

## D8.1. Communication, Dissemination and Exploitation Plan

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## Executive Summary

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The objective of this document is to define the communication and exploitation plan of the SLICES-PP project, leading to the establishment of the new SLICES research infrastructure. It describes the activities of the SLICES-PP partners to ensure broad visibility and promotion of the project and provides an overview of the dissemination strategy, including the relevant dissemination channels and tools, key audiences, and communication messages, as well as the participation to various events and workshops.

SLICES-PP will define, plan, organize and exploit a rich set of local and international events and also aims to capitalize on several relevant third-party events to maximize visibility and reach a wider range of stakeholders, such as the promotion of the Funders Forum 2023.

This plan covers branding, event-based dissemination, digital dissemination, media coverage as well as the project's promotional materials such as brochures/posters.

Its primary objective is to identify the best modalities of reach, interaction, and communication with each group of relevant stakeholders in the 15 member states for more effective promotion of SLICES-PP's outcomes to maximize its scientific and socio-economic impact.

The monitoring of the dissemination, outreach and community building's outcomes is carried out through the alignment with the KPIs of the communication and dissemination plan, and in comparison, with the project's overall targets, leading up to the completion of the project.



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## 1. Introduction

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### 1.1. Intended audience

This document is intended for all SLICES-PP consortium members and aims to develop a practical and fundamental guideline for the communication, dissemination, and exploitation strategy plan of the project.

### 1.2. Document structure

The deliverable is structured into the 8 following sections, including:

- *Chapter 1* - Introduction
- *Chapter 2* - SLICES-PP and WP8 objectives
- *Chapter 3* - Outreach and communication priorities
- *Chapter 4* - Initial communication agenda and strategy
- *Chapter 5* - Initial exploitation strategy and plan
- *Chapter 6* - Initial communication and dissemination strategy
- *Chapter 7* - Initial international cooperation and outreach strategy
- *Chapter 8* - Conclusion



## 2. SLICES-PP and WP8 Objectives

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### 2.1 SLICES-PP at glance

The research community studying digital infrastructures is facing a variety of new challenges as they work to design the Next Generation Internet. This complex ecosystem includes communication, networking, data management, and data intelligence, and it is supported by technologies like the Internet of Things (IoT), 5G and 6G, and cloud-to-edge computing. The large amount of data generated and exchanged over the network also requires the development of both incremental and radical new design paradigms to apprehend this upcoming challenge.

Experiment-based research is becoming the standard worldwide, and in order for results to be trusted, repeatable, and accessible to research communities, it must be supported by large-scale research infrastructures. As such, the SLICES-Research Infrastructure (RI) aims to answer these needs by providing a European-wide test-platform for experimental research on various aspects of distributed computing and networking technologies. This will serve as the primary experimental collaborative tool for European researchers to explore and advance the capabilities of the future Internet. This will also provide the necessary resources to continuously design, operate, and automate the full lifecycle management of digital infrastructures, services, data, and applications.

Following the two preceding projects within SLICES-RI, SLICES-DS and SLICES-SC, SLICES-PP (Preparatory Phase) is the latest project in the SLICES ecosystem. It will validate the requirements to engage into the implementation phase of the RI lifecycle. Its main objective is to tackle all the key questions concerning legal, financial, communication and technical issues leading to the establishment of the new SLICES research infrastructure and ensuring commitment of all Member States/Associated Countries to its long-term operation.

SLICES-PP gathers 25 partners from 15 countries, as depicted in the following image:





Figure 1: SLICES-PP Partner distribution

## 2.2 Work Package 8 objectives

The main objectives of Work Package 8 (WP8) to be reached at the end of the Preparatory Phase are as follows:

- Development of the project dissemination and communication strategies of SLICES-RI.
- Define the communication agenda in order to outreach the main stakeholders (Ministries, ERA actors, users, etc.) relevant for the RI development and financial framework.
- Creation of the project's visual and online identity.
- Integration of the feedback provided by all the relevant stakeholders to the specification, design, development, and evaluation work.
- Building of an efficient communication, dissemination, and exploitation plan to promote SLICES in all member states and the European Commission.
- Reports of the achievements related to the plan in comparison to prior established KPIs.
- Creation of an international cooperation and outreach strategy.
- Support for national, European, and international collaborations and synergies.
- Contributions to standardization.







### 3. Outreach and communication priorities

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#### 3.1 Outreach priorities

The goal of this work package is to create a dissemination and communication strategy for SLICES-PP that engages all relevant stakeholders, and to incorporate their feedback into the specification, design, development, and evaluation process of SLICES-PP. It will also support collaborations and synergies at national, European, and international levels. Nevertheless, in order to do that it is crucial to establish a communication agenda to outreach to main stakeholders relevant for the RI development and financial framework.

One of the main current priorities is the integration with the European research infrastructures ecosystem, such as European Open Science Cloud (EOSC) and European Research Area (ERA), in close collaboration with T7.3 (“Open Science principles implementation and EOSC integration”). It includes the monitoring of current and upcoming research infrastructures, that target a similar focus (experimentation on DIs) in the ERA and at the international level and/or that provide complementary services that SLICES could leverage, or contribute to improving (most importantly, EOSC-related initiatives). It also includes the identification of potential synergies and collaboration opportunities that can be established for expanding SLICES community and scope. It is therefore crucial to outreach and establish active cooperation with EOSC, participate in EOSC related community forums and working groups.

Among other outreach and communication priorities is establishing and maintaining contact with all the other relevant research infrastructures stakeholders such as EGI, SoBigData, CERN, PRACE, etc., as well as different Ministries to ensure their future engagement and support of the project.

Last but not least, it will also include the promotion of the Funders Forum, defined in WP2. This work plan will define and implement several activities such as workshops, local events and bilateral meetings, in order to promote SLICES in all member states and the European Commission and develop a specific communication strategy highlighting the strategic impact of SLICES.

The Funders Forum (T2.2), among other events, will gather stakeholders and potential funders in order to engage them and discuss the establishment and deployment of SLICES-RI. These steps are crucial to ensure the inclusion of SLICES-RI in all relevant national RI roadmaps and secure the involvement of core institutes and partners. This will include the establishment of a common strategy for all nodes to develop relations with their National Ministries and Agencies and secure national commitments.

#### 3.2 Target audiences

Effective communication, dissemination, and exploitation activities with relevant audiences will be critical to the success of the SLICES-PP project.

The key target audiences for SLICES-PP include:

- The scientific and research communities
- The member states including national authorities (Government, Ministries, dedicated agencies)
- The national and EU regulators as Policy makers
- The research departments from industry and SME with activities in the related challenges
- The regional authorities and Policy Makers



- The funding and selection agencies managing research infrastructures (ESFRI, e-IRG), or supporting research like the PPPs in 5G, big data, cloud, HPC, edge, IoT, security, etc.
- The standardization organizations at global level
- The general public
- Industry and business groups
- Members of 5GPPP
- Non-European agencies and institutions
- European initiatives supporting research like the PP in big data, security, etc.

In the table and figure below are represented the main SLICES-PP stakeholders identified so far and the expected benefits they could expect from SLICES-PP. It is essential to be aware of them when establishing a clear and upfront outreach strategy.



Figure 2: SLICES-PP target stakeholder

Potential Beneficiaries	Expected Benefits	Methodology
<i>Scientific community at universities and research centers</i>	A future cutting-edge facility to validate research proposals without current limitations.	Flyers, Workshops and questionnaires.
<i>Research departments from industry with activity in societal challenges</i>	SLICES will provide facilities for large trials in the vertical sectors. The access to the facility will also contribute to their private deployments and will	Questionnaires to collect evaluate the access to the SLICES-RI.





	share with them the outcomes of the further deployment of the RI.	
<i>Researchers and SMEs working in product and services on mobile networks</i>	SLICES will enable accessing trials which are currently closed to the specific stakeholders. By providing these realistic deployments the researchers and industries has to adapt to provide implementation of their proposal, this prototype phase can accelerate the transfer of technology from the Academia to the Industry.	Dissemination material focused on non-specialists, questionnaires.
<i>Funding and selection agencies managing research infrastructures (ESFRI, e-IRG) and national governments and bodies deciding upon the RI roadmaps</i>	SLICES will provide them with this final result regarding access of the facility from different user communities but will also set up a continuous dialogue from the very beginning of SLICES-PP to raise awareness, capture the requirements and constraints, and to update them regularly about the progress and first results.	Reports of SLICES-PP covering the accessibility to the RI from different user communities. Deployment and business model plans.
<i>National and EU regulators as Policy makers</i>	Policy bodies will have detailed reports on the different regulations in Europe as well as details on how research could overcome the barriers imposed by these regulations. These reports could be used to raise awareness on regulation problems and/or even to produce new regulations.	High-level materials (mission statement, slide-deck, brochure for policymakers).
<i>Members of 5GPPP</i>	The provision of trials for 5G and beyond is very important, indeed there are several working groups devoted to the trials. The introduction of a facility that can potentially increase the size of the trials with vertical sectors is of strategic interest for these communities.	Specific report on the technical and regulatory barriers that limits the use of experimental facilities for research in Europe.
<i>European initiatives supporting research like the PPPs in big data, security, etc.</i>	New solutions to enhance the catalogue of testbeds as well as interconnection features to be offered in further Horizon Europe projects.	Posters, presentations, contributions to white papers, etc.
<i>Standardization organizations at global level</i>	Standardization bodies will benefit from outcomes of the enabling technologies validation, by the identification of gaps in current technologies, or by innovative uses of the existing technologies.	Promotion of the SLICES-RI and its access from different user communities during the info days, engagement with stakeholders.
<i>Non-European agencies or institutions</i>	International collaborations to find synergies with similar initiatives for global research networks, such as PAWR, FABRIC, BRIDGES, etc.	Specific report on the technical and regulatory barriers that limits the deployment of SLICES-RI. Invitation to assist to the different project results meetings and workshops.

Figure 3: SLICES-PP target audiences





### 3.3 Key performance indicators

The Key Performance Indicators (KPIs) for outreach activities have been defined in the proposal stage and cover various areas, including project documentation, project publications, online presence and events. The following table summarises the communication and dissemination-specific KPIs, as per the Description of Actions.

Measure	Indicators	Target	Means of verification
<b>SLICES brochure</b>	No. of brochures distributed	At least 200 per year	Dissemination reporting activities
<b>Posters</b>	No. of posters produced	2 in total	Dissemination reporting activities
<b>High-level materials for policy makers</b>	No. of sets	At least 1 per year	Dissemination reporting activities
<b>SLICES-PP website</b>	No. of unique visitors to website	> 1000 visitors/year	Google Analytics
<b>Social networks<sup>1</sup></b>	No. of followers: Twitter/LinkedIn/YouTube	> 500 /> 200/ > 100	Statistics of social media profiles
<b>SLICES Workshops</b>	No. of workshops and No. of participants	3 workshops (30 participants/event)	Attendance proofs
<b>Videos</b>	No. of videos published on SLICES-PP's YouTube channel/average number of views	2 videos and > 1000 views per video	Videos published via SLICES YouTube channel
<b>Scientific publications</b>	No. of peer-reviewed papers/articles	5 in total	Papers/articles published
<b>Presentations</b>	No. of presentations made	At least 3 per year	Published presentations
<b>External events</b>	No. of events attended	6 external events	Attendance proof /photos/reports

**Table 1: SLICES-PP Dissemination and Communication KPIs**

<sup>1</sup> The social media (LinkedIn, Twitter and YouTube Channel) are the same of SLICES-RI for the whole family of SLICES projects.





## 4. Stakeholder and Funding Forum initial communication strategy and agenda

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### 4.1 Objectives

As defined in the Grant Agreement, the objective of task T8.1 is to define the communication agenda in order to outreach the main stakeholders (Ministries, ERA actors, users, etc.) relevant for the RI development and financial framework. It will also include the promotion of the Funders Forum, defined in WP2. This work plan will define and implement several activities such as workshops, local events and bilateral meetings, in order to promote SLICES in all member states and the European Commission, and develop a specific communication strategy highlighting the strategic impact of SLICES.

### 4.2 Strategy

The strategy for stakeholders' engagement and Funders Forum promotion relies on the key aspect of the future legal form of SLICES. The SLICES partners have decided through a vote in December that the future legal structure should be an ERIC. Thus, a key target of the task will be the Member States to demonstrate the interest of SLICES and attract them to take part in the ERIC and become Supervisory Board members. Another key target is the European Commission, as in charge of the evaluation of the ERIC application, and the ESFRI ecosystem.

In order to reach these targets, SLICES-PP task T8.1 is setting up the following strategy:

- A. Close follow-up with the French Ministry - as the initiator of the ERIC process, as the lead country (in close relation with T1.1 "Governance and legal structure definition and implementation).
- B. Direct meetings with MS Ministries (in close relation with T1.3 "Interactions with the MS", and in close relation with the National Roadshow organised in the SLICES-SC project)
- C. Participation in all EC/ESFRI meetings and workshops.
- D. Promotion of the Funders Forum (in close relation with T2.2 "Funders Forum creation and animation).
- E. Wider reach out at the international level in order to increase the overall visibility, highlight the strategic impact of SLICES, and attract potential stakeholders and funders (in close relation with T8.4 "International cooperation and standardization").

### 4.3 Agenda

The initial agenda for the stakeholders and Funders Forum agenda is the following for the respective actions:

- A. Close follow-up with the French Ministry:
  - Already informed of the decision to go for an ERIC.
  - Meeting with the French Ministry on 10<sup>th</sup> February 2023, with T1.1 to get feedback on the process and advices.
  - Set-up of the Interim Supervisory Board (ISB) by representatives of all partners ministries
  - Selection by ISB of the lead country to host the central hub
- B. Direct meetings with MS Ministries:



- France: meeting in June 2022 with the French node potential partners and French Ministry.
- Germany: contact with BMBF. Liaison with 6G Platform/Hubs.
- Actions also through the Roadshow in SLICES-SC (Swiss, Norway, ...)
- To continue and increase this process in the coming months.
- C. Participation in all EC/ESFRI meetings and workshops.
  - Participated to the ICRI (International Conference on Research Infrastructure) 2022 in Brno (Czech Republic) in October 2022 (next ICRI will be in 2024 in Australia).
  - Attended all ESFRI meetings, workshops.
  - To continue these actions in the coming months.
- D. Promotion of the Funders Forum
  - In parallel, start exploring and benchmarking about the best practices for Funders Forum.
    - Benchmarking in February 2023
    - Draft structure and actions in April 2023.
- E. Wider reach out at the international level in order to increase the overall visibility, highlight the strategic impact of SLICES, and attract potential stakeholders and funders (in close relation with T8.4 “International cooperation and standardization”).
  - Already reached out to several international key events:
    - Presentation at the workshop in Japan at Beyond 5G International Conference 2022.
    - Presentation at a virtual meeting « Africa-Europe research infrastructure cooperation ».
    - Presentation at Globecom Rio (12/22). Contact with Uruguay, Brazil, Chile.
    - Presentation TASIR workshop (Bengalore, India). Discussion with Indian 6G authorities
  - To continue with the already identified events:
    - Swedish Presidency conference on Research Infrastructures 2023 (Swedish Presidency if from January to June 2023)
      - “Research Infrastructures of tomorrow”, 19-20 June 2023, Lund, Sweden
    - Spanish Presidency conference on Research Infrastructures 2023 (Spanish Presidency if from July to December 2023)
    - ICRI 2024
      - “International Conference on Research and Innovation” 20-21 Sept. 2024, Lisbon, Portugal







## 5. Initial exploitation strategy and plan

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### 5.1. Introduction

To develop a reasonable exploitation plan for the SLICES research infrastructure, the following steps should be considered:

- Identify the target market: The first step is to identify the target market for the SLICES research infrastructure. This could include academic researchers, policy makers, NGOs, government organizations and industrial stakeholders.
- Assess user needs: Once the target market is identified, it is important to assess the specific needs of users to ensure that the infrastructure is tailored to their requirements. This could involve conducting user surveys, focus groups, or interviews to gather feedback on the infrastructure.
- Develop a business model: A business model should be developed that outlines how the SLICES research infrastructure will generate revenue. This could include charging for access to the infrastructure, offering consulting services, or licensing the technology to other organizations.
- Create a marketing strategy: A marketing strategy should be developed to promote the SLICES research infrastructure and attract users. This could include creating a website, social media campaigns, and attending conferences and trade shows.
- Develop partnerships: Developing partnerships with other organizations and relevant initiatives can help to increase the reach and impact of the SLICES research infrastructure. This could include partnering with academic institutions, other research infrastructures, industry and governmental organizations.
- Continuously Monitor: Continuously monitor and analyse the usage and the impact of the infrastructure and make adjustments to the plan accordingly.
- Create a sustainability plan: A sustainability plan should be developed that outlines how the SLICES research infrastructure will be maintained and supported over the long term. This could include creating a funding model, developing a governance structure, and outlining roles and responsibilities for maintaining the infrastructure.
- Provide training and support: Provide training and support for users to ensure that they can effectively utilize the infrastructure and to ensure that it is accessible to a broad user base.

### 5.2. Initial exploitation plan

SLICES-DS has started several actions to pave the way for the future exploitation of the SLICES-RI, which will be the basis for the SLICES exploitation plan. The main pathways for the exploitation as defined in SLICES-DS will be as follows:

#### *5.2.1. Stakeholders' engagement*

SLICES-PP will continue to work both at the global level with Ministries, organisations, and EOSC, and at the level of the nodes with the national infrastructures with the SLICES Roadshow that have started to mobilise the community and stakeholders.

#### *5.2.2. Impact assessment*



The impact assessment and/or monitoring have been highlighted as an important element of the long-term sustainability of research infrastructures<sup>2</sup> by ESFRI, European Commission, Competitiveness Council as well as OECD. This includes for SLICES the design of the KPIs and the work on the economic model with the Cost book. We need to design it from the conception, for example, to the needs of industries for market-based access and in dialogue with society with topics such as the carbon footprint.

5.2.3. Governance and legal framework

This includes all the work that will allow the implementation and exploitation of SLICES, such as the legal framework with the MoU2 and Consortium Agreement of SLICES-PP, the set-up of the Central hub, and the design of the steps toward the SLICES legal entity, which as agreed will be an ERIC.

5.2.4. Exploitation plan for SLICES outcomes

An initial list of exploitable assets as initially defined within SLICES -DS are listed in the following table. SLICES-PP will continue from that point the discussion on the exploitation strategy. The exploitation strategy of SLICES follows the following stages of expansion with specific short-term and long-term objectives:

- **Short-term objectives:** within the timeframe of SLICES aiming to set up the framework for long-term sustainability via demonstration of the SLICES value via engagement with diverse communities and via industrial and real-life demonstrators, community building via engagement, plus determine exploitation plans, partnerships and business plans to take the project’s results forward.
- **Long-term objectives:** SLICES-RI, establishing partnerships and business plans, release of open source code and maintenance of the community built within SLICES, including the potential commercialization of results and developments of semi commercial products and services, where appropriate.

SLICES Services / Exploitable results	Scientific Exploitation	Commercial exploitation	Open Source Exploitation
SLICES Architecture for conducting experiments	Reference architecture for adding nodes to the core SLICES infrastructure		Open source and of general interest for the scientific community
Open Source Experiment Data and Metadata	Data of experiments made available directly relevant to the networking community	New products and ideas can emerge from post-experiment processing of the experiment data	Of general interest for several communities
Educational Activities such as SLICES Academy	Educational courses can be conducted over the real-world facilities for observing network	New courses can emerge with paid/privileged access	Open source and of general interest for the scientific and educational

<sup>2</sup> <https://www.ceric-eric.eu/events/workshop-on-impact-assessment-evaluation-and-monitoring-of-research-infrastructures/>







	behaviour over real infrastructures		communities. The issue of the IPR of the educational material should be further discussed with the authors.
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Table 2: SLICES exploitation strategy

5.2.5. Exploitation plan at partners/nodes level

Each node and each partner have started to design a plan for future exploitation, with the following elements per node:

Country	Exploitation plans
<b>France</b>	Develop the community; create the structure to engage the French node, articulation with the EU level, relation with the US, capacity building and education. French node and stakeholders are actively involved with the discussion with the main stakeholders both at the national and EU level.
<b>Belgium</b>	The partners currently involved in SLICES in Belgium identify two important routes towards exploitation of the results. The first is exploitation of the results in future projects with industry. The embedding of the facilities in 2 Flemish universities, allow a very efficient exploitation of knowledge by embedding this in the more advanced master courses in engineering and related high-quality PhD programs, as a second route towards exploitation. The current partners will also set up and work on dissemination activities and roadshows to trigger interest from the local community. They will also actively explore possible new partners in Belgium to become part of the SLICES network.
<b>Cyprus</b>	Develop the community, formalize the operational structure of the Cyprus node, inform political authorities and register SLICES on the Cypriot national roadmap for research infrastructures, engage with funding agencies to enhance the planned testbed deployments and explore SLICES enhancements, facilitate the capacity building and education of the community, liaison with the industry to further exchange knowledge and collaborate, communicate and disseminate SLICES to a national and international level.
<b>Finland</b>	The Finnish node of SLICES-RI is the experimental platform to the national 6G Flagship programme (started in 2018). The 6G Flagship ecosystem globally includes more than 300 companies, more than 600 academic partners and 150 governmental and association members. The ecosystem will be developed further towards several vertical areas where the most opportunity rich verticals are assumed to be energy, health, automotive and industry. The Finnish node will evolve towards 6G test network with three pronged approach wherein 1) 3GPP release based approach will provide e.g. coverage, medium data rate, latency & jitter, zero carbon footprint solutions, RedCap Devices, 2) O-RAN/Open Source approach providing e.g. low capex with moderate performance, high opex, studying security, energy consumption, jitter/latency perf., stability, and 3) disruptive 6G path providing e.g. 1 Tbps, joint communication and sensing, low latency and jitter, sub-cm positioning, reflective surfaces, and sub-THz transceivers. These capabilities will be used in





	research e.g., in recently awarded 12 HE SNS JU projects (including Hexa-X-II and 6G-XR) and furthermore in undergraduate and graduate education. Together with industrial partners and regulators, the environment will be also used to study methodologies for future spectrum regulations.
<b>Germany</b>	Develop the community, establish a common ground of experimental methodology focused reproducible experiments among related scientific groups, embed the methods and hands-on experience of experimental research in education. Introduce SLICES into the German research community and industrial partners.
<b>Greece</b>	Develop the community, engage the MS authorities and funding agencies, facilitate the capacity building and education of the community, liaison with the industry to further exchange knowledge and collaborate, create a legal structure for the Greek node that easily will take actions at national and EU level, follow the evolution of the relevant technologies and integrate them in the Greek node and the SLICES architecture.
<b>Hungary</b>	ELKH Cloud became very popular among academic researchers in Hungary. Recognizing its popularity ELKH (Eötvös Lóránd Research Network) signed a 3,5-year maintenance and operation contract with us. This contract covers beside the hardware /software maintenance and operational cost support for building the user community. Our goal is to further increase the number of projects running on ELKH Cloud and attract researchers not only from the ELKH research institutes but also from the various universities.
<b>Italy</b>	Develop the community, involve the research Ministry in the SLICES-RI establishment and funding process, build, connect and integrate the various sites of the national node, integrate common technologies across sites, prepare for interconnecting and inter-operate the national node's sites with those of the other countries involved in SLICES-RI.
<b>Luxembourg</b>	Participate to the development of the SLICES community. Advertise SLICES to the major players in Luxembourg. Plan and design the setup of the SLICES-Lux node according to the Research and Strategic top priorities at national and European levels. Align with other SLICES partners while integrating new promising hardware based on the evolution of the recent technological advents according to the global site missions.
<b>Netherlands</b>	Started activities to launch national program SLICES-NL that includes infrastructure, organisational and legal aspects as well as inclusion into the national roadmap on Large Scale Scientific Infrastructures for future funding. Coordination group comprising of the major Dutch research centers has been working since 2021 with several working groups defined; a special working group on digital technologies research priority for Netherlands has started its work with the goal to prepare the long-term plan for SLICES-NL development. Plan to design and setup the Dutch SLICES node jointly by UvA and SURF that will serve as a gateway to resources at SLICES-NL. Alignment with Computer Science is planned for better SLICES-RI exploitation.
<b>Norway</b>	Started the dissemination of information about SLICES-RI to the Norwegian research community, and to influence the research Ministry to support participation in SLICES-RI. The existing eX3 infrastructure, which will constitute the Norwegian node,





	is in full operation and subject to further extensions within the existing national funding until the end of 2023.
<b>Poland</b>	Polish contribution to SLICES is based on ongoing projects from National Roadmap of Research Infrastructures. The main goal for next period is to develop the community around the Polish node of SLICES. To enable smooth transition from the national to the European scale of operation, we need to design physical interfaces between Polish infrastructures and SLICES and implement all required APIs and software interfaces. We plan to continue the discussion with our Ministry to involve them in the process of establishment of the SLICES governing bodies.
<b>Spain</b>	Spain contribution to SLICES is articulated across the following main axes: i) building links, defining and participating in calls for funding with the national government main Ministries on Science and Research and on Economic Affairs and Digital Transition and the regional governments (Madrid and Basque Country); iii) promoting the involvement of the Industry currently very active in both Spanish nodes in SLICES; iv) presenting SLICES to the research community in Spain and promote the participation of new nodes in the infrastructure: v) promoting SLICES in the academia (researchers, faculty and students), via supervision of Master and Thesis in the scientific topics relevant on advanced networking and providing lab infrastructures within SLICES national nodes for lectures, students and researchers experiments.
<b>Sweden</b>	Started the dissemination of information about SLICES-RI to the Swedish research community, and to influence the research Ministry to support participation in SLICES-RI.
<b>Switzerland</b>	Several remote meetings were organised since the beginning of the SLICES to communicate and disseminate about the SLICES Research Infrastructure at the national level. There is process to register SLICES in the Swiss national roadmap for research infrastructures was achieved and the Swiss node is currently waiting for the final decision.

Table 3: SLICES exploitation strategy per country

### 5.3. Questionnaire

The SLICES consortium was surveyed on their exploitation plans. The following section will summarize the answers and results. The survey was run by SZTAKI with the collaboration of Mandat International and it aimed at collecting the different consortium members' intentions, plans and opinions on exploitation. The survey has two main objectives:

- To identify the individual exploitable items and exploitation methods and channels partners are planning to apply during and after the SLICES-PP
- To understand the intentions of the partners related to SLICES-RI exploitation strategy and to gather information related to capitalisation and cooperation.

The questionnaire (ANNEX II) was distributed among the partners and by end of January, several partners filled in questionnaire. The questionnaire and the collection of data is an open task and more replies are expected within the next months, since this task will continue for the whole duration of





the project. In the following paragraphs, we briefly introduce and summarize the results of the initial collections of input.

### *5.3.1. Exploitation at individual level based on partners' feedback*

In the following paragraphs, each of the question in the questionnaire related to the individual exploitation plan is analysed.

**Analysis of replies for Question 1:** Exploitable assets (EA) identified by the partners are quite diverse, focusing mainly around the category of scientific software/hardware tools. Partners identified several EAs for research infrastructure such as blueprints, expertise know-how, tools and services. However, these items are closer and fits better to the second category. On the other hand, based on the answers, the partners at the moment have no clear view what will be the exact items in relation to research infrastructure or they consider the entire research infrastructure as EA. Regarding the second category, services and tools are the items which are listed by every partner, therefore we can consider this category as the most common type of EA at the current phase of the program. Finally, experimental data as EA is identified only by a few partners, while it was also raised that experimental data is the property of experimenters, so practically providing support for the users can be the primary goal to let the experimenters share/exploit their data based on FAIR principles. Only one partner identified EA belonging to the fourth "other category", namely standardisation.

**Analysis of replies for Question 2:** Based on the answers given to this question, we can conclude that partners are intended to exploit their results in a direct way i.e., by themselves. Direct exploitation is the most common method for exploitation as partners producing the results are the owners and can capitalise the result the most efficient way. On the other hand, many partners identified the common exploitation as a method to be supported. This method of exploitation does not seem to be a mature way of exploitation as only few partners shared further details in relation to this method, such as doing the collective exploitation through universities, SLICES and ERIC.

**Analysis of replies for Question 3:** This particular question required more details from the partners therefore the conclusion is also more complex to be made. Most of the partners identified collaboration with industry and common research projects as one of the methods for exploitation. Exploitation within a consortium (e.g., in SLICES) seems to be a more straightforward way for the partners to share, promote and exploit the results produced in the area of their expertise. Research communities, universities and industry are the main identified targets by most of the partners. Finally, the open source tools and services were listed as EA by the partners which is in line with the answers given for the first question in this category.

**Analysis for replies for Question 4:** The identified dissemination channels utilised by the partners with preference are covering the most common forms of getting in contact with relevant people on their fields. These channels are covering primarily organised events such as conferences, workshops, meetups, (standardisation) working groups, open source summits, tutorials and exhibitions. These events can be national and international ones depending on the community to address. Tools such as webpages, leaflets, publications, emails are also mentioned as possible channel for exploitation.

**Analysis of replies for Question 5:** The answers for this question showed a wide range of research fields that can be covered by the SLICES consortium. The scientific fields identified by most of the partners are related to Cloud, Edge, Internet of Things, Cyber Physical Systems, Digital Twins, Network and Artificial Intelligence. In relation to these, Resource management, Orchestration, Measurements/Analytics, Federated Learning and Management are mentioned in the answers. The complete Compute Continuum is covered by the partners while other scientific fields such as health care, medical, video applications, meetings industry, agriculture, tourism, security, IoT, smart housing,





smart vehicles, transportation... and many more may benefit from the services related to the aforementioned scientific fields.

**Analysis of replies for Question 6:** Based on the answers for this question it seems there is some overlapping with the previous questions as some of the partners referred back to its answered given for the previous questions.

**Analysis of replies for Question 7:** The answers for the question on sources of revenues to support SLICES-RI developments showed a high degree of agreement among the partners. They identified the funding from EU/national collaborative projects as the main source for supporting the SLICES-RI developments. The answers did not cause any surprise as most of the partners are actively relying on the financial support of these national and international research projects these days as well. Some partners identified business income in the form of subscription fees from end-users or pay-per-use by industry, but this may be applied in rare cases.

**Analysis of replies for Question 8:** This question intended to collect the opinion of the partners related to potential business partners who can pay for the SLICES services. These services at the moment are free of charge therefore the feedback on this question shows that industry can be entities ready to pay, however this is not so simple and mostly value-added services/support are the ones for which it is worth requesting money from the industry sector. Some partners indicated large private groups/companies and SMEs mostly. Research centres are also mentioned by few partners.

**Analysis of replies for Question 9:** The answers to this question showed some potential exploitation of SLICES result in other research infrastructures. The RIs mentioned are Chameleon, PAWR, SoBigData, PRACE and RIs in Switzerland. Beyond mentioning some research infrastructure, some partners indicated that they are not planning this activity currently. Hopefully, these partners will find collaborator Research Infrastructure in the future to extend the previously mentioned list.

**Analysis of replies for Question 10:** The answers given for this question show some overlap with the previous question as the RIs and related projects are mentioned. Beyond strengthening the previous answer some more projects are also mentioned such as RESTART, SoBigData, PRACE and also 6G related projects such as 6G-life, 6G-ANNA. Some (4-5) partners have no potential RIs/project collaborators while others mentioned Swedish and Swiss RIs.

#### 5.4. Summary

In the following paragraphs, we intend to summarise the key points of the exploitation strategy and plan SLICES intend to follow. The strategy is based on and is in line with the exploitation plan developed in the SLICES-DS project.

Exploitation line	SLICES exploitation strategy and plan
Engagement of stakeholders	Partners of SLICES work both at the global level with Ministries, organisations and at the level of the nodes with the national infrastructures to mobilise the community and stakeholders.
Impact assessment	SLICES designs KPIs and works on the economic model with the Cost book focusing on the needs of industries for market-based access.
Governance and legal framework	Partners of SLICES works on establishing a legal framework with the MoU2 and Consortium Agreement of SLICES-PP and works on the design of the steps toward the SLICES legal entity as agreed, which will be an ERIC.





Exploitable assets	Partners of SLICES works on defining the exploitable assets developed by the individual partners as well as in cooperation within the project and program.
Exploitation method	SLICES designs the exploitation alternatives both on individual level and on project or program level.
Target communities	SLICES identified the target communities which are ready to take up the results developed and provided by the SLICES-RI.
Dissemination channels	SLICES identified the main dissemination channels which are needed to reach the target communities.
Short-term objectives	SLICES within the timeframe of SLICES aiming to set up the framework for long-term sustainability via demonstration of the SLICES value via engagement with diverse communities and via industrial and real-life demonstrators, community building via engagement, plus determine exploitation plans, partnerships and business plans to take the project's results forward.
Long-term objectives	SLICES establishes partnerships and business plans, releases open source code and maintenance of the community built within SLICES, including the potential commercialization of results and developments of semi commercial products and services where appropriate.







## 6. Initial communication and dissemination strategy

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### 6.1. Project branding

The development of the SLICES-PP brand was a significant step to creating a unified and easily recognisable visual identity for SLICES-PP. The SLICES-PP logo (Figure below) serves as a symbol under the SLICES family projects, which are under the umbrella of SLICES-RI. The different projects of the family will all have a similar and unique visual identity.



Figure 4: SLICES-PP logo

### 6.2. Website

The SLICES-PP website (<http://slices-pp.eu/>) is the primary platform for promoting and disseminating the project's objectives, activities and results to a wide audience. It will be used both as a communication and dissemination channel. Indeed, it will assist in raising public awareness and ensuring maximum visibility of the project vision, objectives, work plan, documents, infrastructure and dissemination materials, not only within the scientific community but also to a larger. The



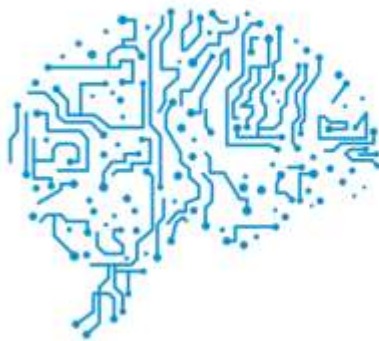


aesthetics and the design of the web-site follows the ones of the SLICES family projects and it is connected with SLICES-RI web-site.



Figure 5: SLICES-PP web site

## our vision



SLICES is a unique initiative in digital sciences. It aims at providing a large-scale scientific instrument to support the discovery process for the design of digital infrastructures. SLICES entered the ESFRI roadmap end of 2021, successfully transitioning from the design to the preparation phase. Most importantly, SLICES vibrant community is expanding, attracting a growing interest and support from the main stakeholders in research and industry. SLICES-PP ('Preparatory Phase') tackles all key questions concerning legal, financial and technical issues leading to the establishment of the new SLICES research infrastructure and ensuring commitment of Member States/Associated Countries to its long-term operation and use in all fields of science.

[learn more](#)

## our objectives



The overall objective of SLICES-PP is to tackle all key questions concerning legal, financial and technical issues leading to the establishment of the new SLICES research infrastructure and ensuring commitment of Member States/Associated Countries to its long-term operation and use in all fields of science.

[learn more](#)

Figure 6: SLICES-PP web page







Scientific Large-scale Infrastructure for Computing-Communication Experimental Studies - Preparatory Phase

Our Vision | Implementation | Dissemination | Library

## Our Workplan

- WP1 - Governance and legal framework**  
WP1 aims at achieving the Organisational Readiness.
- WP2 - Financial Framework**  
WP2 aims to deliver the SLICES-RI financial framework that covers all aspects of cost and incomes, including the design of a sustainable business model.
- WP3 - Scientific and technical strategy and specifications**  
WP3 is dedicated to taking all the appropriate courses of action for delivering the final proposed overall architecture of the RI.
- WP4 - Impact and relevance for science and society**
- WP5 - User needs, services, access and training strategy**
- WP6 - Operational framework**

Figure 7: SLICES-PP web-page : Workplan

Scientific Large-scale Infrastructure for Computing-Communication Experimental Studies - Preparatory Phase

Our Vision | Implementation | Dissemination | Library

## News

- SC Mobility Programme**  
Mobility of Researchers Programme: Application Procedures for Micro
- SLICES-RI jointly with PAWR organised TASIR workshop**
- Experiences deploying Aether framework - SLICES**

Figure 8: SLICES-PP web-site – news



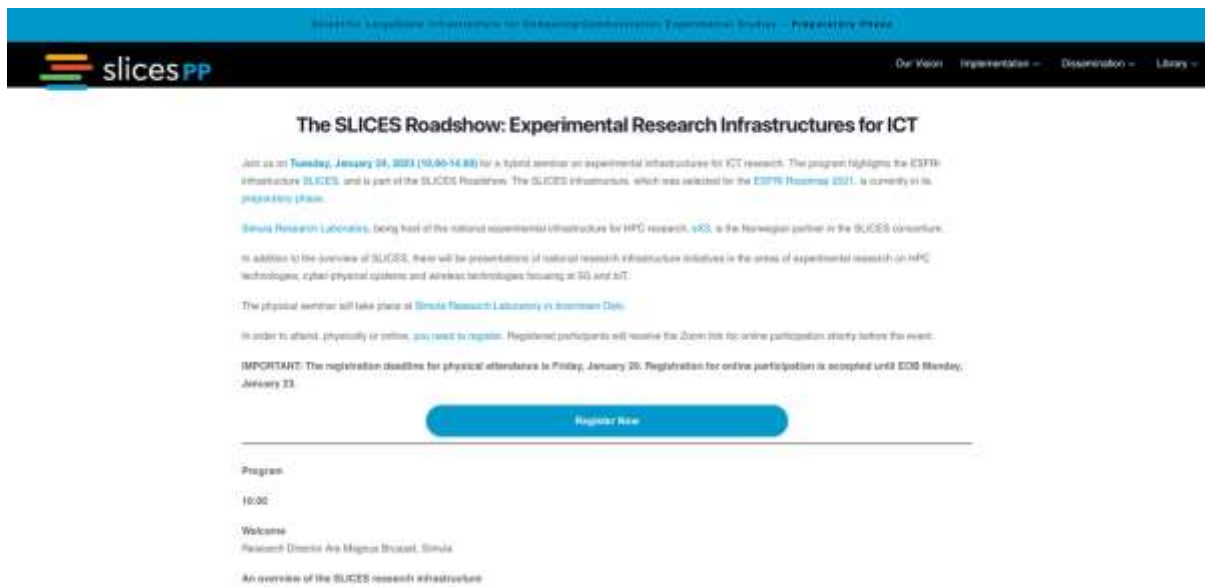


Figure 9: SLICES-PP web-site – SLICES-PP events

The website will be maintained throughout the SLICES-PP cycle until M40, and at least during the five years after the project end. It also linked to the SLICES-RI website. At the initial stage, the website provides static content and some news articles and events. Based on the progress of SLICES-PP, the website will be updated and enhanced accordingly.

### 6.2.1. Structure of SLICES-PP website

The first version of the website structure includes:

- Home page
- Our Vision
- Implementation
  - Objectives
  - Workplan
- Dissemination
  - News
  - Events
- Library
  - Deliverables
  - Publications
- Contact

Whereas the *Home* page provides an overview of the project and, naturally, functions as a link to the other sections of the website, the other sections dive deeper into the project. Additionally, it includes at the footer the list of partners and link to their web-page. The *Our Vision* section includes a page that describes the vision of SLICES-PP. The *Implementation* section includes a page on objectives and a page on the Workpackages. A short description for each Workpackage is included. In the *Dissemination* section, there a News page and Events page where all SLICES-PP events are listed and have a specific sub-page. Finally, in the *Library* section the public deliverables will be uploaded when approved from the European Commission and the publications will be prepared within SLICES-PP.





### 6.3. Social media

A multi-channel strategy allows to reach different target clusters on the different platforms. Social media is chosen for its strategic function, specific functionality and target audience. The choice of these channels relates to their nature as tools for public debate. The use of specific hashtags will support the dissemination of information towards influential people in the sector. The following channels will be used: Twitter, YouTube and LinkedIn.

Therefore, it is crucial to activate synergies between social media accounts of all project partners and the project channels. Each official social channel of SLICES has to be followed by all project partners, posts may contain specific mentions/hashtags consistent with the project objectives.

To create continuity and recognisability on the different dissemination platforms, the aesthetic identity of the social channels has to be in continuity with the brand identity of the website. All channels have to contain the official logo and make a clear reference to the home page of the site by means of a button.

The main objective of SLICES's social media presence is to disseminate, inform and engage people interested in the proposed topics. The social media pages will mainly be used to drive traffic to the website, where in-depth content will be provided in the blog pages.

#### 6.3.1. LinkedIn

Due to its purely professional nature, it makes it easy to reach specific job niches and professions, through the search and use of thematic and sectorial hashtags. Content here can have a longer textual form compared to the limits imposed by the previous channels analysed, supported by the platform's native function called articles. LinkedIn attaches a lot of importance to the relational sphere in the dissemination of content, another central aspect that will help to achieve the set objectives.

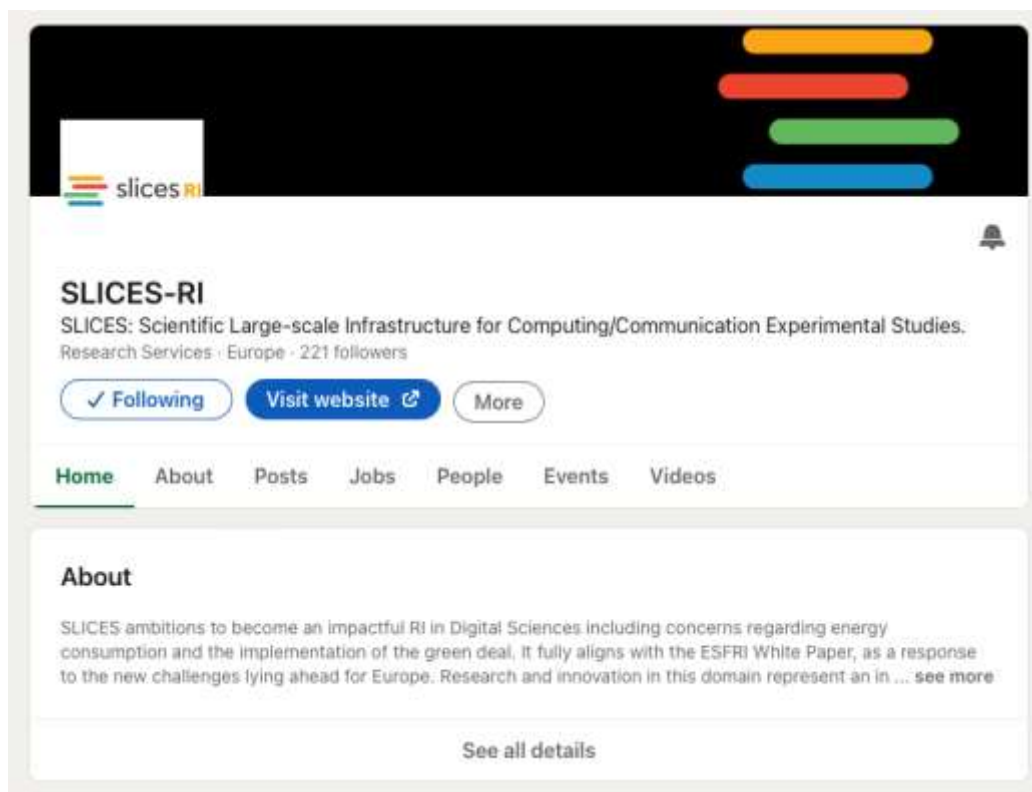


Figure 10: SLICES linkedin





Each project partner should follow the LinkedIn page of SLICES and vice versa, thus widening the circles for dissemination. These internal connections via @mention allow for targeted sectoral dissemination, giving authority and recognition to those who encounter the project page for the first time.

Instead, by using the hashtag #HorizonEU and #ESFRI the published content will flow into the stream of posts related to the Horizon Europe programme and ESFRI and will be suggested to interested users.

Each project partner will be able to republish the contents of the LinkedIn page, mentioning the page, inserting the official hashtag #SLICES-RI and pointing at the possibility of further investigation on the official website.

### 6.3.2. Twitter

The choice of Twitter is inherent in the dissemination strategy because among the various social networks, Twitter gives prevalence to the written and concise word in a few characters, allowing potential direct interaction with profiles, through mentions.

Information flows are then better organised, thanks to the generalised use of hashtags, which allow the potential interception of new audiences.

Twitter is then characterised as one of the social networks adopted by 'insiders' and opinion leaders in various sectors. This seems to respond very well to the needs of SLICES, which at a strategic level aims at engaging precisely that type of audience that works with information, knowledge and news.



Figure 11: SLICES Twitter account





The choice of this channel relates to its nature as a tool for public debate, revolving around certain themes and topics, through specific hashtags, favouring the dissemination of information to influential people in each sector.

The posts, or rather tweets will take the form of short messages containing data, official information or links to the project website and partners.

The official hashtag of the page is #SlicesRI, which will be included in every content posted, and accompanied by thematic and sectoral hashtags in line with the context and topic of the post. This will allow the audience browsing by hashtags to receive targeted updates on specific areas of interest, appropriately spelled out.

Each post will therefore include specific hashtags related to the keywords or topics of the project.

In addition, each of the partners involved in the project will follow the SLICES account and vice versa, thus building a network of relations; finally, by tagging and retweeting the posts reciprocally, it will be possible to disseminate the content in a widespread and institutional way.

#### 6.4. YouTube Channel

The YouTube Channel, due to its nature, prefers dissemination through video content, uploaded to the channel complete with caption, references and in-depth links to the project website.

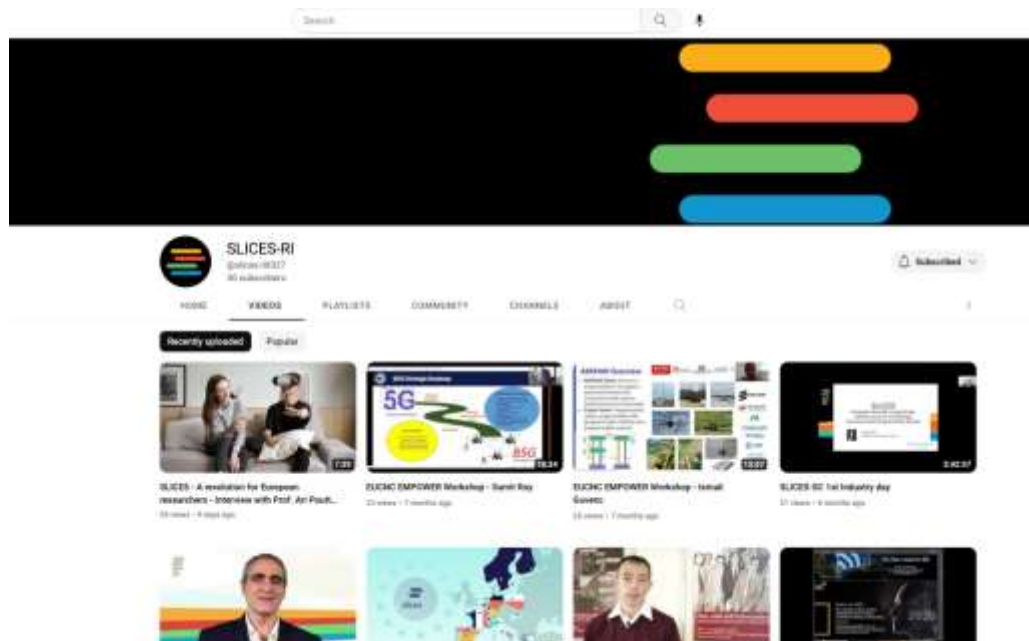


Figure 12: SLICES YouTube Channel

Recordings of conferences and any other relevant event are published in a timely manner, the description includes appropriate tags and links to relevant material and always to the project website.

YouTube is used to publish videos that explain certain aspects of the project, however given the “trending” logic behind videos and accounts visibility on YouTube it is reasonable to envisage the use of this platform as a repository.





## 6.5. Communication tools – promotional material

The roll-up / posters will be printed and exposed in suitable events. The roll-up provides a summary of SLICES-PP as for its main output, the project motivation and the key objectives. In addition, it is available in digital format and distributed as such.

The current versions of the roll-up / poster are the following:



Figure 13: SLICE-PP poster / roll-up







slicesPP

Scientific Large-scale Infrastructure for Computing-Communication Experimental Studies  
Preparatory Phase



Scientific Large-scale  
Infrastructure for  
Computing Communication  
Experimental Studies  
Preparatory Phase



[www.slices-pp.eu](http://www.slices-pp.eu)

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement No 01079774



Scientific Large-scale  
Infrastructure for  
Computing Communication  
Experimental Studies  
Preparatory Phase



[www.slices-pp.eu](http://www.slices-pp.eu)

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement No 01079774



Figure 14: SLICES-PP poster/roll-up

Brochures/flyers will be small booklets that will be made in line with the SLICES-PP visual identity. They will provide general information about SLICES-PP, including issues it aims to address and solutions it offers. In addition, they aim to provide information to target groups participating in offline events (meetings, workshops, conferences).





## 7. Initial international cooperation and outreach strategy

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### 7.1. International cooperation and outreach strategy

The starting international cooperation and outreach strategy is crucial to secure the necessary funding and ensure the sustainability of SLICES-PP for the next phases of ESFRI lifecycle with the help of various international authorities, agencies, and institutions.

This task will leverage the outputs generated by the project to promote SLICES at the international level, including the participation in international events where the presence of SLICES is relevant, as well as bilateral consultations with similar research infrastructures in other regions of the world. The organization of international events will be undertaken in this task, including events in the UN, US, Japan and LATAM countries.

The primary objective is to identify the best modalities of reach, interaction, and communication with each group of relevant international stakeholders for more effective promotion of SLICES-PP's outcomes to maximize its scientific and socio-economic impact. This will be supported by a spectrum of actions that includes:

- The establishment and management of liaisons and synergies with relevant initiatives, both on local/national and **pan-European levels**, leveraging on existing communities.
- The participation to **international events and organization of international evince**. SLICES-PP will define and implement a strategy for the multidisciplinary user community engagement considering the needs and priorities of the various stakeholders. The task will build on the strong existing networks of SLICES-PP partners. Exhibitions and participation in specialized events, forums, and platforms, in which a number of the project's consortium are prominent members of, will guarantee wide dissemination of the results in EUs scientific and innovative business scenes.
- Among those events, the Key Performance Indicators for dissemination and communication (KPIs) suggest the consortium will organize and/or participate in at least 3 workshops, 3 presentations, 6 external events throughout SLICES-PP's duration, where interested stakeholders can go and learn about SLICES-PP concepts and how to implement them.
- The support the activities of identification, monitoring and the establishment of the liaisons with initiatives aligned in the spirit and main objectives of SLICES-PP, as defined in the different WPs.
- The support of the consultation of experts on specific interest topics / R&D priorities in a multidisciplinary perspective via dedicated consultation activities that will partly run remotely – Delphi studies, online questionnaires, webinars – and partly complemented by dedicated face-to-face participatory and highly interactive workshops of a rather small size. This shall help engage experts from different domains that can also contribute to attract and gather newcomers and grow the size and the overall impact of the SLICES-PP.

A table summarizing all the upcoming relevant international events can be found under section 7.2.

### 7.2. Organisation of thirty-party events – International activities

As mentioned before, international events are key to raise awareness and engage the research community. Here is a non-exhaustive list of relevant events in regards to SLICES-PP (organised or planned to be organised in the near future):





Name	Date	Location	Link
COMSNET	3-8 January 2023	Hybrid, India	<a href="#">Link</a>
ITU World Summit (WSIS)	13-17 March 2023	Geneva, Switzerland	<a href="#">Link</a>
EUCNC 6GS	6-9 June 2023	Gothenburg, Sweden	<a href="#">Link</a>
IoT Week	19-21 June 2023	Berlin, Germany	<a href="#">Link</a>
SLICES Summer School	13-15 June 2023	Oulu, Finland	Under preparation
CEATEC	October 2023	Japan	<a href="#">Link</a>
Digital Around the World	October 2023	Virtual	Under preparation
Supercomputing (SC23)	12-17 November 2023	Denver, Colorado, United States	<a href="#">Link</a>
Globecom	3-8 December 2023	Brazil, Rio	<a href="#">Link</a>

Table 4: 2023 events to be considered

This list will be consequently updated with precise event dates for 2024 and 2025.

### 7.3 SLICES-PP outreach and engagement activities: TheNetworkingChannel

SLICES community building and awareness will also be expanded through the uptake of the support of the operation of theNetworkingChannel (<https://networkingchannel.eu>). This channel was originally set up by the EU Empower CSA dedicated to the collaboration between EU and US in future advanced wireless platforms, as an answer to the Covid crisis preventing physical meetings. This initiative has been proved a very successful channel that is sustained, with the support of all stakeholders, by having the SLICES community now in charge (as EMPOWER terminated in April 2022). Lessons learnt from its two years of operation, shows that TheNetworkingChannel is working as a fantastic venue for the collaboration between EU and USA. In the last years, characterized by the explosion of virtual events, TheNetworkingChannel has succeed on attracting the networking community thanks to its top-quality talks and speakers. The top watched event has exceeded 1,000 post-event views on the [YouTube channel](#). TheNetworkingChannel continues its operation with new events under the SLICES umbrella together with the NSF [PAWR](#) Office, and in cooperation with [ACMSigcomm](#), facilitating the community building, sustaining the international community that counts more than 6.000 people and helping to disseminate SLICES' results.





Figure 15: TheNetworkingChannel

TheNetworkingChannel is organized as a regular event, taking place **every other Wednesday, at 8am PST (11am EST, 5pm CET, 1am JST)**, where a diversity of events is organized for the community, live and pre-recorded. Topics are broad and open ranging from research to experimentation and education. The channel consists of webinars, panels, tutorials, virtual site visits, keynotes, and any other innovative forms of community interaction. As previously stated, a dedicated YouTube channel used for the recordings of the events (<https://www.youtube.com/channel/UCAtFAG5JdQrHac6AriWJ-hw>, (see figure below) is available where previous streams can be downloaded and viewed asynchronously. **There are currently more than 554 subscribers in the YouTube Channel and the recordings of the events have been viewed hundred times. There more than 10000 replays of the recordings in total; 1400 replays of episode 11; 981 replays of episode 4; 961 replays of episode 1; 690 replays of episode 29.**

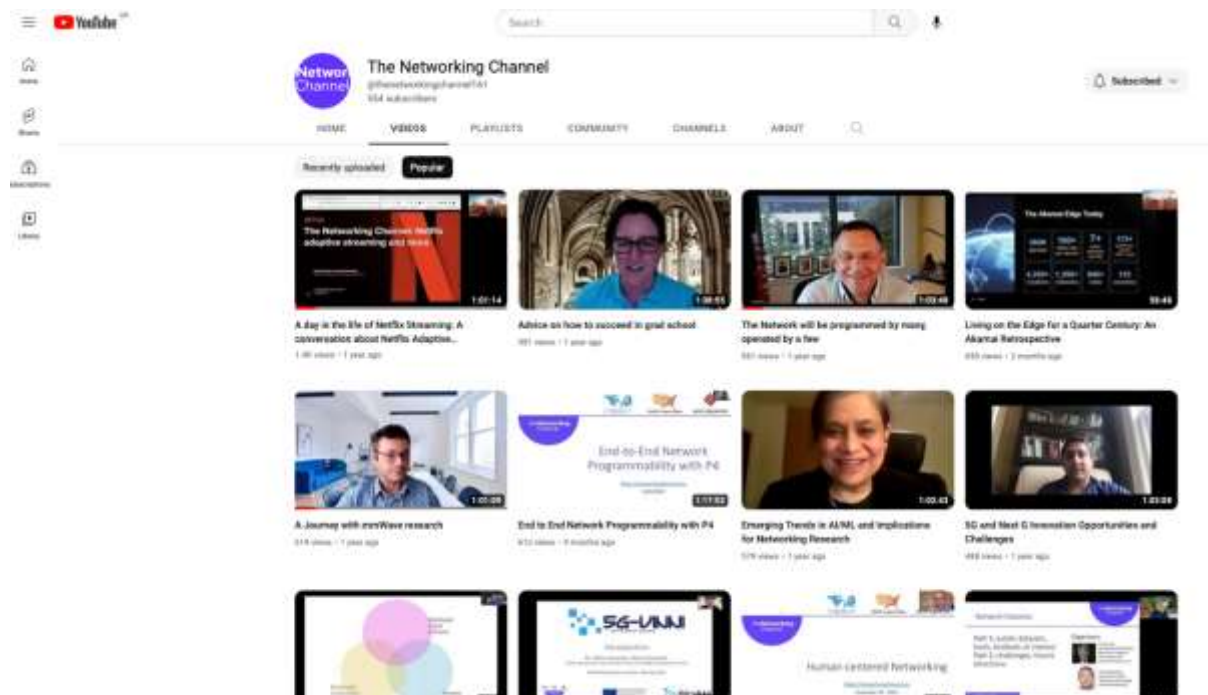


Figure 16: TheNetworkingChannel YouTube Channel





### 7.4 Standardization strategy

The strategy on standardization for the SLICES-PP project is based on the principle of the three Ws questions which are the following ones:

- **WHAT** topic has the potential to be submitted to standardization?
- **WHERE** (which SDOs and fora) will be most relevant and deliver the best impact?
- **WHO** can lead and support the standardization effort in the project?

Contrary to the previous SLICES projects, namely SLICES-DS and SLICES-SC, all the partners associated to the SLICES Research Infrastructure are present in SLICES-PP. This means that potential new contributors for the standardization activities can be directly involved through SLICES-PP. Then, a specific questionnaire was created for SLICES-PP and distributed to all the SLICES-PP partners. This survey permitted to collect all the information required to build the standardization strategy for SLICES-PP, such as the potential assets to be standardized during the project. The survey on standardization is available at the end of this document as an annex.

The questionnaire is composed by two main parts:

- **Part A:** The related questions collect the perspective of each partner in terms of expected results to be exploited, notably through the standardization process. This part encompasses some elements of the value proposition of SLICES-PP outcomes.
- **Part B:** The standardization activities already undertaken by the different project partners are collected, including the membership or the participation of the partners to the Standards Developing Organizations (SDOs) and related fora or alliances. The questions of this part allow knowing the interests of each partner in standardization activities, notably the joint contributions dedicated to the standardization and the contact persons in charge of standardization activities inside each organization.

The questionnaire is listing the expected results to be standardized, but as the SLICES-PP project is currently in an early stage, not all the possible outcomes to be standardized are mentioned: new assets to be standardized can appear during the remaining periods of the project, notably depending on the technical advancements made in the different WPs.

The following table provides a synthesized standardization strategy for SLICES-PP:

WHAT	WHO		WHERE	
Asset	Contributor	Lead SDO facilitator	SDO	Working Group/Study Group
Open access to research infrastructure, Testbed as a Service	CINI	CINI	OpenInfra/ OpenStack Foundation	Edge/Fog computing – Compute Continuum
Testbed federation, architectures, Testbed as a Service, Open APIs	MI	MI	ITU-T	SG11 and FG-TBFxG
Architectures, testbed/network connection, interoperability	MI, IoT Lab	MI	ETSI	TC INT and ISG IPE

Table 5: Standardization strategy





The sub-sections below will further detail the various aspects of the standardization strategy.

#### 7.4.1 Methodology and KPIs

Several Key Performance Indicators (KPIs) were defined to monitor the progress of the different standardization activities during the full duration of the SLICES-PP project.

Key performance indicator	Target
Number of contributions to SDOs	10
Percentage of joint contributions	50%

Table 6: Standardization Key Performance Indicators

The contributions to the SDOs encompass not only new draft recommendations or updated contributions, but also presentations, participations to events organized by the SDOs.

#### 7.4.2 SLICES-PP potential for standardization

This sub-section presents the results of the survey concerning the assets and topics to be standardized in the context of SLICES-PP.

##### 7.4.2.1 Topics to be considered (What)

The topics suggested by the project partners are:

- Open-source technology enablers and software components allowing the open access to research infrastructure for experimenters, both research institutions and industries;
- Testbed as a Service;
- Use cases;
- Experimental infrastructure design;
- One stop shop platform for ICT systems research;
- Reproducible experiment platform;
- Network experiment metadata models;
- User identity management;
- Data sharing.

The following topics have been also mentioned, but they are already handled by the SLICES-SC standardization activities:

- Testbed federation;
- Testbed, infrastructure and experiment monitoring;
- Open APIs;
- Architectures;
- Network interconnectivity between testbeds, nodes or facilities;
- Experiment setup;
- End-to-end integration protocols for architectures.

In case of a partner is already working on an above-mentioned topic in the context of the SLICES-SC standardization activities, this partner will not report this work in SLICES-PP, but in SLICES-SC. So, it will avoid to report twice the same contributions in the two projects by the same partner. Of course,





it is also possible to realize joint contributions between SLICES-PP and SLICES-SC. For example, if a partner of SLICES-PP, who is not present in SLICES-SC, would like to participate to a contribution already undertaken in the context of SLICES-SC, this partner is of course welcome.

### 7.4.2.2 SDOs to be considered (Where)

The proposed Standards Developing Organizations (SDOs) where to put the efforts for the standardization activities are listed below:

- ITU-T SG11 “Signalling requirements, protocols, test specifications and combating counterfeit products”: <https://www.itu.int/en/ITU-T/studygroups/2022-2024/11/Pages/default.aspx>;
- ITU-T Focus Group on Testbeds Federations for IMT-2020 and beyond (FG-TBFxG): <https://www.itu.int/en/ITU-T/focusgroups/tbfxg/Pages/default.aspx>;
- ETSI TC INT (Technical Committee Core Network and Interoperability Testing): <https://www.etsi.org/committee/int>;
- ETSI ISG IPE (Industry Specification Group on IPv6 Enhanced Innovation): <https://www.etsi.org/committee/1424-ipe>;
- ISO (International Organization for Standardization): <https://www.iso.org/home.html>;
- IETF (Internet Engineering Task Force): <https://www.ietf.org/>;
- IDSA (International Data Spaces Association): <https://internationaldataspaces.org/>;
- OpenInfra Foundation: <https://openinfra.dev/>;
- IEEE, in particular IEEE 1588 which is an IEEE standard for a precision clock synchronization protocol for networked measurement and control systems: <https://standards.ieee.org/ieee/1588/4355/>;
- RDA (Research Data Alliance): <https://www.rd-alliance.org/>;
- 3GPP (3rd Generation Partnership Project): <https://www.3gpp.org/>;
- W3C (World Wide Web Consortium): <https://www.w3.org/>.

### 7.4.2.3 Lead partners (Who)

Partner	SDO	Working Group/Study Group	Topic	Relevance	Status
CINI	OpenInfra/ OpenStack Foundation	Edge Computing (Working) Group	Edge/Fog computing – Compute Continuum	High	In progress
MI	ITU-T	SG11	Signalling requirements, protocols, test specifications and combating counterfeit products	High	
MI	ITU-T	Focus Group on Testbeds Federations for	Testbeds federations, integration and	High	It is intended to extend the duration of the





MI	ETSI	IMT-2020 and beyond (FG-TBFXG)	interoperability of testbeds, Open APIs		FG to 1 year more.
		TC INT	Technical Committee (TC) Core Network and Interoperability Testing (INT)	High	In collaboration with FG-TBFXG
MI	ETSI	ISG IPE	Industry Specification Group (ISG) on IPv6 Enhanced innovation (IPE)	High	In collaboration with the IPv6 Forum and IoT Lab

Table 7: SLICES-PP partners' standardization activities

Partner name	SDO	Focal point
Mandat International	ITU-T, ETSI	Cédric Crettaz
CINI	OpenInfra	Giovanni Merlino
KTH	IEEE, 3GPP	György Dán
UCLAN	IEEE	Panayiotis Andreou

Table 8: Standardization lead partners





## 8 Conclusion

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Deliverable 8.1 presented an overview of the SLICES-PP Communication, dissemination, outreach, and exploitation Plan, including target groups, dissemination channels and tools, key communication messages and events.

This document should be seen as the reference document for all WP8 activities that will support the promotion of the project's activities, achievements, and benefits. The present deliverable will also act as a guide for all Consortium members in order to perform their communication activities. This plan clearly outlines the reasoning behind the strategy and details the specific actions, tools, and roles that will be used to effectively communicate the project to relevant parties and stakeholders.

These activities, that SLICES-PP partners will pursue, will contribute to guarantee broad visibility, promotion, and up-take of SLICES-RI.

This is a living document to accommodate any customization required. The outreach planning will thus be constantly evaluated and revised in the course of the project duration.





## Annex I: Survey

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### Introduction

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Dear partners, in order to pave the way to a successful standardization and exploitation plan of the SLICES-PP results, we need your inputs. We are aware that as a research project, not all results are identified yet, but we would like to get from each partner a clear description of your expected standardization plans out of the project. The results of this survey will be used to analyze and report on the standardization strategy. The form has to be sent to: [ccretaz@mandint.org](mailto:ccretaz@mandint.org)

**Partner name:**

**Person of contact name:**

**Person of contact email:**

**Person of contact phone number:**

### Part A – Partner perspective

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**1. Please define which exploitable results your organization is planning to get from SLICES-PP? (Please fill in multiple categories if applicable and provide a clear description)**

- Open-source technology enablers:
- Proprietary technology enablers:
- Products:
- Online services:
- Consulting service and/or technology transfer:
- Other (please specify):

**2. What is, according to you, the value proposition of what we are developing in SLICES-PP?**

### Part B – Partner’s Standardization Activities

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**1. Please indicate any standardization activities that your organization is involved in (organization and working group/study group):**

Organization	Working Group / Study Group	Topic	Relevance to SLICES-PP (High – Low)	Status

**2. What standardization process should the project focus on?**





3. What are the key elements (standardizable assets, research outputs, knowledge) that the project should push to standardization?

- ...
- ...
- ...

4. What are the target Standards Developing Organizations (SDOs) that SLICES-PP should focus on? (Please be as detailed as possible: name of organization and if possible, working group, question/subcommittee. This will help us build the standardization plan)

- ...
- ...
- ...

5. Are you a member of a Standards Developing Organization? Please specify.

6. Are you interested in making a joint contribution to standardization with another SLICES-PP partner?

7. If you are not a member of a Standards Developing Organization, would you be interested to collaborate with a partner who already has a membership and make a joint contribution?

8. Please fill in the following table with the relevant standardization information about your organization. Please identify a focal point in your organization that we can contact to follow up with and update on the standardization activities.

Partner	Name of lead(s)	E-mail(s)	Ready to lead new (yes/no)	Ready to collaborate (yes/no)	SDO(s)	Existing work items

9. Other remarks





## ANNEX II: Exploitation questionnaire in SLICES-PP

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Exploitation strategy is needed to be produced in SLICES-PP project in D8.1 deliverable (M6). The following questionnaire has been compiled to discover the exploitable items and plans of the individual partners. We would kindly ask you to answer the following questions on behalf of your institute:

### *Individual exploitation results exploitation strategy*

1. What are the exploitable results you plan to generate in the context of SLICES-PP? Please, introduce them shortly under the following categories:
  - Research infrastructure
  - Scientific software/hardware tools
  - Experimental data
  - Other
2. How do you plan to exploit them?
  - Directly by yourself
  - Collectively, through the SLICES research infrastructure and the ERIC
  - Through third parties
3. What is your exploitation plan for the items/categories listed in the previous question?
4. What are your preferred exploitation channels (f2f visits, forums, conferences, etc.)? [see comment]

### *SLICES-RI exploitation strategy*

1. What are the main fields of research that could benefit from SLICES-RI?
2. How do you plan to exploit SLICES research infrastructure in the future?
3. What sources of revenues could be used to support SLICES-RI development?
4. Who could be ready to pay for the use of SLICES related services?
5. Would you like to exploit SLICES results in other Research Infrastructures? If yes, where?
6. Do you expect to create within your organisation synergies/collaborations between SLICES RI and other RIs/projects? If yes, with which RIs/projects?

Please, return your answer by 20<sup>th</sup> of January. Thank you in advance.

Contact person (name, affiliation):

