the relevant HNSciCloud stakeholders (See Chapter 3) to become actively involved in the PCP action** and to **ensure that the new platform is adopted by the maximum number of users**.

As PCP, the implementation of the platform follows a precise scheme articulated around different phases (See Figure 1: HNSciCloud PCP structure):

- **Phase 0: Solution exploration (M1-M9):** This is the preparatory phase of the PCP. In this phase, the procurers discuss requirements and establish a dialogue with the suppliers to assess the innovation of the solution proposed and the risks. In this phase, the procurers prepare the tender documentation, launch the tender, evaluate the applications received, and award the tender.
- **Phase 1: Solution Design (M10-M14**): Establish a written and detailed design report including architecture and technical design of components.
- **Phase 2: Solution prototyping (M15-M22):** Building prototypes, including all components, and make them accessible to the Buyers Group. During the prototyping Phase, basic functionality, interoperability, and security tests will be performed by IT specialists from the Buyers Group.
- **Phase 3: Pilot deployment (M23-M30):** Deploying expanded prototypes. For these prototypes, further tests will be performed by IT specialists, including scalability and robustness tests. Once successfully completed, the pilot deployments will be opened up to the Buyers Group members in order to deploy their applications. The pilot Phase scale of delivery corresponds to the implementation of approximately 5% of the full-scale deployment of a production platform.

**While Phase 0 represents the preparatory phase of the PCP, phases 1, 2, and 3 constitute the PCP Implementation Phase.**

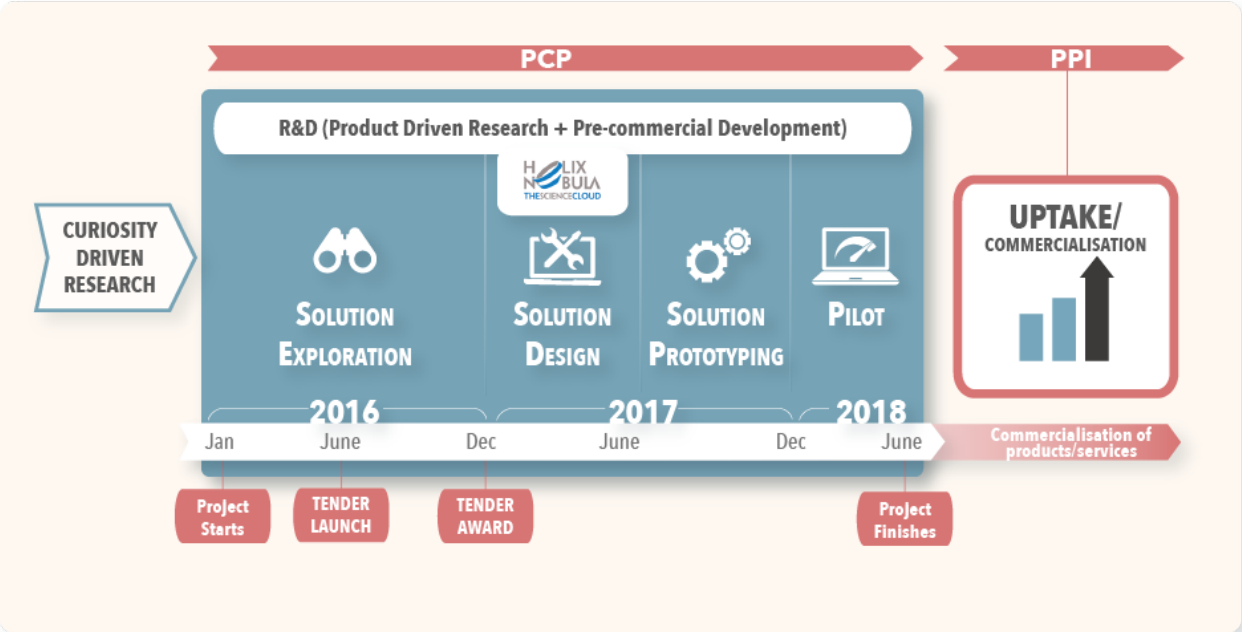


**Figure 1: HNSciCloud PCP structure**

The preparatory phase (phase 0) and the implementation phase (phase 1, 2, and 3), as explained above have different objectives and outcomes, and therefore different communication, dissemination, and stakeholder engagement purposes.

The table below summarizes the main outcomes of the PCP phases and the specific communication, dissemination, and stakeholder engagement objectives that will be set to ensure the successful achievements of the project objectives. In addition, the main target stakeholder groups for each phase are also identified.

| **Phase 0: Solution exploration (M1-M10)** | |
|---|---|
| *Main outcomes* | ▪ Kick-Off meeting (19 January 2016)<br>▪ Open Market consultation (17 March 2016)<br>▪ Publication of the HNSciCloud tender (21 July 2016)<br>▪ Information session on the Tender Documents (07 September 2016)<br>▪ Bidders selection (Early October 2016) |
| *Comm., Diss., & Stakeholder Engagement Objectives* | ▪ **OB1**: Actively supporting the PCP tender promotion to ensure high visibility of the tender among its key stakeholders and to make sure that the maximum number of EU cloud service providers, including SMEs, have access to the tender<br>▪ **OB2:** Facilitating the dialogue among demand and supply side in the preparation phase of the PCP to ensure that suppliers have a complete understanding of the specifications<br>▪ **OB3:** Raising awareness on the HNSciCloud project and the expected results |

| | |
|---|---|
| *Primary stakeholders* | ▪ Cloud Service Providers (CSPs) |
| **Implementation Phase (M10-M30)**<br>✓ **Phase 1: Solution Design (M10-M14)**<br>✓ **Phase 2: Solution prototyping (M15-M22)**<br>✓ **Phase 3: Pilot deployment (M23-M30)** | |
| *Main outcomes Phase 1* | ▪ Bidders award ceremony & kick-off phase 1 (late October 2016)<br>▪ D3.2 Summary report of the design stage: lessons learnt (January 2017) |
| *Main outcomes Phase 2* | ▪ Kick-off meeting phase 2<br>▪ D4.2 Summary Report of the prototype stage: lessons learnt (July 2017) |
| *Main outcomes Phase 3* | ▪ Kick-off meeting phase 3 (November 2017)<br>▪ D5.2 Summary report of the pilot stage: lessons learnt (December 2017)<br>▪ D6.1 Best Practices Report (March 2018)<br>▪ D6.2 Roadmap for the implementation of a full-scale European Open Science Cloud (April 2018)<br>▪ D6.3 Demonstration to the EC of the test products resulting from the procured services (June 2018)<br>▪ PCP final event (June 2018) |
| *Comm., Diss., & Stakeholder Engagement Objectives* | ▪ **OB1:** Raising awareness of the HNSciCloud future offer among key stakeholders (users & policy makers) to stimulate the adoption of the resulting platform, creating an international network of potential users, including research organisations, industry, and suppliers<br>▪ **OB2:** Training users on the usage and the benefits of the HNSciCloud services<br>▪ **OB3:** Building an international, multi-disciplinary community and educating it on the pros and cons, lessons learnt, and best practices related to the usage of PCP instruments, to the procurement of cloud service and to the usage of a hybrid cloud platform<br>▪ **OB4:** Promoting the impact that the resulting platform can have at a European socio-economic level, highlighting its potential positioning on the market, and how such a platform can contribute to the establishment of a European Cloud Initiative[3]<br>▪ **OB5:** Providing continuous updates on the progress and the results of the PCP phases and widely disseminating documents and templates that can help and facilitate the work of similar initiatives in the future |
| *Primary stakeholders* | ▪ HNSciCloud users<br>▪ Policy Makers |

**Table 1: PCP phases: Main Outcomes; Communication, Dissemination and Stakeholder Engagement objectives & Primary stakeholders**

[3] https://ec.europa.eu/digital-single-market/en/%20european-cloud-initiative

The aforementioned communication, dissemination, and stakeholder engagement objectives will contribute to achieve the overall project results. In addition, they will support the achievement of the project Key Performance Indicators reported in the Table below:

| KPI description | Target value at the End of the Project (EoP) |
|---|---|
| Number of RIs integrated with HNSciCloud | 8 |
| Number of international research collaborations served by PCP pilot | 10 |
| Number of public and commercial suppliers integrated into the hybrid model | 25 |
| Additional buyers engaged by the end of the project | 3 |
| Number of suppliers contacted | 30 |
| Number of bidding suppliers | 10 |
| Number of selected designs | 3 |
| Number of selected prototypes | 3 |
| Number of selected pilots | 2 |

**Table 2: HNSciCloud project major KPIs**

## 2. Approach & methodology

The HNSciCloud communication, dissemination, and stakeholder engagement activities are a **joint and coordinated effort of all the HNSciCloud partners** who have committed to contribute to the communication and stakeholder engagement activities according to the effort allocated to each of them in WP7 "Stakeholder Engagement, Dissemination, Communication and Exploitation" as reported in the table below:

| WP7 partners | Person Months (PMs) |
|---|---|
| TRUST-IT (WP7 leader) | 15 |
| CERN | 1,25 |
| INFN | 0,5 |
| DESY | 0,5 |
| CNRS | 0,5 |
| KIT | 0,5 |
| SURFSARA BV | 0,5 |
| STFC | 0,5 |
| EGI.eu | 0,5 |
| EMBL | 0,5 |
| IFAE | 0,5 |

**Table 3: WP7 partner list & funded effort**

To carry out the activities in an effective way, a WP7 mailing list has been set up: HNSciCloud-WP7@cern.ch. The mailing list includes at least one representative per partner appointed by each organisation as interface for the communication, dissemination, and engagement activities. This will make sure that all the organisations involved in the project are continuously updated and involved with the WP7 activities.

TRUST-IT, as WP7 leader, is in charge of coordinating and defining the communication, dissemination, and stakeholder engagement strategy; executing part of the activities identified in the strategy; ensuring that all the partners actively contribute to the execution; and monitoring the effectiveness of the strategy, putting in place alternative plans whenever the strategy does not bring the expected results. A specific review process for the communication and dissemination material, involving all the partners (especially the procurers), has been set up to make sure that the messages conveyed outside of the project reflect the vision of all the partners. This review process is described below:

| **Step** | **Step number** | **N° days** |
|---|---|---|
| Trust-IT creates the communication and dissemination material and sends the first version (Rev01) to the CERN Project Office (PO). | #1 | |
| The CERN PO reviews it and provides feedback to TRUST-IT. | #2 | Step #1 + 3 days |
| The feedback provided by CERN is analysed, and a second version of the material is generated by TRUST-IT (Rev02) and sent for review to the WP7 mailing list members. | #3 | Step #2+2 days |
| WP7 members provide feedback to TRUST-IT | #4 | Step #3+ 3 days |
| TRUST-IT elaborates a final version Rev03 that is sent again for a double check to WP7. | #5 | Step #4 + 2 days |
| Final review by the WP7 members | #6 | Step #5+1 day |
| TRUST-IT publishes the material | #7 | Step #6+1 day |

**Table 4: Steps of the Communication & Dissemination material review process**

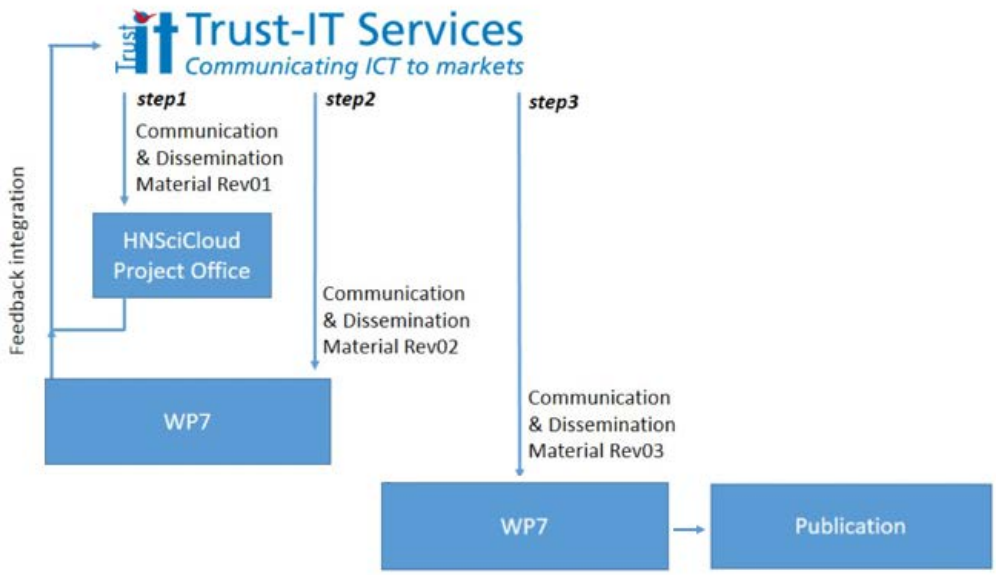


**Figure 2: Communication & Dissemination material review process**

**The HNSciCloud procurers[4] have a key role in the communication, dissemination, and stakeholder engagement activities: they are the ambassadors of the HNSciCloud project towards their domain-specific communities (high-energy physics, astronomy, life sciences, photon/neutron science).**

Each of the procurers has committed to perform the following tasks:

- identifying the relevant events for its target communities;
- presenting HNSciCloud progress and results at these community events;
- promoting the adoption of the HNSciCloud hybrid cloud platform among its communities and related domain communities, explaining how the users can benefit from it;
- timely support for TRUST-IT to disseminate news, announcements, and press releases through their contact network, institutional websites, and social network accounts and via their media contacts;
- supporting TRUST-IT in producing communication and training material.

The figure below reports the user communities that are targeted by the ten procurers:

| HNSciCloud Procurers | User Communities[5] |
|---|---|

[4] CERN, INFN, DESY, CNRS, KIT, SURFSARA BV, STFC, EMBL, IFAE

[5] A complete description of the user communities can be found in paragraph 3.1.1

| | |
|---|---|
| CERN | WLCG Worldwide LHC Computing Grid; Long Tail of Science |
| INFN Istituto Nazionale di Fisica Nucleare | WLCG Worldwide LHC Computing Grid; BELLE; COMPASS; cta cherenkov telescope array; MAGIC; VIRGO; AUGER |
| DESY | WLCG Worldwide LHC Computing Grid; BELLE; ilc; OSIRIS; PETRA III |
| cnrs | WLCG Worldwide LHC Computing Grid |
| KIT Karlsruher Institut für Technologie | WLCG Worldwide LHC Computing Grid; BELLE; COMPASS; PIERRE AUGER OBSERVATORY |
| SURF SARA | WLCG Worldwide LHC Computing Grid; BBMRI Biobanking and Biomolecular Resources Research Infrastructure; we-nmr |
| Science & Technology Facilities Council | WLCG Worldwide LHC Computing Grid |
| EMBL | elixir; EURO-BIOIMAGING; PCAWG PanCancer Analysis of WHOLE GENOMES |
| IFAE Institut de Física d'Altes Energies | WLCG Worldwide LHC Computing Grid; cta cherenkov telescope array; MAGIC |
| ESRF | 3DIX; OCEAN |

**Table 5: User communities targeted by the HNSciCloud procurers**

**EGI.eu also plays a key role in WP7.** Beside contributing to the maximization of the outreach of HNSciCloud progress and results, as WP6 "Pilots Evaluation and Recommendation" leader, EGI.eu will provide fundamental input on lessons learnt and best practices to WP7. Task T6.2 "*PCP Best Practice assessment*" will produce a "best practice" assessment of the PCP co-fund action based on the summary reports of "lessons learnt" from each implementation stage: design, prototyping, and pilot. This report will feed into a Roadmap for the implementation of a full-scale European open science cloud. These reports will be key for WP7 to educate stakeholders on the benefits of adopting PCP as procurement instruments and on the advantages of the innovative hybrid cloud services at European and international level.

Finally, the WP7 partners will strongly interact with all the other WPs in order to collect relevant information and updates. This information will be re-elaborated by WP7 members and transformed into effective communication messages ready to use for stakeholder engagement.
An External Advisory Board (EAB) will be appointed at the second full collaboration board meeting on 20 September 2016, aiming to advise the PCP Collaboration Board on strategic matters regarding the way that the PCP tender process is organised and executed. The EAB will also contribute to maximizing the dissemination of the PCP project to the research groups and to other sectors that might consider a similar model for procurement in the future. The EAB members will act as ambassadors of the HNSciCloud project, and will be composed of five independent experts (subject to the endorsement of the HNSciCloud full collaboration board) selected according to availability from the following candidates:

- *Martin Canning* - Group Vice President, European Consulting, **International Data Corporation** (IDC)
- *Linda Strick* - Business developer at Fraunhofer FOKUS, **Cloud for Europe Project Director**
- *Frank van Dam* - **Ministry of Economic Affairs**, The Netherlands
- *Tony Singleton* - Chief Operating Officer, **BIS Digital Group**

The EAB will be invited to participate in key events and to provide recommendations and feedback on the most relevant project outputs, including the Roadmap.

## 3. Stakeholder analysis

HNSciCloud has, since its inception, started analysing and identifying its target stakeholder groupings to define tangible communication and stakeholder engagement activities. Interaction with each group will have different levels of priority (also depending on the phase of the PCP), activities, and outputs. Engagement is fundamental for each target group, as active involvement increases the likelihood of a broader uptake of the developed services.

HNSciCloud stakeholders can be clustered into four main groups:

- **HNSciCloud Users**: This group includes the ten HNSciCloud procurers[6] (that will act as first customers of the platform), their related communities[7], and all the potential beneficiaries of the resulting hybrid-cloud platform such as publicly funded research organisations (large, medium & small organisations operating in the high-energy physics, astronomy, life sciences, photon/neutron science and other domains) & infrastructures (e.g., the European Strategy Forum on Research Infrastructures, ESFRI[8]), government agencies, industry & SMEs, and end users (including the long tail of science).
- **Cloud Service Providers (CSPs):** Small, medium, and large cloud service providers belonging to both the private and public sector interested in bidding for the HNSciCloud tender, in participating in the PCP implementation phase, and in becoming potential providers of the future platform;
- **Policy Makers & Funding Bodies (European and National):** This group is composed by politicians, funding bodies, government departments, and government agencies, who can influence the level of support for continuation of the investment in research infrastructures. They are also involved in the definition of the strategy and actions for the establishment of the European Cloud Initiative[9] within the Digital Single Market strategy[10].
- **International initiatives and standardisation bodies:** Initiatives, projects and standardisation & certification bodies interested in the HNSciCloud topics and results or that can influence in some way the uptake and sustainability of the HNSciCloud offer.

For each stakeholder group, a precise engagement plan is defined in Chapter 4. In this section, a more detailed analysis of the four stakeholder groups is provided.

[6] Also referred as "buyers". CERN, INFN, DESY, CNRS, KIT, SURFSARA BV, STFC, EMBL, IFAE, ESRF

[7] See Table 4: User communities targeted by the HNSciCloud procurers

[8] www.esfri.eu

[9] https://ec.europa.eu/digital-single-market/en/%20european-cloud-initiative

[10] http://ec.europa.eu/priorities/digital-single-market_en

## 1.1 HNSciCloud Users

This group includes the ten HNSciCloud procurers (that will act as first customers of the platform), affiliated communities, and potential beneficiaries of the resulting hybrid-cloud platform such as publicly funded research organisations (large, medium & small organisations operating in the high-energy physics, astronomy, life sciences, photon/neutron science and other domains) & infrastructures (e.g., the European Strategy Forum on Research Infrastructures, ESFRI), government agencies, industry & SMEs, and end users (including the long tail of science).

The HNSciCloud users will be engaged through an incremental process: the first customers of the platform will be the ten procurers with their affiliated communities. They will be in charge of defining and testing the platform and promoting the adoption among their different domain-specific communities in the fields of high-energy physics, astronomy, life sciences and photon/neutron science. Progressively, the buyers group will grow by including more **publicly funded research organisations** and **infrastructures**, **government agencies**, **private sector buyers** (industry & SMEs), and end users including the **long tail of science**. WP7 is in charge of raising awareness about the future hybrid-cloud platform towards all these stakeholders and of stimulating its uptake.


**Figure 3: The incremental engagement process of the HNSciCloud user groups.**

### 1.1.1 The HNSciCloud procurers and their target user groups

**Who they are:** The ten HNSciCloud procurers can be clustered in two main groups:

- European intergovernmental organisations (e.g., CERN, EMBL): Large-scale scientific organisations governed by member states and subject to their own legislation. Member states decide the overall procurement strategy of the organization and also establish the threshold for public tender. They usually have a procurement office in charge of the procurement action and strict, formal rules. They are often equipped with a supplier database that includes a (non-exhaustive) list of eligible suppliers.

Suppliers entering this database have to pass a formal evaluation process in which they demonstrate their compliance with the rules of the organization.

- National large, medium, & small research institutes (such as CNRS, DESY, IFAE, INFN, KIT, STFC, SURFsara), including large/medium and small-scale universities or research centers funded only by the member state in which they are located. These institutes must comply with national legislation and therefore legal implications on procurement procedures are simpler. A procurement office may be within the institution, although it depends on the size of the organization. As for inter-governmental organisations, each institute has its own procurement rules and procedures.

Each of the ten procurers has committed to promote the usage of the HNSciCloud IaaS services among the communities in which it operates, as shown in Table 4: User communities targeted by the HNSciCloud procurers. These communities will become the first users and testers of the resulting HNSciCloud platform. In particular, the ten procurers operate in four different thematic domains, as shown in Figure 4: high energy physics, astronomy, life sciences and photon/neutron science.

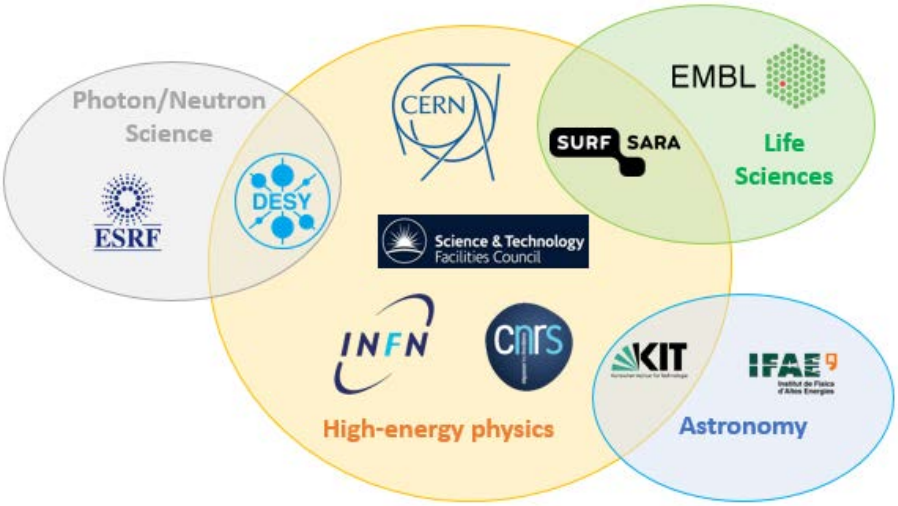


**Figure 4: The thematic domains in which the procurers operate.**

For each thematic domain, precise projects and communities have been identified and will be addressed during the project duration. The table below describes in detail the user groups targeted by the procurers:

| High Energy Physics |
|---|
| **WLCG[11]:** The Worldwide LHC Computing Grid (WLCG) project is a global collaboration of the four LHC experiment collaborations and more than 170 computing centres in 42 countries, linking national and international grid infrastructures. WLCG is responsible for the physics data processing of the CERN Large Hadron Collider experiments. The participation of WLCG in the scope of the HNSciCloud project is sponsored by CERN, INFN, CNRS, KIT, SURFsara, STFC, DESY, and IFAE. |
| **Belle II Physics experiment[12]:** The Belle II experiment is a particle physics experiment conducted by the Belle II Collaboration, an international collaboration of more than 400 physicists and engineers investigating CPviolation effects at the High Energy Accelerator Research Organisation (KEK) in Tsukuba, Ibaraki Prefecture, Japan. The participation of Belle II in the HNSciCloud project is sponsored by INFN, KIT, and DESY. |
| **COMPASS Physics experiment[13]:** COMPASS is a high-energy physics experiment at the Super Proton Synchrotron (SPS) at CERN in Geneva, Switzerland. The purpose of this experiment is the study of hadron structure and hadron spectroscopy with high intensity muon and hadron beams. The participation of COMPASS in the HNSciCloud project is sponsored by INFN and KIT. |
| ILC[14]: The International Linear Collider (ILC) is a proposed linear particle accelerator. It is planned to have a collision energy of 500 GeV initially, with the possibility for a later upgrade to 1000 GeV (1 TeV). Design studies for ILC use the German National Analysis Facility (NAF), which is set up in the framework of the Helmholtz Alliance 'Physics at the TeraScale'. The NAF also serves the German LHC and Belle II communities. The participation of ILC in the HNSciCloud project is sponsored by DESY. |
| **Astronomy** |
| **CTA[15]:** The Cherenkov Telescope Array (CTA) will be an advanced facility for ground-based, very high energy gamma ray astronomy, based on the observation of Cherenkov radiation. The participation of CTA in the HNSciCloud project is sponsored by IFAE |
| **MAGIC[16]:** Major Atmospheric Gamma Imaging Cherenkov (MAGIC) is a new generation two-telescope system located at the Roque de los Muchachos Observatory at the La Palma Canary Island, Spain. The participation of MAGIC in the HNSciCloud project is sponsored by IFAE. |

[11] http://wlcg-public.web.cern.ch/
[12] https://www.belle2.org/
[13] https://wwwcompass.cern.ch/
[14] https://www.linearcollider.org/ILC
[15] https://portal.cta-observatory.org/Pages/Home.aspx
[16] https://magic.mpp.mpg.de/

**Pierre Auger Observatory**[17]: The Pierre Auger Observatory is the world's leading science project for the exploration of cosmic rays. More than 500 scientists from 16 countries have been working together since 1998 in the Province of Mendoza, Argentina, to elucidate the origin and properties of the most energetic particles in the Universe, coming to us from the far reaches of the cosmos. The participation of Pierre Auger in the HNSciCloud project is sponsored by KIT.

Life Sciences

**ELIXIR**[18]: ELIXIR unites Europe's leading life science organisations in managing and safeguarding the massive amounts of data being generated every day by publicly funded research. It is a Pan-European research infrastructure for biological information. ELIXIR provides the facilities necessary for life science researchers – from bench biologists to cheminformaticians – to make the most of our rapidly growing store of information about living systems, which is the foundation upon which our understanding of life is built. The participation of ELIXIR in the HNSciCloud project is sponsored by EMBL.

**Euro-BioImaging**[19]: Euro-BioImaging is a large-scale pan-European research infrastructure project on the European Strategy Forum on Research Infrastructures (ESFRI) Roadmap. It will provide open user access to a complete range of state-of-the-art imaging technologies in biological, molecular, and medical imaging for life scientists in Europe and beyond. The participation of Euro-BioImaging in the HNSciCloud project is sponsored by EMBL.

**Pan-Cancer**[20]: The Pan-Cancer Analysis of Whole Genomes (PCAWG) project of the International Cancer Genome Consortium (ICGC) and The Cancer Genome Atlas (TCGA) is co-ordinating analysis of more than 2,000 whole cancer genomes. This approach focuses on the genome beyond gene-focused studies and requires analysis of larger amounts of data. The participation of Pan-Cancer in the HNSciCloud project is sponsored by EMBL.

**BBMRI/LSGA**[21]: The Large Scale Genomic Analysis (LSGA) held at BBMRI (Biobanking and Biomolecular Resources Research Infrastructure) consists of processing raw data coming from genomic sequencers to whole genomes, detecting and analysing genomic variants to find the genetic causes of diseases, and becoming the first, data-intensive step in the whole genome analysis. The participation of BBMRI/LSGA in the HNSciCloud project is sponsored by SURFsara.

[17] https://www.auger.org/
[18] https://www.elixir-europe.org/
[19] http://www.eurobioimaging.eu/
[20] https://dcc.icgc.org/pcawg#!%2Fmutations
[21] http://bbmri-eric.eu/

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| **WENMR/HADDOCK**[22]: HADDOCK (High Ambiguity Driven protein-protein DOCKing) is an information-driven flexible docking approach for the modelling of biomolecular complexes in the field of nuclear magnetic resonance (NMR) spectroscopy, part of the worldwide e-Infrastructure for NMR and structural biology project (WE-NMR). HADDOCK distinguishes itself from ab-initio docking methods by the fact that it encodes information from identified or predicted protein interfaces in ambiguous interaction restraints (AIRs) to drive the docking process. HADDOCK can deal with a large class of modelling problems including protein-protein, protein-nucleic acids and protein-ligand complexes. The participation of HADDOCK in the HNSciCloud project is sponsored by SURFsara. |
| Photon/Neutron Science |
| **Petra III**[23]: PETRA III is a photon science facility based on the new high-brilliance 3rd generation Synchrotron Radiation Source at DESY. The participation of PETRA III in the HNSciCloud project is sponsored by DESY. |
| **3DIX**: The 3DIX project produces 3D Imaging with X-rays. The objective is to make 3D images (volumes) of nanoscale objects to study their characteristics on a nanoscale. These studies can then be applied to a wide variety of objects and scientific fields such as chemical studies, life sciences, structure of materials, etc. The participation of 3DIX in the HNSciCloud project is sponsored by ESRF. |
| **OCEAN**: OCEAN is used in the field of X-ray research and consists of a versatile and user-friendly package for calculating core edge spectroscopy including excitonic effects. This is a firstprinciples code based on both ground-state density-functional theory and the Bethe-Salpeter equation (BSE). The participation of OCEAN in the HNSciCloud project is sponsored by ESRF. |
| **OSIRIS**: OSIRIS is a fully relativistic, massively parallel particle-in-cell (PIC) code extensively used in the Plasma Physics domain. The participation of OSIRIS in the HNSciCloud project is sponsored by DESY. |

**Table 6: HNSciCloud procurer user communities**

As a vast amount of scientific knowledge is inaccessible to the scientific community due to a lack of computational resources or tools for small laboratories to analyse or share experimental results, individual researchers (the **long tail of science**) are also one user group that will be targeted.

**How they can benefit from HNSciCloud:** The ten procurers will have clear benefits from the HNSciCloud project: through the joint PCP, they share the risks and the costs of implementing such an innovative hybrid-cloud platform designed to meet their requirements. Their organisations, together with the communities in which they operate, will be the first customer references of the platform, which will integrate their in-house resources with the procured cloud services. During the pilot phase, they will be able to test the platform on their data and computing intensive scientific workflows, gaining all the expected benefits in terms of cost reduction, efficiency, interoperability, etc., that the resulting solution should bring.

[22] https://www.wenmr.eu/wenmr/support/documentation/nmr-services/haddock
[23] http://petraiii.desy.de/

In addition, the ten procurers will also benefit from the new procurement experience. They can gain a better understanding of the PCP instruments, and maybe re-use them in the future, and better explore all the aspects related to the procurement of cloud services.

**Main engagement channels & activities:**
The ten procurers will be the main engagement channel for the user groups in the thematic domains. They will leverage face to face meetings and participation to sector-specific events (See Annex 1: External Events) to engage the user groups. In addition, a timely communication on progress and results through the HNSciCloud website[24], social networks, regular newsletters, and press releases will be key to bolster the engagement of all the communities involved in the project.

### 1.1.2 Additional research sector organisations and infrastructures

**Who they are:** Publicly funded research organisations and infrastructures, also belonging to domains different from the ones mentioned so far. Large research organizations or infrastructures with computing and data intensive workflows; small and medium organisations lacking the necessary cloud IaaS resources and researchers.
Some examples of stakeholders in this category: the Centre National d'Etudes Spatiales (CNES)[25]; The Institute for Electromagnetic Sensing of the Environment (IREA) of the National Research Council (CNR)[26]; The Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)[27]; The European Space Agency (ESA)[28]; The European Centre for Medium-Range Weather Forecasts (ECMWF)[29]; The European Organisation for Astronomical Research in the Southern Hemisphere (ESO)[30][31]; the ESFRI projects[32] that will allow to promote the

[24] The HNSciCloud website (www.hnscicloud.eu) will be one of the main channels for engagement with the project stakeholders and will be central to the HNSciCloud communication and outreach strategy. Set up in March 2016, it is a Drupal-based, responsive platform. The website will be constantly updated and adapted to the communication needs, during the project lifetime. The HNSciCloud website will have strong links with the existing Helix Nebula website (www.helix-nebula.eu) and will be linked to the PICSE website (www.picse.eu) as it is a complete and unique source of information for the procurement of cloud services.
[25] https://cnes.fr/en
[26] http://www.irea.cnr.it/en/
[27] http://www.dlr.de/dlr/desktopdefault.aspx/tabid-10002/
[28] http://www.esa.int/ESA
[29] http://www.ecmwf.int/
[30] www.eso.org
[31] CNER, CNR-IREA, DLR, ESA, ECMWF and ESO via the Helix Nebula Initiative have already shown some interest in the HNSciClod hybrid-cloud platform.
[32] http://www.esfri.eu/ e.g. DARIAH, EISCAT_3D, ELIXIR, EPOS: INSTRUCT, LifeWatch and the future ATTRACT collaboration

procurement action to many Member States and Associated Countries; the European XFEL; the European Gravitational Observatory (EGO)/VIRGO; Antares (Astronomy with a Neutrino Telescope and Abyss environmental RESearch) project; the ISIS Spallation Neutron Source; Diamond Synchrotron Light Source; and the The EIROforum organisations[33]. Clearly, as the future hybrid-cloud platform also aims to support the long tail of science, all the European researchers that need IaaS services are part of this target group. Interaction with organisations and research infrastructures belonging to other regions of the world (Africa, Asia, Latin America, USA etc.) would also need to be addressed to satisfy the collaborative nature of global research communities.

**How they can benefit from HNSciCloud:** are potential users of the innovative cloud services.

**Main engagement channels & activities:**
Face to face meetings performed by individual partners, participation to sector specific events (See Annex 1: External Events), and online promotional campaigns will be the top three engagement instruments that will be adopted to reach this group. In particular, some of the HNSciCloud workshops will be co-located with the Helix Nebula Initiative General Assemblies to allow the HNI[34] demand side organisations to closely follow progress achieved on the PCP.

### 1.1.3 Government agencies

**Who they are:** National governments

**How they can benefit from HNSciCloud:** It is important that national governments are aware of the services that will be built by HNSciCloud. They might be interested in testing them or building similar ones for the public administration. Governments could also learn a lot from the PCP experience and re-use some of the material produced by the project in terms of tender templates or cloud recommendations. In addition, as the research sector organisations will make their data available via the new platform, national governments could exploit them for other purposes.

**Main engagement channels & activities:** National governments will be mainly reached through participating in public sector events and through publications on European press and media channels. TRUST-IT can leverage on a database of over 340 journalists thanks to

[33] http://eiroforum.org/about/organisations/index.html
[34] Helix Nebula Initiative: http://www.helix-nebula.eu/

its partnership with Meltwater[35]. Some of the media channels that will be leveraged are reported in Annex 2: Media & Dissemination channels.

### 1.1.4 Private sector buyers

**Who they are:** Private sector buyers, including industry & SMEs.

**How they can benefit from HNSciCloud:** By providing open access to data produced by the research organisations and hosted on the HNSciCloud hybrid cloud platform, the innovative services provided by HNSciCloud will be very attractive for private companies that could expand their businesses by exploiting the data available on the platform (Information as a Service model). As part of a survey of cloud service providers performed in the context of the Helix Nebula project, opportunities were identified in the following sectors:

- Electronics
- Aerospace
- Oil and Gas
- Automotive manufacturing
- Insurance
- Pharmaceuticals

Therefore, these will be the main targets during the PCP.

**Main engagement channels & activities:**

To properly engage industry and SMEs, the establishment of links with network of companies and organisations such as the EIT Digital[36], DIGITALEUROPE[37], and many others, will be fundamental. Communication campaigns and publication of news and articles via these networks will be among the main engagement actions that will be performed.

## 1.2 Service Providers

Small, medium, and large cloud service providers belonging both to the private and public sector interested in bidding for the HNSciCloud tender, in participating in the PCP implementation phase, and willing to become potential providers of the future platform.

**Who they are:** Public and private cloud service providers, including large companies & SMEs. This group includes both the service providers that will bid for the tender and those that are interested in following the development of the platform because they see a business opportunity for the future. As the procured innovative IaaS–level services will need to be integrated with a range of resources operated by public organisations to form a hybrid cloud solution, public providers operating these elements are also part of this group. Principal

[35] http://www.meltwater.com/uk/

[36] This is the ex EIT ICT Labs http://www.eitdigital.eu/

[37] http://www.digitaleurope.org/

among these is **GÉANT[38],** the high bandwidth pan-European research and education backbone that interconnects National Research and Education Networks (NRENs) across Europe and provides worldwide connectivity through links with other regional networks. Additionally, **data centres** operated by the group of buyers and related third parties that provide compute and storage services as well as access to scientific datasets and publications (e.g. OpenAIRE[39] repositories) are included in this group.

**How they can benefit from HNSciCloud:** At the end of the project, they will be able to offer the developed cloud services to customers other than the buyer's group.

**Main engagement channels & activities:** Service providers will be engaged through direct email marketing campaigns (leveraging on the database of suppliers of the procurers and the contacts part of the HNSciCloud database set up and populated by TRUST-IT during the first 6 months of the project), and through a promotion of the tender and of the results via external websites (such as the Helix Nebula Initiative of the procurement related websites), via social networks, and via networks of cloud providers such as EuroCloud or Cloud 28+.

## 1.3 Policy Makers & Funding Bodies

This group is composed of politicians, funding bodies, government departments, and government agencies that can influence the level of support for continuation of the investment in research infrastructures. They are also involved in the definition of the strategy and actions for the establishment of the European Cloud Initiative.

**Who they are:** This stakeholder group involves the European Commission (Units such as DG RTD, DG CNECT, DG DIGIT, JRC etc.), the e-IRG group[40], and the EU27 ministries states (e.g. Ministries of research & Innovation, of development).

**How they can benefit from HNSciCloud:** Policy makers working for the above mentioned organisations can:

- Exploit the HNSciCloud events as a discussion forum to meet relevant stakeholders in the fields of cloud computing, research sector, and pre-commercial procurement, gaining a better understanding of the current user challenges and the most innovative technologies on the market to solve them;
- Understand how the new platform can play a role in the European Cloud Initiative strategy by interacting with the consortium members and users.

[38] http://www.geant.org/
[39] https://www.openaire.eu/
[40] http://e-irg.eu/

**Main engagement channels & activities:** Interaction with policy bodies such as eIRG will make member states' national funding agencies aware of the opportunities that such a procurement model can provide. In addition, two specific policy workshops and a demonstrator event for the European Commission will be held.

### 1.4 International initiatives and standardisation bodies

Initiatives, projects, and standardisation & certification bodies interested in the HNSciCloud topics and results or that can influence in some way the uptake and sustainability of the HNSciCloud offer.

**Who they are:** Examples of stakeholders belonging to this group are listed in Annex 3: Examples are European e-Infrastructures (GEANT, EGI, PRACE, EUDAT, OpenAIRE), international organisations (RDA, etc.), R&D national/EU/international projects and initiatives, standardization and certification bodies [Cloud Standards Coordination (CSC)[41]; ENISA[42]; Open Grid Forum, Open Stack Community, etc.].

**How they can benefit from HNSciCloud:** Some of the results coming out from HNSciCloud such as the templates developed for the tender phase, the reports documenting the lessons learnt and best practices, and the data made available on the platform, can be re-used by these organizations and initiatives. Standardisation bodies can benefit from the feedback on the deployment results in terms of standards at global level.

**Main engagement channels & activities:** This stakeholder group will be mainly engaged through the establishment of liaisons that will allow HNSciCloud to spread the word about the achievements and results within the groups. The stakeholder's part of this group will be also invited to take part in HNSciCloud workshops to facilitate dialogue.

## 4. Communication, Dissemination, and Stakeholder Engagement Plan

This chapter describes the activities that will be performed during the two main phases of the PCP (1. Solution exploration; 2 Implementation phase) to achieve the objectives defined in chapter 1.

[41] cloud-standards.org

[42] https://www.enisa.europa.eu/

## 4.1. Phase 0: Solution exploration

The solution exploration phase covers the first ten months of the project, from January 2016 to mid-October 2016. As this deliverable is written in July 2016, the communication, dissemination, and engagement plan included applies only to the last three months of phase 0: from July 2016, when the tender is published, until mid-October 2016, which corresponds to the award of the tender.

All of the communication, dissemination, and stakeholder engagement activities performed in the first period will be documented in the first periodic report (D1.2) due in month 9, and in the Communication, Dissemination, & Stakeholder Engagement Impact deliverable (D7.3) due in month 30.

The following table reports the communication, dissemination, and engagement activities that will be performed to achieve the objectives set in Chapter 1, keeping in mind that **during the preparation phase, the communication, dissemination, and engagement activities will be focused on spurring the supply-side to participate in the procurement process.**

| Comm., Diss., & Stakeholder Engagement Objectives for the period | July 2016 | August 2016 | September 2016 until the tender awarded |
|---|---|---|---|
| **OB1:** Actively supporting the PCP tender promotion to ensure high visibility of the tender among its key stakeholders and to make sure that the maximum number of EU cloud service providers, including SMEs, have access to the tender | Promotion of the tender via a web marketing campaign | Promotion of the tender via a web marketing campaign | Promotion of the tender via a web marketing campaign |
| **OB2:** Facilitating dialogue amongst demand and supply side in the preparation phase of the PCP to ensure that suppliers have a complete understanding of the specifications | Revamp the web pages related to the tender<br><br>Maintenance of a permanent help desk | Maintenance of a permanent help desk | Organisation of an Information session on the Tender Documents & webcast (7 September 2016)<br><br>Maintenance of a permanent help desk |

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| **OB3**: Raising awareness on the HNSciCloud project and the expected results | Participation to external events[43] and dissemination of promotional material[44]<br><br>Social media campaigns | Social media campaigns | Participation to external events and dissemination of promotional material<br><br>Social media campaigns<br><br>Organisation of the Cloud procurement session at the Digital Infrastructures for Research event, 28 Sept 2016<br><br>Promotion of the results of phase 0 (including the organisation of the bidders award event & webcast) |

**Table 7: Communication, Dissemination, & Engagement Plan macro-activities for M7-M10.**

The specific actions that will be performed are listed in the following table:

| Actions | When | Macro activity |
|---|---|---|
| **HNSciCloud[45] website updated with the tender information**<br>A specific webpage dedicated to the tender will be set up[46]. This page will include the links to the tender documentation, to the Tenders Electronic Daily (TED) website, and the contact information of the help-desk[47] | 1 July – 20 July 2016 | Promotion of the tender via a web marketing campaign.<br>Revamp of the web pages related to the tender.<br>Maintenance of a permanent help desk |
| **Daily posts on social media** to announce the publication of the tender & outputs resulting from the participation in events | 1 July – 20 July 2016 | Social media campaigns |
| **Press release announcing the tender** [in 4 languages] | 1 July – 20 July 2016 | Promotion of the tender via a web |

[43] See Annex 1: External Events
[44] See Annex 2
[45] www.hnscicloud.eu
[46] http://www.hnscicloud.eu/the-hnscicloud-tender
[47] The public help desk will support the participants willing to join the tender. Bidders will be able to post their inquiries. Inquiries will be publicly available to all the bidders to avoid facilitating any bidder.

| | | |
|---|---|---|
| | | marketing campaign |
| **Creation of an animated video to advertise the tender** | 1 July – 20 July 2016 | Promotion of the tender via a web marketing campaign |
| **Creation of a tender announcement message** to be used in direct email marketing and on LinkedIn and of one message to be used for publication on other websites | 1 July – 20 July 2016 | Promotion of the tender via a web marketing campaign |
| **Launch of the tender press release & video** | **21 July 2016** | Promotion of the tender via a web marketing campaign |
| **Publication of the press release on the following websites:** HNSciCloud; Partner websites (e.g. CNAF website[48], INFN, PIC and EMBL websites); Helix Nebula Initiative[49]; PICSE (Procurement innovation for cloud services in Europe)[50]; EIT digital[51], Cloud28+[52], GEANT[53], Cloud4Europe[54], CLIPS, CLoudWATCH, SLA-Ready, SLALOM, Clarus, EuroCloud, Enterprise Europe Network (EEN)[55]; The Research Data Alliance[56], The European innovation procurement forum (PPI forum)[57], HPC PPP[58], Big Data Value Public Private Partnership (BDV PPP)[59], ESFRI website[60] and other websites that will be identified during the promotional campaign, Open standards for ICT procurement, Join up | **22-26 July 2016** | Promotion of the tender via a web marketing campaign |
| **Direct email marketing of the tender announcement to:**<br>▪ the supply side of the HNSciCloud contact database (over 50) | 22 July 2016 – 31 July 2016 | Promotion of the tender via a web |

[48] https://www.cnaf.infn.it/en/
[49] www.helix-nebula.eu
[50] www.picse.eu
[51] *www.**eitdigital**.eu/*
[52] http://www.cloud28plus.eu/
[53] http://www.geant.org/
[54] www.cloudforeurope.eu
[55] http://een.ec.europa.eu/about/sector-groups/ict-industry-services
[56] https://rd-alliance.org/
[57] https://procurement-forum.eu/
[58] http://www.etp4hpc.eu/
[59] http://www.bdva.eu/
[60] www.esfri.eu

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| ▪ the procurers' supply databases<br>▪ GEANT catalogue of cloud providers[61]<br>▪ individual companies/innovators identified as being active in the sector and possibly interesting bidders for the PCP/PPI[62]<br>▪ individual messages to all the providers in the LinkedIn network<br>▪ the "relevant" National Contact Points (NCPs)[63] in all H2020 countries, inviting them to post a news item on their website and to inform/e-mail the relevant companies/innovators in their countries<br>National chambers of commerce across all H2020 countries[64] | | marketing campaign |
| **Social media campaign[65]** focused on the publication of the tender targeting mainly suppliers, procurement channels, ICT journals, etc. Annex 4 includes the initial list of Twitter handles that will be exploited during the project | 22 July – 15 August 2016 | Promotion of the tender via a web marketing campaign<br>Social media campaigns |
| **Dissemination of the press release**<br>- Newsletter to the HNSciCloud contact database (over 1000 contacts)<br>- Newsletter to the EuroCloud database (800 members of which approx. 1/3 offer IaaS CSPs)<br>- Liaison with the European Commission to disseminate the press release via DG CONNCET unit's website/newsletter and H2020 webpage such as the H2020 events page[66] and the DG CNECT F2 innovation unit so that it can be published in the DG CNECT innovation procurement newsletter<br>- Liaison with media channels (See Annex 2: Media & Dissemination channels) and international initiatives/projects (See Annex 3: Relevant initiatives and organisations) | 22 July – 15 August 2016 | Promotion of the tender via a web marketing campaign |
| **Social media campaigns[67] focused on promoting the tender, and the announcement of the Info Day** targeting relevant | 15 August – 8 September 2016 | Promotion of the tender via a web |

[61] https://catalogue.clouds.geant.net/#/cloudserviceproviders
[62] https://www.channele2e.com/2016/03/10/top-10-european-cloud-services-providers-csps-for-iaas-list/
[63] http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html
[64] http://www.eurochambres.eu/Content/default.asp?pagename=OurMembers
[65] See Annex 4
[66] https://ec.europa.eu/programmes/horizon2020/en/newsroom/573
[67] See Annex 4

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| industry initiatives at EU level: e.g. EIPs, PPPs, etc., active in the domain of PCP/PPI; CSPs; National and European sectorial Industry associations (e.g. Business Europe, EICTA, SME union, etc.) and all of the aforementioned channels | | marketing campaign<br><br>Social media campaigns |
| **Organisation of the public Information session on the Tender Documents & webcast**<br>Public event during which suppliers have the opportunity to ask questions about the tender. The session will be webcast so that all the suppliers can benefit from this information | **9 September 2016** | Organisation of an Information session on the Tender Documents & webcast (7 September 2016) |
| **Publication of the recording of the public information session on the HNSciCloud website and dissemination via a newsletter and social networks** | 10 September – 18 September 2016 | Promotion of the tender via a web marketing campaign |
| **While the evaluation of the tender takes place, the focus of the communication, dissemination, and stakeholder engagement activities will be on the promotion of the project** | 19 September – 10 October 2016 | Social media campaigns |
| **Organisation of the Cloud procurement session at the Digital Infrastructures for Research event, 28 Sept 2016**[68]<br>This session will explore the subject of procuring ICT services for the public research sector. It will consider procurement models from the viewpoint of multiple actors and go to the very core of the subject via a series of probing questions that will compare and contrast the views of the different stakeholders. How procurement models can be implemented, their impact on competition, innovation, funding streams and the consequences for end-users, service providers, funding agencies, downstream industries, and the governance model will be the focus of the questions. The results of this session will contribute to a written report identifying opportunities, barriers, use cases, and best practices for cross-border procurement in the European public research sector | 28 September 2016 | Participation to external events[69] and dissemination of promotional material[70] |
| **Preparation of the bidders award event:** Agenda definition, stakeholder invitation; announcement of the event on relevant websites, etc. | September 2016 | Promotion of the results of phase 0 |

[68] http://www.digitalinfrastructures.eu/
[69] See Annex 1: External Events
[70] See Annex 2

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| **Setup of a new webpage on the HNSciCloud website dedicated to the winners of the tender** | Early October 2016 | Promotion of the results of phase 0 |
| **Organisation of the bidders' award event & webcast (Mid October 2016)** During this event the award winning suppliers the tender will be announced together with some early lessons learnt related to the tender phase. The event will also be the opportunity to launch the Phase 1 of the PCP<br>Interviews with the providers will be performed and published on the website<br>A post event press release and newsletter will be dispatched just after the event | Mid October 2016 | Promotion of the results of phase 0 |

**Table 8: Communication, Dissemination, and Stakeholder Engagement actions timetable**

The above activities will be complemented by the promotion of the HNSciCloud results and progress to external events as reported in Annex 1: External Events supported by the dissemination of promotional material produced case by case (See Annex 5: Production of promotional material).

## 4.2. Implementation Phase (Phase 1, 2, 3)

The implementation phase covers the twenty months after the award of the tender, from mid-October 2016 to June 2018. The implementation phase starts with the Phase 1 kick-off. The following table reports the communication, dissemination, and engagement macro activities that will be performed to achieve the objectives of the period as set in Chapter 1, keeping in mind that **during the implementation phase, the communication, dissemination, and engagement activities will be focused on generating interest on the demand side to have the buy-in of future users. Policy makers, government agencies, and private sector buyers will be also targeted with the outreach campaigns.**

| Communication, Dissemination, & Stakeholder Engagement Objectives for the period | Phase 1<br>Solution Design<br>(M10-M14) | Phase 2<br>Solution prototyping<br>(M15-M22) | Phase 3<br>Pilot deployment<br>(M23-M30) |
|---|---|---|---|
| **OB1:** Raising awareness of the HNSciCloud future offer among key stakeholders (users & policy makers) to stimulate the adoption | Regular awareness-raising activities on the HNSciCloud offer via web marketing & social media campaigns | Regular awareness raising activities on the HNSciCloud offer via webmarketing & social media campaigns | Regular awareness raising activities on the HNSciCloud offer via web marketing & social media campaigns |

| | | | |
|---|---|---|---|
| of the resulting platform, creating an international network of potential users, including research organisations, industry, and suppliers | Participation to external events[71] and dissemination of promotional material[72] | Participation to external events and dissemination of promotional material<br><br>Webcast on lessons learnt coming from phase 0, 1, and 2 | Participation to external events and dissemination of promotional material<br><br>Webinar on PCP: lessons learnt<br><br>Organisation of the Business Showcase event (CERN, Feb 2018)<br><br>Organisation of the Business Showcase event (EGI, April 2018)<br><br>Organisation of the PCP final event (webcast) (June 2018) |
| **OB2:** Training users on usage and benefits of the HNSciCloud services | | | Presenting the results and a demo of the implemented services at target user community events |
| **OB3:** Building an international, multi-disciplinary community and educating it on the pros and cons, lessons learnt, and best practices related to the usage of PCP instruments, the procurement of cloud service, and the usage of a hybrid cloud platform. | Promotion of the results of phase 0<br><br>Promotion of the results of the design stage: lessons learnt through the dissemination of articles and publications | D4.2 Summary Report of the prototype stage lessons learnt (July 2017) | D6.1 Best Practices Report (March 2018)<br><br>D5.2 Summary report of the pilot stage: lessons learnt (December 2017) |
| **OB4:** Promoting the impact that the resulting platform can have at a European socio-economic level, highlighting its potential positioning | | First policy workshop co-located with an e-IRG meeting (Malta – March 2017) | Production of an easy to read publication based on deliverable 6.2 Roadmap for the implementation of a full-scale European Open |

[71] See Annex 1: External Events

[72] See Annex 2

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| on the market and how such a platform can contribute to the establishment of a European Cloud Initiative. | | | Science Cloud (April 2018)<br><br>Wide dissemination towards policy makers of the Roadmap<br><br>D6.3 Demonstration to the EC of the test products resulting from the procured services (June 2018)<br><br>Second policy workshop at the EC premises with demonstration to the EC of the test products resulting from the procured services (June 2018) |
| **OB5:** Providing continuous updates on the progress and the results of the PCP phases and widely disseminating documents and templates that can help facilitate the work of similar initiatives in the future | kick-off phase 1 in conjunction with the bidders award ceremony<br><br>Dissemination of the material produced in the tender phase | kick-off phase 2 webcasted<br><br>Dissemination of the material produced for the tender phase 1 | Kick-off meeting phase 3 webcasted (November 2017)<br><br>Dissemination of the material produced for the tender phase 2 |

**Table 9: Communication, Dissemination & Engagement Plan macro-activities for M10-M30**

The specific actions that will be performed are listed in the table below:

| Actions | When | Macro activity |
|---|---|---|
| **Publication of news related to the results of the tender on the following websites:**<br>HNSciCloud; Partner websites (e.g. CNAF[73] and INFN websites); Helix Nebula Initiative[74]; PICSE (Procurement innovation for | Mid-October – December 2017 | Promotion of the results of phase 0 |

[73] https://www.cnaf.infn.it/en/
[74] www.helix-nebula.eu

| | | |
|---|---|---|
| cloud services in Europe)[75]; EIT digital[76], Cloud28+[77], GEANT[78], Cloud4Europe[79], CLIPS, CLoudWATCH, SLA-Ready, SLALOM, Clarus, EuroCloud, Enterprise Europe Network (EEN)[80]; The Research Data Alliance[81], The European innovation procurement forum (PPI forum)[82], HPC PPP[83], Big Data Value Public Private Partnership (BDV PPP)[84]; ESFRI website[85], and other websites that will be identified during the promotional campaign. | | |
| **Daily posts on social media** to promote the results and tender material developed for phase 0 that could serve the public sector, and beyond in future cloud services procurement actions. | Mid-October – December 2016 | Dissemination of the material produced in the tender phase |
| **Production of an easy to read publication** based on D3.2 Summary report of the design stage: lessons learnt (January 2017) | January 2017 | Promotion of the results of the design phase to policy makers and users |
| **Promotion of the publication on the lessons learnt from phase 1 via the HNSciCloud website** (creation of a new section of the website)**, social networks and external events** | January 2017 – February 2017 | Promotion of the results of the design phase to policy makers and users |
| **Newsletter on the results of phase 1** | February 2017 | Promotion of the results of the design phase to all the HNSciCloud stakeholders |
| **Daily posts on social media** to promote the results and lessons learnt from phase 1 | January-March 2017 | Promotion of the results of the design phase to all the HNSciCloud stakeholders |

[75] www.picse.eu
[76] www.eitdigital.eu
[77] www.cloud28plus.eu
[78] www.geant.org
[79] www.cloudforeurope.eu
[80] http://een.ec.europa.eu/about/sector-groups/ict-industry-services
[81] https://rd-alliance.org/
[82] https://procurement-forum.eu/
[83] http://www.etp4hpc.eu/
[84] http://www.bdva.eu/
[85] www.esfri.eu

| END OF PHASE 1 | | |
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| **Preparation of the March event, "Kick off phase 2 and first policy workshop":** Agenda definition, stakeholder invitation with a special focus on policy makers; announcement of the event on relevant websites, etc. | January 2017 – March 2017 | Promotion of the results of the design stage and of the expectations for the subsequent phase |
| **Kick off phase 2 and announcement of contractors for phase 2 event. The event will include a public session dedicated to the first HNSciCloud policy workshop.** The event will be co-located with the Helix Nebula Initiative General Assembly.<br>Policy workshops aimed to showcase the advances of the project to policy makers and funding agencies.<br>Interviews with the contractors for phase 2 will be carried out | March 2017 | Promotion of the results of the design phase and of the expectations for the subsequent phase |
| **Press release announcing the results of phase 1 and disseminating the material produced for the tender phase 1** | March 2017 | Promotion of the results of the design phase and of the expectations for the subsequent phase |
| **Publication of the press release on the relevant websites** (See previous paragraph) **and dissemination** through:<br>- Newsletter to the HNSciCloud contact database (over 1000 contacts)<br>- Newsletter to the EuroCloud database (800 members of which approx. 1/3 offer IaaS CSPs)<br>- Liaison with the European Commission to disseminate the press release via the DG CONNECT unit's website/newsletter and H2020 webpage such as the H2020 events page[86] and the DG CNECT F2 innovation unit so that it can be published in the DG CNECT innovation procurement newsletter<br>- Liaison with media channels (See Annex 2: Media & Dissemination channels) and international initiatives/projects (See Annex 3: Relevant initiatives and organisations) | April 2017-May 2017 | Promotion of the results of the design phase and of the expectations for the subsequent phase |
| **Social media campaign**[87] focused on the results of phase 1 and disseminating the material produced for the tender | April 2017-June 2017 | Promotion of the results of the |

[86] https://ec.europa.eu/programmes/horizon2020/en/newsroom/573

[87] See Annex 4

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| | | design phase and of the expectations for the subsequent phase |
| **Production of an easy to read publication based on D4.2 Summary Report of the prototype stage lessons learnt** | July 2017 | Promotion of the results of phase 2 |
| **Promotion of the publication on the lessons learnt from phase 2 via the HNSciCloud website, social networks, and external events** | July 2017 – September 2017 | Promotion of the results of phase 2 |
| **Newsletter on the results of phase 2 and announcement of the October webinar** | September 2017 | Promotion of the results of phase 2 |
| **Daily posts on social media** to promote the results and lessons learnt for phase 1 | July-September 2017 | Promotion of the results of phase 2 |
| **END OF PHASE 2** | | |
| **Preparation of the November event, "Kick-off meeting phase 3 & webcast":** Agenda definition, stakeholder invitation; announcement of the event published on relevant websites, etc. | October 2017 | Promotion of the results of phase 2 and of the expectations for the upcoming phase |
| **Webinar on the lessons learnt coming from phase 0, 1, and 2** to raise awareness of the progress of the PCP among the key stakeholders | October 2017 | Regular awareness raising activities on the HNSciCloud offer via web marketing & social media campaigns |
| **Creation of an animated video** to give users the incentive to adopt the new platform and explain basic services in a clear and simple way, and promotion on Youtube, the HNSciCloud website, and the social networks | October 2017 | Regular awareness-raising activities on the HNSciCloud offer via web marketing & social media campaigns |
| **Production of a user-oriented demo on the new services** A detailed description of the HNSciCloud Service User Package including the HNSciCloud service catalogue and demos (for users) will showcase the value added by features of the different tools for smarter approaches that result in socioeconomic benefits, and a practical guide for implementing and re-using the procurement best practices. | November/December 2017 | Regular awareness-raising activities on the HNSciCloud offer via webmarketing & social media campaigns |

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| **Kick-off meeting phase 3, webcast & announcement of the contractors for phase 3**<br>Interviews with the contractors for phase 3 | November 2017 | Promotion of the results of phase 2 and of the expectations for thesubsequent phase |
| **Press release announcing the results of phase 2** | November 2017 | Promotion of the results of phase 2 and of the expectations for the subsequent phase |
| **Publication of the press release on the relevant websites** (See previous paragraph) **and dissemination** through:<br>- Newsletter to the HNSciCloud contact database (over 1000 contacts)<br>- Newsletter to the EuroCloud database (800 members of which approx. 1/3 offer IaaS CSPs)<br>- Liaison with the European Commission to disseminate the press release via the DG CONNECT unit's website/newsletter and H2020 webpage such as the H2020 events and the DG CNECT F2 innovation unit so that it can be published in the DG CNECT innovation procurement newsletter<br>- Liaison with media channels (See Annex 2: Media & Dissemination channels) and international initiatives/projects (See Annex 3: Relevant initiatives and organisations) | November – December 2017 | Promotion of the results of phase 2 and of the expectations for the subsequent phase |
| **Daily posts on social media** to promote the new HNSciCloud offer and the outcomes of the kick off of phase 3 | October 2017-December 2017 | Regular awareness-raising activities on the HNSciCloud offer via webmarketing & social media campaigns |
| **Production of an easy to read publication based on D5.2 Summary report of the pilot stage: lessons learnt** | December 2017 | Promotion of the results of phase 3 |
| **Revamp of the HNSciCloud website:** The website will be revamped to reflect the transition into the pilot phase. The website will showcase digital demos of the chosen pilots and their functionalities. At M28, the publication of the roadmap will be promoted on the website, which is based on an evaluation of | December 2017-Januray 2018 | |

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| the results from the PCP. Other deliverables including a best practices document will be published here. | | |
| **Promotion of the publication on the lessons learnt from phase 3 via the HNSciCloud website, social networks, and external events** | January 2018 | Promotion of the results of phase 3 |
| **Newsletter on the results of phase 3 and announcement of the March webinar on lessons learnt from the PCP** | January 2018 | Promotion of the results of phase 3 |
| **Promotion of the results and showcasing of demos on the new platform at specific community events.** The procurers will train users on the usage and benefits of the new platform through presentations and f2f meetings with the communities. Community events will include:<br>▪ LHC experiments: CERN hosted event where demo & training videos can be recorded<br>▪ ELIXIR community; EMBL-EBI hosted events where demo & training videos can be recorded<br>▪ Research communities: at their research domain specific conferences and workshops, including Computing in High Energy Physics scheduled for spring 2018, WLCG workshops, HEPiX etc. RDA plenary in March 2018<br>▪ Infrastructure providers: at Helix Nebula initiative general assemblies, EGI community forums, Terena conferences, etc.<br>▪ Member states: eIRG workshops<br>▪ EC organised procurement events<br>▪ ESFRI projects via ESFRI organised events<br>▪ A complete plan of events is available in Annex 1: External Events and will be updated in the next iteration of this plan (M18). | January – June 2018 | Presenting the results and a demo of the implemented services at the target user community events |
| **Organisation of the Business Showcase event (CERN)**<br>Showcase event aimed at demonstrating the tangible benefits for the industry sector in adopting the smart cloud services provided by HNSciCloud. The event takes place at CERN. | Feb 2018 | Regular awareness raising activities on the HNSciCloud offer via web marketing & social media campaigns |
| **Production of an easy to read publication based on D6.1 Best Practices Report.** The project will develop and document best practices on an innovative procurement model for cloud services serving the public research sector. The documentation of the best practices identified in the preparation and implementation phase will be helpful to easily transfer the knowledge acquired but also to provide instruments to replicate the procurement exercise in the future. Best practices will document: | March 2018 | Promotion of the results of the project |

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| • The supported use cases;<br>• Safe and fair contract terms and conditions for cloud services;<br>• Relevant identified standards for secure and interoperable cloud services;<br>• A practical guide for implementing and reusing the agile procurement process;<br>• The solutions developed by HNSciCloud and the socio-economic benefits they bring.<br>Dissemination of the best practices will be done also through the Procurement of Innovation Platform[88] | | |
| **Webinar on PCP: lessons learnt & Best practices** | March 2018 | Promotion of the results of the project |
| **Promotion of the publication on the best practices via the HNSciCloud website, social networks, and external events** | February March 2018 | Promotion of the results of the project |
| **Production of an easy to read publication based on deliverable 6.2 Roadmap for the implementation of a full-scale European Open Science Cloud** | April 2018 | Promotion of the roadmap |
| **Organisation of the Business Showcase event (EGI)**<br>Showcase event aimed at demonstrating the tangible benefits for the industry sector in adopting the smart cloud services provided by HNSciCloud. The event is organised by EGI.eu. | April 2018 | Regular awareness raising activities on the HNSciCloud offer via webmarketing & social media campaigns |
| **Creation of an announcement message** to be used in direct email marketing, on LinkedIn, and for publication on other websites related to the release of the Roadmap for the implementation of a full-scale European Open Science Cloud (such as e-IRG, CORDIS, European Commission channels, etc.) | April 2018 | Promotion of the roadmap |
| **Direct email marketing of the Roadmap announcement to:**<br>▪ all the policy makers in the LinkedIn network<br>▪ the "relevant" National Contact Points (NCPs)[89] in all H2020 countries<br>▪ the contacts of the European Commission<br>▪ the ESFRI projects | April 2018 | Promotion of the roadmap |

[88] https://www.innovation-procurement.org/

[89] http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html

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| **Production of an easy to read publication based on D6.3 Demonstration to the EC of the test products resulting from the procured services** | June 2018 | Promotion of the project results |
| **Creation of an announcement message** to be used in direct email marketing, on LinkedIn, and for publication on other websites related to the release of D6.3 (such as e-IRG, CORDIS, European Commission channels, etc.) | June 2018 | Promotion of the project results |
| **Direct email marketing of the D6.3 announcement to:**<br>▪ all the policy makers in the LinkedIn network<br>▪ the "relevant" National Contact Points (NCPs)[90] in all H2020 countries<br>▪ the contacts of the European Commission<br>▪ the ESFRI projects | June 2018 | Promotion of the project results |
| **Organisation of the PCP final event in conjunction with the second policy workshop (webcast)**<br>Public event to which all the HNSciCloud stakeholders, including policy makers, will be invited. The aim of the event is to promote the results achieved from a technical point of view with the new solutions, and from a policy level (by promoting the roadmap for full-scale implementation). | June 2018 | Promotion of the project results |
| **Press release announcing the results of the project** | June 2018 | Promotion of the project results |
| **Publication of the press release on the websites targeting all the HNSciCloud stakeholders** | June 2018 | Promotion of the project results |
| **Wide Dissemination of the press release exploiting all the media channels exploited during the project** | June 2018 | Promotion of the project results |
| **Social media campaign**[91] focused on the publication of the Roadmap targeting mainly policy makers such as @DSMeu, @eInfraEU, @ViolaRoberto, @DIGITconf[92], @EU_Commission, @EU_ScienceHub[93], @JunckerEU , @ICTscienceEU[94], @Inno4Europe[95] , @EU_DataPortal[96], @EUDataEcosystem[97], | April- June 2018 | Promotion of the roadmap and D6.3 |

[90] http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html
[91] See Annex 4
[92] DG Informatics (DIGIT)
[93] @EU_Commission's science & knowledge service Joint Research Centre(DG JRC).
[94] Digital for Science
[95] Tweets on European innovation public policies http://www.innovation4europe.eu
[96] The European Data Portal harvests the metadata of Public Sector Information available on public data portals across all European countries
[97] @EU_Commission #DGCONNECT team for #datavalue #dataecosystem #bigdata #opendata #dataresearch and #datadriveninnovation

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| @OpenForumEurope [98], etc. Annex 4 includes the initial list of Twitter handles that will be exploited. | | |
| **Social media campaign[99] focused on the promotion of the results of the pilot phase and the overall project results, including the benefits and how to use the new platform** | June 2018 | Promotion of the project results |
| **Final newsletter on the project results to the full HNSciCloud database** | June 2018 | Promotion of the project results |

**Table 10: Communication, Dissemination, and Stakeholder Engagement actions timetable**

The above activities will be complemented by the promotion of HNSciCloud results and progress to external events as reported in Annex 1: External Events supported by the dissemination of promotional material produced case by case (See Annex 5: Production of promotional material).

## 5. Measuring impact and monitoring the activities

The impact of the activities described in this plan will be measured through a core set of key performance indicators (KPIs) wherever they are quantifiable. A continuous activity of monitoring will be carried out by Trust-IT Services, as WP7 leader. The table below shows the end-of-project targets.

| Activity | KPI | Target End of the Project | |
|---|---|---|---|
| | | Activities[100] | Impact[101] |
| Stakeholder analysis to identify the key targeted communities | Create 1 Engagement Plan & Communication & Dissemination Plan. | 1 Engagement and Communication Plan (update month 15) | To establish a coordinated communication and engagement strategy within the project |
| Define a marketing campaign to promote the tender publication | Define a marketing campaign for the promotion of the tender | -1 press release related to the launch of the tender<br>-1 promotional video to advertise the tender<br>-1 info day on the tender | Number of bidding suppliers: 10 (of which 30% will be SMEs)<br>Publication of the tender announcement on at least 10 relevant external channels |

[98] Working to achieve an open, competitive EU ICT market #OpenSource #OpenStandards #OpenInnovation | RT ≠ endorsement

[99] See Annex 4

[100] Activities to perform by the end of the project to reach the expected impact

[101] Expected impact

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| | | -Posts on social networks to engage CSPs<br>-Liaison with CSPs | |
| Organise 7 workshops with a target audience of 40 participants | Organise 7 workshops | 1 Kick off meeting<br>1 Open Market Consultation<br>1 Info day to answer questions on the tender<br>1 Tender award ceremony & kick-off of phase 1<br>1 public event to kick off phase 2<br>1 public event to kick off phase 3<br>1 Final event | 40 participants per workshop |
| Generate a service-oriented, responsive, attractive, content rich web platform integrated with social networks, strictly connected with the Helix-Nebula[102] and PICSE[103] websites. | Setup & populate the HNSciCloud website | -1 website<br>-3 news posts per month | Average 500 monthly visits to HNSciCloud web platform |
| Set up HNSciCloud channels on the most relevant social networks (Twitter, LinkedIn, SlideShare, YouTube, Facebook) with weekly updates | Set up dedicated HNSciCloud social networks | -300 tweets<br>-1 LinkedIn post per week<br>- 2 Facebook posts per month | Twitter: 1000 followers;<br>LinkedIn: 1000 connections;<br>Facebook: 700 Likes |
| Produce content for the website & media coverage | Content production | -10 press releases<br>-10 newsletters<br>-2 animated videos<br>-1 demo & online service catalogue (including training material)<br>-Deliverables<br>-10 Interviews | Generation of 50 press clippings and/or referral on external websites |
| Produce promotional material (design & content) to increase the visibility of HNSciCloud at | Production of promotional material | 6 fliers; 3 posters; 2 pop up banners; 1 HNSciCloud Roadmap; | Dissemination of the promotional material to at least 15 external events |

[102] www.helix-nebula.eu

[103] www.picse.eu

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| events and promote its main results | | 1 Best Practices report | |
| Production of best practices & lessons learnt reports | Transform D3.2, D4.2, D5.2, D6.1 into catchy publications | 4 reports | 1000 downloads |

# 6. Conclusions

The main conclusions of D7.1 "Communication, Dissemination, Outreach, & Stakeholder Engagement Plan" are:

- This document is agreed upon with all the HNSciCloud Partners and constitutes a plan to deliver a series of activities to which all the partners – at varying levels of effort, as foreseen by the HNSciCloud work plan – commit to contribute;
- This Communication Plan document serves to plan what is to be done from Month 7 (July 2016) until Month 30 (end of June 2018);
- A light iteration of the plan is foreseen at Month 18 (June 2017) as a check point for the full strategy

Concerning targets, KPIs, and the planned activities, the Communication Plan is in effect a "living document". The impact of all the communication, dissemination, and stakeholder engagement activities performed during the project will be reported in D7.2 Communication, Dissemination, & Stakeholder Engagement Impact due at month 30.

# 7. Annex 1: External Events

The table below reports some of the relevant events identified at Month 7 for the promotion of HNSciCloud. The period covered by the table is from July 2016 until June 2017 (M18) when an iteration of the plan is foreseen.

| Name | Date & Location | Target audience |
|---|---|---|
| Proton and Neutron Data Analysis as a Service (PANDAAS) Workshop | 7 July 2016, Grenoble, France | Potential users |
| Worldwide LHC Computing Grid (WLCG) Grid Deployment Board Meeting | 13 July 2016, Zurich, Switzerland | Potential users |
| Helix Nebula General Assembly | 20-22 September 2016, Frascati, Italy | Potential users; cloud service providers |
| ICT Proposers' Day 2016 | 26-27 Sep 2016, Bratislava Slovakia | Policy Makers |
| Digital Infrastructures for Research 2016 | 28-30 September 2016, Krakow, Poland | Potential users, research infrastructures, industry |
| 2nd ICOS Science Conference 2016 | 27 – 29 September 2016, Helsinki, Finland | Scientists from all over the world discussing greenhouse gas research, biogeochemical cycles, climate change and future research challenges after COP21. |
| 3rd International Conference on Research Infrastructures, ICRI 2016 | 3-5 Oct 2016, Cape Town, South Africa | Global research infrastructures |
| EuroCloud Forum 2016 | 5-6 October 2016, Bucharest, Romania | Cloud service providers, industry |
| European Public Procurement Conference 2016 | 12-13 October 2016, London, UK | Procurers |
| 22nd International Conference on Computing in High Energy and Nuclear Physics, CHEP 2016 | 10-14 October 2016, San Francisco, USA | High Energy and Nuclear Physics community |
| Cloud Forward Conference | Tuesday 18 October 2016, Madrid, Spain | industry |
| Belle II Computing Workshop | 22-23 October 2016, KEK, Japan | Belle II Community |
| Flavor Physics with High-Luminosity Experiments | 24 October -18 November 2016, Munich, Germany | Belle II Community |
| IEEE Nuclear Science Symposium 2016 (NSS) | 29 October / 6 November 2016, Strasburg, France | Nuclear Science community |
| The International Conference for High Performance Computing, Networking, Storage and Analysis, SC16 | 13-18 November 2016, Salt Lake City, Utah | International HPC community |
| International Symposium on Grids and Clouds | 5-10 March 2017, Taipei | |
| e-IRG meeting | March 2017, Malta | Policy makers |

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|---|---|---|
| European Geosciences Union General Assembly 2017 | 23-28 April 2017, Vienna, Austria | Scientists on earth science |
| TNC17 - Networking Conference | 30 May 2017 – 2 June 2017, TBD | decision makers, managers, networking and collaboration specialists, and identity and access management experts from all major European networking and research organisations, universities, worldwide sister institutions, as well as industry representatives |

**Table 11: List of relevant external events**

# 8. Annex 2: Media & Dissemination channels

Given the international dimension of the platform's user-base, engaging the maximum number of media and dissemination channels will be fundamental to spreading the word about the tender and the resulting hybrid cloud platform. Interaction with other regions of the world (Africa, Asia, Latin America, USA, etc.) would also need to be addressed to satisfy the collaborative nature of global research communities. TRUST-IT can leverage on a database of over 340 journalists, thanks to its partnership with Meltwater. The table below reports some of the relevant media & press channels. This list will be enriched and updated during the project.

| **European & International press/media channels** |
|---|
| MyScienceWork, sciDev, Digital Meets Culture, CORDIS Wire & CORDIS News, EC Research and Innovation Press Centre, EU Agenda & European Agenda, EurActiv, PRLog and PRWeb, DG CNECT newsletter, Noodls, Europost, Tom's Hardware, Firmenpresse.de, Startupbusiness Network, Wallstreet Online, NUANCE (Newsletter of UbuntuNet Alliance), CONNECT (Magazine from the GEANT Community), CAAST-Net PLUS Magazine, CG Channel, Make, Technology News, DCI, WorldNewsPress.net, Webnuz, New York Social Diary, Before It's News, Sina English, Voices - Sun Times, The Central News Agency, Bizcommunity.com, Copernicus Observer, International innovation, ComputerWeekly, 24n.biz (UK) , Computer World UK, eWeek Europe, EUObserver, EURACTIV, Government Tehcnology, Hostingtechnews.com, HPC in the cloud, HPC Wire, Innovations report, InfoWorld. DataCenterDynamics[104] |
| **ICT clusters** |
| ERRIN, CAP Digital, Systematic, SCS, Medicen, Euratechnologies, PRE (regional innovation agency) and the European Institute of Innovation and Technology (EIT ICT Labs) with its nodes located in the biggest ICT hotspots in Europe. |
| **SME associations** |
| INSME (International Network of SMEs), DIGITAL Europe, PIN-SME, UEAPME, Enterprise Europe Network, Alliance Big Data. |
| **e-infrastructure projects** |
| European e-Infrastructures (GEANT, EGI, PRACE, EUDAT, OpenAIRE, etc.) |

[104] www.datacenterdynamics.es

| IT, policy and scientific journals |
|---|
| INASP, e-IRG, Research EU Magazine, Journal of Web Engineering, Journal of Web Semantics (JWS), Journal on Digital Libraries (IJDL), ScieneNode, Nature. |
| **Policy Channels** |
| The e-Infrastructure Reflection Group (eIRG) and National Governments for e-Infrastructure, the European Strategy Forum on Research Infrastructures (ESFRI), the EIROforum organisations. |
| **Other initiatives** |
| Helix-Nebula, PICSE, WLCG, CloudWATCH, CloudforEurope, SLA-Ready, Clarus, etc.; see Annex 3: Relevant initiatives and organisations |

**Table 12: Examples of media and dissemination channels**

# 9. Annex 3: Relevant initiatives and organisations

The table below outlines some examples of initiatives, projects and standardization and certification bodies targeted by the project:

| Description | Distinct topics | Main outcomes benefitting HNSciCloud |
|---|---|---|
| **AARC[105] Authentication and Authorisation for Research and Collaboration, period : 2015-2017**<br>The Authentication and Authorisation for Research and Collaboration (AARC) project aims to develop an integrated cross-discipline AAI framework, built on production and existing federated access services (National Identity Federations and eduGAIN), to serve researchers, students, and educators. By using the AAI framework, users can access different services with the same credentials [Single Sign-On –SSO], and service providers can offer resources in a more controlled and consolidated way. AARC will also pilot SSO access for commercial cloud services for research communities and consider both technical/architectural solutions and legal and policy aspects. The proof of concepts will involve services from the main e-infrastructures in Europe (e.g. EGI, EUDAT, PRACE, eduGAIN), as well as libraries and ESFRI cluster projects (ELIXIR, DARIAH, and so on). Service providers will include both academia and industry, and both web-based and non-web based services. | AAI framework with the largest deployment across HNSciCloud buyers and public e-infrastructures | Users can access different services with the same credentials [Single Sign-On – SSO]. Service providers can offer resources in a more controlled and consolidated way.<br>AARC will also pilot SSO access for commercial cloud services for research communities and consider both technical/architectural solutions and legal and policy aspects. |
| **Cloud For Europe[106] 2013-2016**<br>Cloud for Europe supports public sector cloud use as collaboration between public authorities and industry (Pre-commercial procurement of cloud services for | Already initiated a PCP for cloud services by public authorities | PCP process for cloud services at a European level. |

[105] https://aarc-project.eu/

[106] http://www.cloudforeurope.eu/

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| government agencies across Europe). It is co-funded by the European Commission under the Framework Programme for Research and Innovation (FP7). | | Tender material published by C4E will provide valuable input for the preparation phase of HNSciCloud.<br>The resulting service implementations;- notably for legislation aware storage, digital archiving, and preservation services - could also be useful in the context of the HNSciCloud hybrid cloud platform.<br>The project leader of C4E has accepted to be a member of the external advisory board of HNSciCloud (see section on management structure). |
| **CloudWATCH2[107], 2016-2017**<br>The CloudWatchHUB.eu shows how public and private sectors can benefit from the cloud – capacity, flexibility, agility, and cost savings. The pressure to produce new features and new service capabilities faster than ever to keep up with the cloud now applies to many different types of businesses and government services. It entails an acceleration of the pace of business, but transitioning to the cloud needs to be carefully planned. CloudWatch offers a pan-European cloud observatory for the EU internal market, helping build trust in cloud computing and thus increasing adoption. | One-stop platform for access to cloud market information relevant to the public research sector | **Pricing transparency:** A cloud market Structure encouraging transparent pricing, showing how the market could become more efficient and more competitive, and thrifty for consumers.<br>**Improved risk assessment:** A set of risk profiles and practical guides that fit around the different budgets and resources of private and public organisations.<br>**Security and legal guides:** A set of security measures that customers are recommended to take, matched with expert legal guidance to lower barriers and ensure a trusted European cloud market.<br>**An evolved portfolio of standards for interoperability and** |

[107] http://www.cloudwatchhub.eu/

| | | |
|---|---|---|
| | | **security:** This is based on an analysis of implementations in European Research and Innovation projects, with emphasis on the business opportunities enabled by interoperability. |
| **Cloud 28+**[108]- The Cloud28+ 69 initiative foresees the federation of OpenStack based cloud ecosystems in each of Europe's member states with a unified cloud services catalogue to stimulate local value creation by unifying markets, connecting businesses, and giving more reach to local service providers, ISVs, and cloud builders. | An open community of Cloud Service Providers, Cloud Resellers, ISVs, Systems Integrators, and government entities dedicated to accelerating enterprise cloud adoption across Europe, The Middle East, and Africa. | |
| **COCO Cloud**[109]**, period: 2013-2016,**<br>Confidential and compliant (CoCo) clouds to create a framework and adopt data security in an OpenStack cloud model | Address key challenges for legally compliant data<br>sharing in the cloud | Results of COCO cloud will provide input to the tender contract legal aspects |
| **EGI-Engage**[110]**, 2015-2017**<br>The EGI-Engage project includes a task on cross-border procurement of e- Infrastructure services within NA282. The HNSciCloud project will offer a realistic implementation of the objectives of this task. Through this task, HNSciCloud will also be able to engage with more Research Infrastructures as potential procurement groups, notably BBMRI, EPOS, and DARIAH. The EGI Fed Cloud will provide the means by which the procured cloud services are made available to the users. The EGI-Engage project has agreements to work with several Research Infrastructures (BBMI, DARIAH, ELIXIR, EISCAT_3D, EPOS, INSTRUCT, and LifeWatch) and will provide end-user support and access to the procured services for researchers.<br>EGI has mechanisms in place for collecting the impact metrics (i.e. number of users, distribution by country & discipline, etc.) | E-Infrastructure: EGI Fed Cloud.<br>Encourage providers to move from batch (grid) to Cloud.<br>Reduce operating costs.<br>Surveys and identification of grid sites.<br>Leading public e-infrastructure cloud in Europe. | Grid sites<br>Cross-border procurement of e-Infrastructure services within NA283<br>Engage with more Research Infrastructures as potential procurement groups (BBMRI, EPOS and DARIAH).<br>End-user support and access to the procured services for non-HEP researchers.<br>Mechanisms in place for collecting the impact metrics (i.e. number of users, distribution by country & discipline, etc.). |

[108] http://www.cloud28plus.eu/
[109] http://www.coco-cloud.eu/
[110] https://www.egi.eu/about/egi-engage/

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| **EUDAT2020[111], 2015-2018**<br>The recently funded EUDAT2020 project will further develop the prototype data services (B2SHARE, B2SAFE, B2STAGE, B2FIND, B2DROP) operated by a number of publicly funded centres (referred to as data nodes by EUDAT). These data nodes can be integrated into the HNSciCloud platform as data repositories. In addition, the EUDAT activities to develop data quality assessments for data repositories could provide useful input for the certification aspects of the tendering material to be developed by HNSciCloud. | Data services operated by a number of publicly funded centres.<br>Data quality assessments for data repositories. | Develop data quality assessments for data repositories could provide useful input for the certification aspects of the tendering material to be developed by HNSciCloud. |
| **FIWARE[112]-** OpenStack has also been adopted as the basis for the FIWARE open initiative, aiming to create a sustainable ecosystem to grasp the opportunities that will emerge with the Future Internet in Europe. For example, thirty-one cities from seven countries in Europe and Latin America recently launched the "Open & Agile Smart Cities" initiative to accelerate adoption of common standards and principles for global smart city development using FIWARE | | |
| **INDIGO-Data Cloud[113], 2015-2017**<br>The recently approved Horizon 2020 INDIGO project aims develop and deliver software components allowing execution of applications on Cloud and Grid based infrastructures, as well as on HPC clusters. Both public and private sector cloud service providers are already offering IaaS (Infrastructure as a Service) cloud resources, while INDIGO will focus on the PaaS (Platform as a Service) and SaaS (Software as a Service) levels. Consequently, HNSciCloud (focusing on procuring IaaS level services) and INDIGO (PaaS & SaaS) will be complementary and it will be possible for INDIGO services to be deployed across the commercial IaaS services procured via the PCP tender process. | Focus on PaaS (Platform as a Service) and SaaS (Software as a Service) levels | INDIGO services to be deployed across the innovative commercial IaaS services procured by HNSciCloud PCP |
| **OpenAire2020[114], 2015-2018**<br>OpenAIRE2020 will expand its existing scholarly communication infrastructure to workflows and processes, from publications to data, software, and other research outputs, and the links between them, and strengthen the relationship of European Open Access (OA) infrastructures with other regions of the world, in particular Latin America and the U.S.A. OpenAIRE has created operating links to related data infrastructures, registries, and initiatives, and has established the foundations for an integrated Open Scholarly Communication Infrastructure, offering | OpenAIRE has already been established as *the* point of reference for Open Access to research publications in Europe. It has **created operating links** to related data infrastructures, registries, and initiatives (EBI, arXiv, CERN, DataCite, re3data.org, | OA communication & outreach platform with active presence in 33 European countries<br>Access to a network of digital repositories worldwide |

[111] https://eudat.eu/services
[112] https://www.fiware.org/
[113] https://www.indigo-datacloud.eu/
[114] https://www.openaire.eu/

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| technical and support services to a wide range of stakeholders. The network of National Open Access Desks (NOADs) of OpenAIRE provides an OA communication & outreach platform with active presence in 33 European countries. | OpenDOAR, ROMEO/FACT, ORCID, EGI, EUDAT). | |
| **Open Grid Forum**[115] | The Open Grid Forum (OGF) is a community of users, developers, and vendors leading the global standardization effort for distributed computing (including clusters, grids, and clouds). The OGF community consists of thousands of individuals in industry and research, representing over 400 organizations in more than 50 countries working to accelerate the adoption of grid computing worldwide. The OFG aims to lead to make new discoveries, create new opportunities, and to improve business practices. | |
| **OpenStack community**[116] | | |
| **PICSE**[117] (2014-2016) focuses on new ways of procuring cloud-based services. The PICSE Procurers' Platform gives access to a unique repository of information supporting the move from outright purchase ICT hardware to 'pay-per-usage' made possible by commercial cloud computing. It will set out a realistic roadmap of future procurement based on the levels of ambition for the adoption of cloud services over the next five years. PICSE will identify key financial and legal constraints impacting business development and procurement, and provide a range of best practices that address those barriers, focusing initially on the public research domain and libraries, across Europe and beyond. | Input on procurement barriers.<br>Procurement models in the public research sector. | Input on procurement barriers.<br>Procurement models in the public research sector. |

[115] /www.ogf.org

[116] http://www.openstack.org/community/

[117] http://www.picse.eu/

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| **PRACE[118], period : 2012-,**<br>The publicly owned and operated PRACE installations offer capability style HPC resources to researchers selected via calls for proposals and peer reviewed according to scientific excellence criteria. As a result of the calls, selected researchers are allocated CPU hours on scarce supercomputer installations. In comparison, HNSciCloud will procure capacity style cloud services hosted on commodity cluster installations operated by commercial providers. PRACE does not offer long-term storage facilities and is currently looking to establish partnerships with other e-infrastructures that can provide such services. HNSciCloud could provide a channel by which PRACE is able to offer long-term storage for the results of capability HPC simulations and permit their post-analysis on commodity cloud services. | Europe's leading supercomputer network | PRACE has no long-term storage service, so HNSciCloud could offer long-term storage for the results of HPC workloads |
| **RDA The Research Data Alliance[119]-** would offer a convenient means for engaging more research communities and expanding beyond Europe. | | |
| **SLALOM[120] 2015-2016-**<br>SLALOM addresses **top problems** for potential adopters of Cloud services such as lack of knowledge about what are fair and reasonable contractual terms and conditions related to service levels; lack of knowledge on how service levels need to be specified technically to provide meaningful protection for adopters; lack of resources – financial and personnel – to be able to research the issues; lack of clout to get some cloud service providers to offer fair and balanced provisions. | SLALOM's model terms and specifications are designed to be fair and balanced, unbiased towards providers and adopters alike. | Draft Model SLA Technical Specifications &<br>Legal Clauses for Cloud services to be published in August 2015 will be used as input to the tender specifications |
| **SLA-Ready[121], period: 2016-2018**<br>The SLA-Ready project and the resulting reference model, best practices, recommendations, and support services will help cloud customers to better understand the potential benefits of cloud computing, | Addresses how to respect the cloud legal framework, and how to manage the technical risks (e.g., security and privacy) related to cloud computing. | SLA-Ready will provide input to the SLA Definitions to be included in the tender material. |
| | | |
| **WLCG[122], period: 2003- initiative**<br>The project provides production grid infrastructure to support the computing needs of the LHC experiments | infrastructure in the world | Grouping of the majority of the buyers data centres<br>Provides primary use-cases for HNSciCloud |

[118] http://www.prace-ri.eu/
[119] https://rd-alliance.org/
[120] http://slalom-project.eu/
[121] http://www.sla-ready.eu/
[122] http://wlcg.web.cern.ch/

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| | | Benchmark scale, availability, and reliability measures against which the HNSciCloud hybrid cloud platform will be measured |

## 10. Annex 4 Social Media Campaigns

HNSciCloud will leverage on many channels to reach out to a wider audience and build a community of relevant stakeholders. The channels are building upon the already established Helix Nebula initiative channels. In doing this, HNSciCloud will take advantage of this network of relevant contacts and followers and aim to expand it throughout the duration of the new initiative.

This will be achieved through regular updates of all the channels. On a daily basis, relevant content and promotion will be communicated through all channels with content tailored to each platform. Specifically, the platforms where HNSciCloud will be presented include:

- **Twitter**[123] - Twitter provides a platform for brief, real-time updates, news, and event promotion to over 550 relevant followers including the major research institutes and cloud service providers across Europe. The first months of the project have been focused on identifying the most important Twitter influencers for the PCP, and they are reported in the table below:

| Relevant EU twitter accounts in the domain of the PCP/PPI for Horizon 2020 |
|---|
| @EU_Health,@EU_eHealth, @EIP_AHA (For health/ageing); @EU_ENV, @eip_water (For environment/water); @EUHomeAffairs, @EU_Justice, @Frontex (For security); @Energy4Europe, @EUSmartCities, @EU_ICT4Cities, @euenergyweek; @eumayors (For energy);@EU_eGov (For e-government/public administration); @dlearningEU; @Transport_EU (For transport); @RightMixEU, @ERSCharter, @EMSA_LISBON, @mobilityweek, @EU_ICT4Cities; @Horizon2020EU, @EU_H2020 , @H2020SME; @ICTinnovEU @DigitalAgendaEU (For H2020/research/innovation); @EU_Regional (For projects with regional/local impact); @ICT_IDEALIST ; @CloudforEurope @PEPPOL_EU |
| **EU twitter accounts relevant in the ICT policy field** |

[123] https://twitter.com/HelixNebulaSC

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| @DSMeu, @eInfraEU, @ViolaRoberto, @DIGITconf[124], @EU_Commission, @EU_ScienceHub[125], @JunckerEU , @ICTscienceEU[126], @Inno4Europe[127] , @EU_DataPortal[128], @EUDataEcosystem[129], @OpenForumEurope [130] |
| **ICT service providers** |
| @DigitaliansEU[131]; @weconnectdata[132]; @DIGITALEUROPE, @EuroCloud, @HuaweiEU, @IBMEuropePolicy , @MicrosoftEU , @Oracle , @SAP, @IndraCompany , @MSEurope, @EAIchannel [133], @TheDigitalHub , @opendatacenter [134], @EIT_Digital, Cloud 28+ |
| **ICT journals** |
| @DataconomyMedia[135], @ert_eu[136], @WSJD[137], @tech_eu[138], @digital_eu [139], @FigaroTech, @ReutersTech , @ResearchGate , @EUhorizon2020, @EU_RESEARCH, @PublicTech , @BBCTech, @euronewsknwldge, @SciNode, @ScienceInEurope , @cordiseurope , @myCORDIS , @WIRED , @HPCwire , @TomTaborHPC @JRussonHPC @TiffanyTrader@Computing_News , @Cloud_Zone, @cloudcompath , @CloudBlogs<br>@TheCloudNetwork, @CloudComputing3 @EduCloud |
| **EU twitter accounts relevant in the research sector** |
| @LibrariesEU[140] |
| **Relevant EU twitter accounts for start up** |
| @euroinvestnews, @Allied4Startups, @StartupScaleup, @ODincubator ,@BeTech_, @StartUpEU |
| **Cloud computing & Standards** |

[124] DG Informatics (DIGIT)

[125] @EU_Commission's science & knowledge service Joint Research Centre (DG JRC).

[126] Digital for Science

[127] Tweets on European innovation public policies http://www.innovation4europe.eu

[128] The European Data Portal harvests the metadata of Public Sector Information available on public data portals across all European countries

[129] @EU_Commission #DGCONNECT team for #datavalue #dataecosystem #bigdata #opendata #dataresearch and #datadriveninnovation

[130] Working to achieve an open, competitive EU ICT market #OpenSource #OpenStandards #OpenInnovation | RT ≠ endorsement

[131] Italian network of digital professionals

[132] supports datadriven businesses to leverage the opportunities new technologies offer to build added value products

[133] European Alliance for Innovation is a community of ICT professionals working together to enhance innovation and support knowledge transfer

[134] Companies working together to advance enterprise cloud solutions and services

[135] It covers #BigData, #FinTech and #IoT

[136] The latest news from the European Round Table of Industrialists.

[137] The Wall Street Journal's (@WSJ)

[138] Tech.eu is the premier source of European technology news, data analysis and market intelligence.

[139] Digital Europe

[140] PublicLibraries2020 , By empowering individuals, Europe's 65,000 public libraries build stronger communities and change lives #pl2020

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| @enisa_eu, @HolaCloud @Joinup_eu |
| **High Energy Physics, Astronomy, Life Sciences, Photon/Neutron Science** |
| **Organisations & initiatives:**<br>@CERN, @NASA, @PhysicsNews, @esa, @EPSRC, @APSphysics, @SLAClab, @ALICEexperiment, @CMSexperiment, @cardiffPHYSX, @ChemandPhys_LR, @LHCPhysics, @EPS_HEP2011 @AMSISS, @HEPPboardEPS, @inspirehep, @Labex_ILP, @ESO, @emblebi, @EMBLorg , @ELIXIREurope, @isatools, @LifeSciencesUoM, @DTL_nl, @GQLifeSciences, @LifeSciencesLib @lsn_events, @PaN_data, @ESFRI_EU<br>**Journals & Online magazines:**<br>@Newscientist141, @PhysicsWorld, @sciam142, @WIREDScience, @PhysicsToday, @NatureNews, @NaturePhysics, @physorg_com, @ScienceNews, @NatureComms, @ScienceChannel, @guardianscience, @sciencemagazine, @APSPhysics, @PhysicsTweet, @ElsevierPhysics, @JPhysB, @scienmag, @HEPExperPapers, @thphysnews, @AstronomyNow @Newscientist @ScienceChannel, @Real_Staffing, @EHSLifeSciences, @IEEELifeScience, @lifesciencenet |

**Table 13: Most relevant Twitter influencers**

- **Facebook[143] –** Facebook has previously provided HelixNebula with a useful platform to communicate information, and HNSciCloud will exploit and build on this community. Facebook will be used as a platform to disseminate relevant information and the promotion of all HNSciCloud outputs. Due to restrictions of other platforms such as Twitter, Facebook can be used to produce more detailed posts.
- **LinkedIn[144]-** LinkedIn has been identified as a beneficial platform for HNSciCloud. Again, building upon the previous HelixNebula initiative, HNSciCloud will use LinkedIn as a platform to publish regular updates and to promote publications and extended posts relating to all project outputs. Due to the intelligent process of connecting to new stakeholders, LinkedIn has been recognised as a platform that could be of great benefit in identifying relevant contacts for HNSciCloud.
- **Slide Share[145] –** Slideshare will be used to disseminate relevant presentations through its platform.

# 11. Annex 5: Production of promotional material

Promotional material will be produced during the project duration to increase the opportunities for dissemination and communication. Promotional material includes fliers, pop-up banners, and posters that will be distributed at events in which HNSciCloud is presented.

[141] @jjaron
[142] Scientific American, source for the science discoveries and technology innovations
[143] https://www.facebook.com/HelixNebula.TheScienceCloud/?fref=ts
[144] https://www.linkedin.com/in/helix-nebula-the-science-cloud-4216787b?trk=hp-identity-name
[145] http://www.slideshare.net/HelixNebulaTheScienc

| Formats | Description | Delivery Channels/ Multipliers |
|---|---|---|
| HNSciCloud Fliers | 8 Fliers including the promotion of the services as well as the project goals and achievements of the PCP | Website, Events, Press & Media, Social media |
| Roll Up Banner/Posters | 2 Pop up banners and 5 posters to use at events to give visibility to the HNSciCloud main message. | Events |
| Infographics | As a visually appealing instrument to raise awareness on the different topics addressed as well as to illustrate benefits of the HNSciCloud services, 2 infographics will be produced. | Website, Press & Media, Social media |