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SNS OPS – Supporting the SNS JU Operations

D3.1: Year 1 Report on Programme Governance and operation

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Abstract

This deliverable summarises the activities that were undertaken by SNS OPS in the first period, from January 2023 – January 2024 (13 months), to enable the governance and operation of the SNS-Initiative community. It focuses primarily on actions related to inter-project collaborations on programme governance level.

The deliverable first reports on the effectiveness of the implementation of the collaboration agreement among the SNS JU projects.

The deliverable then summarises the work of the SNS-I Steering Board (SB) and Technology Board (TB) in the period.

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Executive Summary

This deliverable provides a summary of the activities of SNS OPS from January 2023 to end of January 2024 to support and organise the programme governance of the SNS-Initiative and its operation. This comprised three major activities:

- Adoption of a commonly acceptable Collaboration Agreement (CoA), and organising the accession of SNS beneficiaries to it
- Supporting the SNS-Initiative Steering Board (SB)
- Supporting the SNS-Initiative Technology Board (TB)

Regarding the **SNS JU Collaboration Agreement**, SNS OPS has supported the adoption of a commonly acceptable Collaboration Agreement (CoA) that has been prepared under the lead of the 6G-IA, and once approved has disseminated it to get it signed by all the active participants of the Smart Networks and Services Joint Undertaking (SNS JU). The CoA was based on the earlier 5G PPP version. However, it was significantly upgraded, to adapt it to the Model Grant Agreement of Horizon Europe (instead of H2020), and to clarify the benefits and obligation of all signatories to the collaborative bodies of the SNS JU. The SNS JU CoA was implemented on the basis of the optional Articles 3 & 7 in the SNS Project Grant Agreements, formally linking the projects and installing the requirement that the participants of projects needed to be party to a program level collaboration agreement. The projects understood and accept this requirement and the project leaders were proactive in securing the signatures from their project participants.

The SNS JU CoA has been concluded between 279 parties by the end of 2023. The rate of accession shows that the majority of call 1 participants were signed up in Q2 2023, and by August 2023 only a few signatures were missing. The final 2 signatures were obtained in November 2023. During that process, SNS OPS offered support in terms of answering any questions on process, having meetings with individual organisations where explanations of the agreement were requested, and checking each signed form for correctness and completeness.

During 2023, the European Commission has re-interpreted some key definitions which may have an impact on the construction of the SNS JU CoA. Specifically, they have adopted a new definition of "linked" projects which means it may no longer be appropriate to use Articles 3 & 7 as the basis of the obligation on project participants to be party to a programme level collaboration agreement. This change will require an amendment to the CoA. SNS OPS is now supporting the consideration of exactly what format this amendment should take.

Regarding the support of the **SNS-Initiative Steering Board** (**SB**), SNS OPS has coordinated and supported the setup of the SB and its activities in the period.

The setup of the SB has been started at the beginning of 2023, and successfully completed with the organisation of the SB inauguration meeting on 05/09/23. As part of the setup, all 35 projects of SNS Call 1 have been contacted at the beginning of 2023 and solicited to provide the details of who their representatives in the various SNS-I bodies will be. With that information, several distinct mailing lists have been setup. As the actual establishment and inauguration of the SB and TB required a critical mass of projects having signed the SNS Collaboration Agreement, two initial and informal telcos have been organised with the project coordinators in the first half of 2023. The Comms Group instead – not having to wait for projects having signed the SNS Collaboration Agreement – commenced its activity already in February 2023. In parallel, preparations for providing a suitable document repository have started with installing a BSCW v7 server.

With the progress of project participants in signing the Collaboration Agreement, the preparations for an SB inauguration meeting have been started in June 2023, and this meeting has been held in Athens on 05/09/23. SNS OPS has also prepared the proposal for the process of electing the SB Chair and Vice Chair and has organised the respective elections in which Mikael Fallgren has been elected as SB Chair and Tasos Gavras as SB Vice-Chair.

In 2023, i.e. from September to December 2023, in total three meetings of the SB have been organised by SNS OPS, two were physical Face to Face meetings (one of which was the kickoff meeting) and one was by web-conference. The main purpose of the kickoff meeting was to introduce the projects to the

SB activities and their potential (expected) contribution to the joint activities in the SNS JU. In the SB web conference that was organised next the focus was on giving brief updates, sharing news and discussing the necessary coordination and joint actions. At the next and final meeting in 2023 the SB has discussed in detail the projects' participation in the joint activities, most notably in Working Groups but also in potentially joint events e.g. for EuCNC'24. All the agendas, minutes and other supporting documents of the SNS-I SB meetings are stored in the SNS JU BSCW document repository where they can be accessed by all beneficiaries of the SNS-Initiative.

Regarding the support of the **SNS-Initiative Technology Board** (**TB**), SNS OPS has coordinated and supported the setup of the TB and its activities in the period.

The setup of the TB and the preparations for its inauguration meeting have been organised by SNS OPS mostly in parallel to those of the SB, leaving however some precedence time-wise to the SB as the main organisational and decision-making body of the SNS-I.

SNS-OPS provides support to the activities of the TB by providing secretarial support, supporting the organisation of meetings, taking minutes, providing an email exploder list to distribute communications to all members and an BSCW platform repository to store relevant documents, and providing a web conference meeting tool.

The inaugural TB meeting has been organised with the SNS projects technical managers on 22/09/23 as an online meeting which was mainly to discuss the ways of working. SNS OPS has also prepared the proposal for the process of electing a TB Chair / Vice Chair and has organised the respective elections in which Kostas Trichias has been elected as TB Chair.

In the period that this Deliverable covers (January 2023 – January 2024), four TB Telco meetings were held in total. Since it was the set-up phase of the TB, the major focus of the meetings was on setting up the TB meeting series, electing the TB chair, agreeing on the TB ToR and discussing and agreeing on the TB work plan and its work items. A concrete outcome of the first TB activities has been the decision to setup a Task Force (TF) addressing Sustainability aspects in the SNS project activities. All the agendas, minutes and other supporting documents of the SNS-I TB meetings are stored in the SNS JU BSCW document repository where they can be accessed by all beneficiaries of the SNS-Initiative.

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Abbreviations

| 5G 5th Generation Wireless Systems 6G 6th Generation Wireless Systems 5G PPP 5G Public Private Partnership 5GAA 5G Automotive Association 5G-ACIA 5G Alliance for Connected Industries and Automation BSCW Basic Support for Cooperative Work CA Consortium Agreement CoA Collaboration Agreement CEF Connecting Europe Facility CEPT European Conference of Postal and Telecommunications Administrations CSA Coordination and Support Action EC European Commission ETSI European Telecommunication Standards Institute EUCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS-JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | 3GPP | Third Congration Portnership Project |
|--|---------|--|
| 6G 6th Generation Wireless Systems 5G PPP 5G Public Private Partnership 5GAA 5G Automotive Association 5G-ACIA 5G Alliance for Connected Industries and Automation BSCW Basic Support for Cooperative Work CA Consortium Agreement COA Collaboration Agreement CEF Connecting Europe Facility CEPT European Conference of Postal and Telecommunications Administrations CSA Coordination and Support Action EC European Commission ETSI European Telecommunication Standards Institute EUCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS-JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | | Third Generation Partnership Project |
| 5G PPP 5G Public Private Partnership 5GAA 5G Automotive Association 5G-ACIA 5G Alliance for Connected Industries and Automation BSCW Basic Support for Cooperative Work CA Consortium Agreement CoA Collaboration Agreement CEF Connecting Europe Facility CEPT European Conference of Postal and Telecommunications Administrations CSA Coordination and Support Action EC European Commission ETSI European Telecommunication Standards Institute EuCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS-JU Smart Networks and Services Joint Undertaking SNS-I SNS-Inititative TB Tech | | |
| 5GAA 5G Automotive Association 5G-ACIA 5G Alliance for Connected Industries and Automation BSCW Basic Support for Cooperative Work CA Consortium Agreement CoA Collaboration Agreement CEF Connecting Europe Facility CEPT European Conference of Postal and Telecommunications Administrations CSA Coordination and Support Action EC European Commission ETSI European Telecommunication Standards Institute EuCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS-JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | | • |
| BSCW Basic Support for Cooperative Work CA Consortium Agreement CoA Collaboration Agreement CEF Connecting Europe Facility CEPT European Conference of Postal and Telecommunications Administrations CSA Coordination and Support Action EC European Commission ETSI European Telecommunication Standards Institute EuCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS-JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | 5G PPP | 5G Public Private Partnership |
| BSCW Basic Support for Cooperative Work CA Consortium Agreement CoA Collaboration Agreement CEF Connecting Europe Facility CEPT European Conference of Postal and Telecommunications Administrations CSA Coordination and Support Action EC European Commission ETSI European Telecommunication Standards Institute EuCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | 5GAA | 5G Automotive Association |
| CA Consortium Agreement CoA Collaboration Agreement CEF Connecting Europe Facility CEPT European Conference of Postal and Telecommunications Administrations CSA Coordination and Support Action EC European Commission ETSI European Telecommunication Standards Institute EuCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | 5G-ACIA | 5G Alliance for Connected Industries and Automation |
| CoA Collaboration Agreement CEF Connecting Europe Facility CEPT European Conference of Postal and Telecommunications Administrations CSA Coordination and Support Action EC European Commission ETSI European Telecommunication Standards Institute EuCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS-JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | BSCW | Basic Support for Cooperative Work |
| CEF Connecting Europe Facility CEPT European Conference of Postal and Telecommunications Administrations CSA Coordination and Support Action EC European Commission ETSI European Telecommunication Standards Institute EuCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS-JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | CA | Consortium Agreement |
| CEPT European Conference of Postal and Telecommunications Administrations CSA Coordination and Support Action EC European Commission ETSI European Telecommunication Standards Institute EuCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | CoA | Collaboration Agreement |
| CSA Coordination and Support Action EC European Commission ETSI European Telecommunication Standards Institute EuCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | CEF | Connecting Europe Facility |
| EC European Commission ETSI European Telecommunication Standards Institute EuCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | СЕРТ | European Conference of Postal and Telecommunications Administrations |
| ETSI European Telecommunication Standards Institute EuCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | CSA | Coordination and Support Action |
| EuCNC European Conference on Networks and Communications G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS-JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | EC | European Commission |
| G5GE Global 5G Event GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | ETSI | European Telecommunication Standards Institute |
| GB Governing Board H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | EuCNC | European Conference on Networks and Communications |
| H2020 Horizon 2020 HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | G5GE | Global 5G Event |
| HE Horizon Europe KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | GB | Governing Board |
| KPI Key Performance Indicator MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | H2020 | Horizon 2020 |
| MWC Mobile World Congress PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | HE | Horizon Europe |
| PCG 3GPP Project Coordination Group PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | KPI | Key Performance Indicator |
| PIC Participant Identification Code PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | MWC | Mobile World Congress |
| PSM Pre-Structuring Model SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | PCG | 3GPP Project Coordination Group |
| SB Steering Board SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | PIC | Participant Identification Code |
| SNS JU Smart Networks and Services Joint Undertaking SNS-I SNS-Initiative TB Technology Board | PSM | Pre-Structuring Model |
| SNS-I SNS-Initiative TB Technology Board | SB | Steering Board |
| TB Technology Board | SNS JU | Smart Networks and Services Joint Undertaking |
| | SNS-I | SNS-Initiative |
| TMV WG Test, Measurement and KPIs Validation Working Group | ТВ | Technology Board |
| 21.2 * * * O | TMV WG | Test, Measurement and KPIs Validation Working Group |
| ToR Terms of Reference | ToR | Terms of Reference |
| WoW Ways of Working | WoW | Ways of Working |
| WGs Working Groups | WGs | Working Groups |

1 Introduction

The mandate of the SNS OPS support action is to support and facilitate the operational activities of the European SNS Initiative. This means that the prime objective of the coordination and support work is to facilitate the activities of the European SNS Initiative as outlined in the SNS JU partnership contract.

One major element of this work is to support the activities of the main SNS initiative bodies, i.e. the Steering and Technology Boards, facilitating and ensuring efficient collaboration among the SNS projects. In addition, SNS OPS is tasked to establish an agreement among SNS JU projects on their collaboration within the programme, i.e. the SNS Collaboration Agreement, and support implementation of the collaboration processes in practice.

This deliverable provides a summary of the activities of SNS OPS to support and organise these activities.

Structure of the document

Section 2 explains the work done getting the participants in all projects to join the SNS JU programme level Collaboration Agreement.

Section 3 indicates the achievements of the SNS-Initiative (SNS-I) Steering Board through a description of the setup of the SB, complemented by short summaries of the meeting minutes. The full minutes are available in the SNS-JU repository as required.

Section 4 indicates the achievements of the SNS-Initiative (SNS-I) Technology Board through a description of the setup of the TB, complemented by short summaries of the meeting minutes. The full minutes are available in the SNS-JU repository as required.

2 SNS JU Collaboration Agreement

This task has been focused on the adoption of a commonly acceptable Collaboration Agreement (CoA), and the collaboration with the other tasks of this CSA in order to disseminate it and get it signed by all the active participants of the Smart Networks and Services Joint Undertaking (SNS JU). A task force led by the 6G-IA and with the participation of multiple stakeholders from industry, academia, SMEs and the SNS JU, worked intensely to create the CoA on time for the Phase 1 projects of the SNS JU. The CoA was based on the earlier 5G PPP version; however, it was significantly upgraded to adapt it to the Model Grant Agreement of Horizon Europe² (instead of H2020) and to clarify the benefits and obligation of all signatories to the collaborative bodies of the SNS JU (Steering Board, Technology Board and Working groups). Moreover, in Horizon Europe, the instrument of Linked Actions replaced the concept of complementary projects, that was in Horizon 2020, to enable the cooperation between projects in a Joint Undertaking. Additional updates also took place addressing the current changed geopolitical situation, concerns on legal implications from governments to restrict information exchange with certain parties, sanctions to certain countries, organisations or individuals that may be decided by the European Union and/or EU Member States, and more.

2.1 Launching the SNS JU Collaboration Agreement

The SNS-JU CoA was prepared by the 6G IA legal team, with support from the 6GStart project in the last Quarter of 2022. Early in 2023 it was formally endorsed by the SNS JU Governing Board (GB) and introduced by SNS OPS project to the 279 participants of Call 1 (including both beneficiaries and associated partners).

The SNS JU CoA was implemented on the basis of the optional Articles 3 & 7 in the SNS Project Grant Agreement, formally linking the projects and installing the requirement that the participants of projects needed to be party to a program level collaboration agreement. This was done by the SNS JU Office amending all Call 1 Grant Agreements to include the list of SNS projects for the SNS CoA in each project contract.

The projects understood and accept this requirement and the project leaders were proactive in securing the signatures from their project participants.

2.2 Signature Process progress

2.2.1 Governing Board of the 6G IA

Once the SNS Collaboration Agreement was agreed and endorsed, the 6G IA Governing Board members were invited to sign as a clear indication of the instantiation of the agreement. As most of the board were also involved in projects, this established a base from which the uptake grew rapidly.

 $^{^2\} https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/agr-contr/general-mga_horizon-euratom_en.pdf$

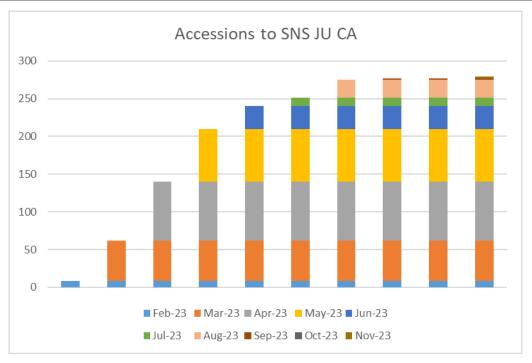
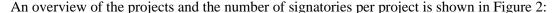


Figure 1: Rate of accession of Call 1 projects to the SNS JU SNS CoA

The SNS JU CoA was concluded between 279 parties by the end of 2023. The rate of accession, as shown in Figure 1, shows that the majority of call 1 participants were signed up in Q2 2023 and by August 2023 only a few signatures were missing. The final 2 signatures were obtained in November 2023.

During that process, SNS OPS offered support in terms of answering any questions on process, having meetings with individual organisations where explanations of the agreement were requested, and checking each signed form for correctness and completeness. This process was occasionally complicated by companies changing name, changing ownership or changing Participant Identification Code (PIC) numbers, i.e. the reference number in the Commission System, meaning an individual explanation had to be found where the offered signature did not correspond with the data of the project participant in the Commission system.

2.2.2 Project Accession the SNS JU SNS Collaboration Agreement



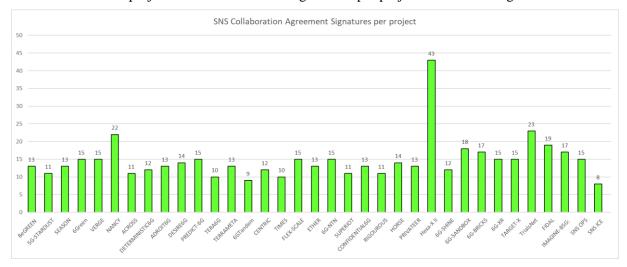


Figure 2: Overview of the number of signatories per SNS Call 1 project

The progress per project was reported to the projects at intervals and reported to both the SNS-I Steering Board (SB) and SNS JU GB as the management bodies got up to speed.

The SNS-I SB was formally established based on the majority of projects being fully subscribed to the SNS Collaboration Agreement.

2.3 Future of the SNS JU Collaboration Agreement

During 2023, the European Commission has re-interpreted some key definitions which may have an impact on the construction of the SNS JU CoA. Specifically, they have adopted a new definition of "linked" projects which means it may no longer be appropriate to use Articles 3 & 7 as the basis of the obligation on project participants to be party to a programme level collaboration agreement.

This change is further supported by the complication that these articles will always require an amendment of all running SNS projects to add a list of new SNS JU projects each time there is a call and more projects are added to the JU. This means considerable work for the SNS JU office and it potentially means hundreds of project amendments per year just to keep the administration of "linked" projects correct.

The alternative to this being considered is to place the CoA participation requirement in Annex 5 of the grant agreement. To facilitate this a formal reference list of the SNS projects is created and will be maintained on the SNS website³ and this can be used as the list of the SNS family of projects that must accede to same CoA. Even the term "Collaboration Agreement" in this case is being used differently from the use expected by different parts of the European Commission.

This change will require an amendment to the CoA as, the current agreement is based on the Article 3&7 approach and future projects may accede under a different contractual reference. To further complicate this, projects from Call 2 (set to start on January 2024) are being contracted prior to the new approach being formally adopted, so they will have an interim arrangement with some text added directly to the Part B of their grant agreements. Because of this, the SNS JU Collaboration Agreement now needs to be amended to integrate projects being obliged to participate in the same agreement under three different contractual obligation methodologies.

SNS OPS is now supporting the consideration of exactly what format this amendment should take. Once the new format is prepared, it will be necessary to ask all 279 call one participants, and some additional 6G IA members, and all Call 2 Participants to accede to the amended SNS JU Collaboration Agreement.

This increases significantly the expected SNS CoA support work for the SNS OPS project for 2024. The anticipated work of collecting the signed SNS CoA from the additional participants from the Call 2 projects will have to be performed in parallel to repetition of the work of collecting Call 1 signatures.

Numerically, the 279 participants of Call 1 include about 50% of the Call 2 participants so the revised SNS Collaboration Agreement in 2024 will have to be signed by roughly 385 participants across both calls.

In total there are 35 projects from call 1 running and an additional 28 from Call 2 that are expected to start in January 2024. This means that SNS OPS will have to oversee this complicated signature process, with both amendments and new parties, across 63 projects in 2024.

³ https://smart-networks.europa.eu/project-portfolio/

3 Supporting the SNS-Initiative Steering Board

The SNS OPS CSA provides the secretarial functions for the SNS-Initiative (SNS-I) Steering Board (SB). This involves organising the SB meetings - in case of physical meetings also to find and book a suitable meeting room, determining the agenda with the Chairman and producing the minutes of the meetings and the record of the decisions taken.

In addition, the SB is supported by an email exploder list that is used for communications with all SB members, a BSCW document repository where minutes, slides and other relevant documents are stored, and online-meeting conferencing facilities to host conferences as required.

The setup of the SB has been started at the beginning of 2023, as detailed further down in section 3.1, and successfully completed with the organisation of the SB inauguration meeting on 05/09/23, as described further down in this section. In the remaining months of 2023, i.e. from September to December 2023, three meetings of the SB have been organised by SNS OPS, two were physical Face to Face (f2f) meetings and one was by web-conference. The practice regarding meeting frequency agreed in the SB is to have three f2f meetings per year, with a virtual meeting in between f2f meetings.

F2f meetings are scheduled for a full day and are used for more detailed discussions on strategy, joint horizontal activities, technical topics, review of Working Group (WG) activities, joint presences at dissemination events, future plans etc. Teleconferences in turn are used for short status and progress updates and are typically limited to 2 hours.

The Working Groups which activities are reviewed in the SB meetings includes the Project-WGs (three WGs at the time of writing this document – Architecture WG, TMV WG and Software Networks WG – for details see the SNS web⁴), but also the 6G-IA Industry WGs⁵.

SNS OPS carries out a bi-monthly documentation of Working Group activities and status. These reports are used by several Boards and WGs in SNS JU, including the SNS-I SB. Details on this reporting are presented in Deliverables prepared by SNS OPS WP4, including D4.16 so far.

3.1 Setup of the SNS-I SB

The setup of the SNS-I SB has been conducted in the first part of 2023 as a joint activity with the 6GStart CSA. The process and activities are presented below:

As a first action, all 35 projects of SNS Call 1 have been contacted at the beginning of 2023 and solicited to provide the details of who their representatives in SB, TB and the Comms Group (i.e. the forum where SNS projects discuss communication and dissemination aspects) would be. With that information, several distinct mailing lists have been setup, for Project Coordinators (PC), Technical Managers (TM) and Comms group participants. As the actual establishment and inauguration of the SB and TB required a critical mass of projects having signed the SNS Collaboration Agreement, two initial and informal telcos have been organised with the project coordinators on 13/03/23 and 12/05/23. The Comms Group instead – not having to wait for projects having signed the SNS Collaboration Agreement – commenced its activity already in February 2023.

In parallel, preparations for providing a suitable document repository have started with installing a BSCW v7 server. Part of the task here was then to investigate and identify a suitable system for providing access for the SNS projects, the SB, TB, Comms, the various Working Groups (WGs) to be setup, and more groups as necessary. The aim was to find the right level of granularity between individual user accounts and group accounts, to ensure correct access management, individual identity and traceability but on the other hand to remain manageable and achieves a good cost/benefit ratio also in terms of software licence costs.

With the progress of project participants in signing the Collaboration Agreement, the preparations for

⁴ https://smart-networks.europa.eu/sns-ju-working-groups/

⁵ https://6g-ia.eu/6g-ia-working-groups/

⁶ https://smart-networks.europa.eu/csa-s/#SNS-OPS

an SB kickoff meeting have been started in June 2023. As one of the first actions, the kickoff meeting date has been agreed (05/09/23), a host has been identified / a venue was chosen (Athens), and a draft agenda has been prepared and discussed with the projects. As the intention was to get SNS projects quickly involved in WG activities, interactions with WG Chairs have been started to ensure they can present at the SB kickoff meeting either in person or remotely.

3.2 SB meeting #1: 05/09/23 – Inauguration meeting in Athens

The kickoff meeting of the SNS-I SB has been organised in Athens as a full day meeting kindly hosted by SPACE Hellas. The main purpose was to introduce the projects to the SB activities and their potential contribution to the joint activities in the SNS JU. Given that a Chair of the SB had not been elected yet, Colin Willcock as Chairman of the 6G-IA Board had agreed to chair this meeting.

After the welcome, checking of participants and approval of the agenda, all project coordinators gave a short one-slide presentation to introduce their project and themselves. Following that, Colin Willcock gave some information of the latest status of SNS JU – past activities and plans. Colin reminded that SNS-JU is a Collaborative Program and not just a series of independent Research Projects.

Following this, Uwe Herzog from SNS OPS presented a proposal for the Terms of Reference (ToR) of the SNS SB. The foundation is laid in SNS Collaboration Agreement, section 3 "Governance", but the SB is to agree upon the internal regulation (i.e. the ToR), dealing with its internal organization and procedures, all to be carried out taking into account the key principles and other terms of the CA. A few comments were made by SB members which have been taken into account in the subsequent drafting of the full written SB ToR. After that Uwe presented a proposal for the process of electing the SB Chair and Vice Chair, which has been approved by the SB.



Figure 3: SB project meeting in Athens on 05/09/23

The next part of the meeting looked at the Working Groups in SNS JU. Colin gave an overview of the 3 classes of SNS Working Groups: SNS Industry WG, SNS Project WG, and SNS Strategic WGs. Of most relevance to the SB is the class of SNS Project WG as they are under the supervision of the SNS SB. In order to speed up the kickoff of Project WGs, Colin suggested to the SB to setup 3 Project WGs that have already been active in 5G PPP—to which the SB gave its approval. Following that, an overview of the 6G-IA WGs has been presented by each of the WG Chairs respectively, inviting the projects to consider participation in these WGs.

In the following slot, the potential cooperation between SNS Stream A/B/D and Stream C projects has been discussed. Stream C projects – according to a requirement on stream C projects in the SNS Work Programme – are to offer to projects of other streams the use of their facilities to execute experiments. The 3 Stream C project gave an overview presentation of their facilities and terms and condition of their use.

In the last part of the meeting there was a presentation and discussion on events, and projects were invited to discuss and make proposals on how SNS JU can contribute and have presence and visibility at future international events.

3.3 SB meeting #2: 27/10/23 – telco

This meeting was organised as a 2-hour web conference. Given the shorter amount of time available for these web-conferences the focus was on giving brief updates, sharing news and discussing the necessary coordination and joint actions.

After the welcome, checking of participants and approval of the agenda, Uwe Herzog from SNS OPS presented the draft SB ToR, showing the Word document and explaining the purpose and meaning of the items in its content. A number of comments were made that were noted in the document. These would be addressed in the revision of the SB ToR which are then the final draft for obtaining approval from the SB.

The TB Chair gave an overview of the status and initial plans for the ramp up of TB activities. The next TB meeting had already been scheduled as a telco on 30/10/23 at which among others the TB mode of operation and the initial targets would be discussed. The TB ToR were already under preparation.

In the next slot several of the WG Chairs gave an update on status and planning. Two of the planned project WGs – the 6G Architecture WG and the Test, Measurement and KPI Validation (TMV) WG had already started with the preparations for their setup. Also, a couple of 6G-IA WGs gave an update on their activities.

In this SB meeting for the first time the newly founded Task Force (TF) on Open Calls reported on its first activities. The purpose of the TF is to coordinate Open Call related actions among projects that organise Open Calls. This is on a voluntary basis and with non-committing character. A first meeting has been organised on 26/10/23. It is planned to prepare a methodology for handling the process, e.g. for ensuring that all costs are eligible and will be accepted by the EU.

Following that, the 6G-IA representative briefed about liaisons of SNS JU with other regions or verticals, following a request made at the SB kickoff meeting in Athens.

As the meeting time had already been nearly consumed some of the further planned agenda items have been skipped and postponed to the next SB meeting which will be hosted by UC3M in Madrid.

3.4 SB meeting #3: 29/11/23 – Madrid

This meeting was again organised in f2f format and a dense agenda had been planned. The meeting started as usually with the checking of participants, approval of the agenda and the review of the action items list which is under the responsibility of SNS OPS.

In the first main agenda item Uwe Herzog gave an overview of the status of approval of the SB ToR. The full draft of the ToR that had been presented in the previous meeting has been revised, reflecting the discussion and agreements in the previous meeting and other comments received. A final draft has been prepared and distributed to SB on 31/10/23 for approval within 3 weeks, i.e. by 21/11/23. By the deadline the majority of projects had responded and all responses have stated that the ToR are approved, so therefore the ToR are now approved and valid.

Following that the TB Chair reported about TB activities: The kickoff of the TB was organised with a telco on 30/10/23 in which the modus operandi and several targets and activities were discussed, including the heritage figure, the reference figure, the Trials& Pilots brochure, Key achievements, etc. A proposal to create a central list of project representatives in the various bodies and WGs in the SNS-Initiative has been agreed. This would be an Excel file where projects can enter their representatives and make updates when there are changes. A Sustainability TF has been setup under the TB, with the goal of aligning the SNS projects' work on sustainability. Additionally, alignment with Hexa-X-II and the SNVC WG on sustainability will be sought out.

In this meeting the Task Force (TF) on Open Calls again reported on its progress. Seven projects are

currently participating but further projects from Call 2 will be invited. The ultimate goal is to create a living document in which lessons learnt from organising Open Calls will be collected. Topics addressed include e.g. the eligibility of partners, avoiding double funding, ensure sufficient resources are available (operational capacity), etc.



Figure 4: SB project meeting in Madrid on 29/11/23

Following a brief report about SNS liaisons with other regions or verticals, many of the SNS-I Projects-WGs and 6G-IA WGs reported about their activities. The 5G Architecture WG and the TMV WG have made good progress for their setup and the inauguration meeting has been planned for December 2023 and January 2024 respectively. The setup of the Software networks WG has not progressed yet as the person who chaired the WG in 5G PPP is no longer available for this task, and the projects were thus asked to consider offering someone who could take on the role of the WG Chair. The Trials WG informed that the Trials & Pilots Brochure #4 has been issued just on the date of this SB meeting.

The SB Chair then informed that an overview document will be prepared by the SB/TB Chairs and SNS OPS that will describe what groups exist in SNS, who the contact persons are, where to find further information, how to join etc. In addition, a calendar will be setup to keep track of upcoming events. This was followed by a brief review of future events and a discussion about a coordinated proposal for a joint workshop organised by SNS projects at EuCNC'24.

With some announcements from SB members and the agreement of the schedule of next SB meetings the meeting was concluded.

3.5 SB documentation repository

All the agendas, minutes and other supporting documents of the SNS-I SB meetings are stored in the SNS JU BSCW document repository where they can be accessed by all beneficiaries of the SNS-Initiative. Reference documents and slides used in the meetings, when available, are also there. Figure 5 shows a snapshot from the SNS JU SB BSCW space.

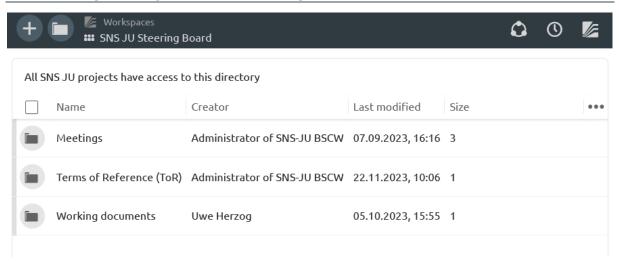


Figure 5: Screenshot of the SNS JU BSCW – SB space

4 Supporting the SNS-I Technology Board

The SNS-OPS project provides support to the actions of the SNS JU Technology Board (TB). The TB is supported by an email exploder list to distribute communications to all members, an BSCW platform repository to store and share relevant documents with all members, and web conference meeting tool in the form of Webex. It should be made clear, only the project representatives who have signed the Collaboration Agreement have access rights to those above-mentioned resources.

In the period covered by this Deliverable (January 2023 – January 2024), four TB Telco meetings were held. Since it was the set-up phase of the TB, the major focus of the meetings was on setting up the TB meeting series electing the TB chair and discussing and agreeing on the TB work plan and its work items.

In the following subsections, key highlights from these TB set-up meetings are outlined. The highlights provided do not represent all points addressed during these meetings, and many of the actions did progress continuously beyond one single meeting.

4.1 Setup of the SNS-I TB

The inaugural TB meeting has been organised with the SNS projects technical managers on 22nd September 2023. This was an online meeting, organized by Arda Güreller from Ericsson since Ericsson is the task leader of SNS OPS T3.2 SNS JU Technology Board. The main scope of this task is to support the activities of the SNS initiative Technology Board (TB) which consists of representatives from all running SNS projects (Technical Managers or proxies). The agenda of this meeting was the following:

- Welcoming
- Information sharing and discussion about the TB Ways of Working (WoW)
- Introduction of Terms of Reference (ToR) Document draft
- Election Process (Discussion on the election of the Chairperson)
- Decision for the next TB meeting date / place

In this meeting there were around 25 project Technical Manager and one 6G-IA representative. The draft Terms of Reference (ToR) Document and the Election Process for the election of the Chairperson was introduced to the participants. The Meeting minutes have been uploaded to the BSCW online area. After this meeting, the next TB meeting was scheduled on 30th of October 2023. For this meeting the target was to introduce the elected Chair and Vice-Chair.

The Call for candidates for the SNS TB Chair- and Vice-chair was issued on 26th of September 2023. A period of 2 weeks was provided until 11th of October 2023 to TB members to propose their candidates. Only one candidature has been received: Konstantinos (Kostas) Trichias from 6G-IA. He has been nominated from the 6G-IA and SNS-ICE project. After the deadline the TB members have been informed and asked if they have any objection to this candidacy - no objections were received. On 23rd October a confirmation that Konstantinos (Kostas) Trichias from 6G-IA is officially elected as SNS JU TB Chair for one year has been communicated to the TB members.

4.2 TB meeting #1 – Telco (30/10/2023)

The 1st meeting with the elected chairman was held on October 30th 2023. The participation was good, as 29 project representatives took part (out of 33 projects). The focus of this meeting was mostly on establishing the TB mode of operation (How, What, When, Who). It was agreed by all participants that a 4-week cycle for the regular TB telcos will be maintained. The series was agreed to start on Tuesday 12/12/2023. The TB members agreed to target 2 Physical meetings per year. Where possible, the TB physical meetings will collocate with SB meetings or other major events. F2F meetings will be maintained as Physical meetings only for the most part, to stimulate productive work sessions. The discussions covered in the meeting can be summarized as follows:

- Heritage Figure Wait for more projects to join the TB.
- Reference Figure Start working on a new Reference Figure for Phase 1 projects.
- Trials & Pilots Brochure Too early to engage as there are no mature T&Ps yet.
- Key Achievements A bigger mass of projects would be needed to make this impactful
- Vertical Engagement Tracker Former Vertical Cartography, input from all projects needed, before making the tool public.
- Other engagements
 - Standards Tracker
 - o White papers & webinars
 - Overview of WG participation per project:
 - Sustainability Task Force (TF)

4.3 TB meeting #2 – Telco (12/12/2023)

The second TB meeting took place in virtual format on 12th December 2023, 14:00 – 15:30 CET. There were 46 participants from 27 projects. The meeting was coordinated by the chair and the agenda of the meeting was approved by all participants. Open actions from the previous meeting have been reviewed and status updated.

- The TB Chair gave an update from the previous SB f2f meeting that took place on November 29th in Madrid Spain. The main topics mentioned were:
 - o Clarifications on SNS WGs were requested,
 - o New Chair is needed for the Reliable Software Networks WG,
 - o A new Hardware WG was proposed,
 - o An update on the Open Calls Task Force was provided,
 - SNS WG Status shared.
- Uwe Herzog shared the updated TB Terms of Reference (ToR). Uwe presented the process and the key directions for the SNS TB ToR. A first draft is expected to be ready within December. TB members will be invited to review it once it is available.
- After that Mohammed Al-Rawi provided an update regarding the Reference Figure. A suggested
 way forward and the proposed next steps were presented. The target end date for the publication
 of the Reference Figure was set for Q1 2024 (31/03/2023).
- Ali Rezaki (the nominated Sustainability TF chair) provided clarifications with regards to the Sustainability Task Force (TF) status. A first draft of the TF mission statement, goals, targeted outcomes and timeline will be prepared. Common file to collect interested partners contact details to form the sustainability working team will be created. All TMs will align within their projects and nominate their representatives to the Sustainability TF, in the above-mentioned file.
- Other Potential Task Force suggestions were discussed by the all participants. Based on existing developments, the TB agreed that no more TFs should be formed at this moment.
- 6G-SANDBOX project reminded Stream A/B projects to use their facilities to test and validate their technology.
- Information sharing on events, based on information from the SB.

4.4 TB meeting #3 – Telco (09/01/2024)

The third TB meeting took place virtually on the 9th of January 2024. There were 45 participants from

33 projects. The meeting was coordinated by the chair; the agenda of the meeting was approved by all participants. Open actions from the previous meeting have been reviewed and status updated. Four open actions were completed and there are 4 more open actions that were ongoing.

Uwe Herzog provided a status update regarding to TB Terms of Reference (ToR) document. No objections received. First full draft is in preparation, and it should be ready shortly. All TB members will be invited to provide feedback for the 1st draft of the SNS TB Terms of Reference (ToR) document.

A first proposal for the Reference Figure Structure was presented by Kostas Trichias and Mohammed Al Rawi. The goal of the structure is to suggest a workable project split and to suggest the topics to be included. All TB members are expected to review the draft Proposal for the Reference Figure.

The Sustainability TF chair provided a status update on the agreed Action Points for the Sustainability Task Force (TF). An excel sheet is created to sign-up for the Sustainability TF team. Draft TF description document has been shared with the participants to review.

Claudio De Majo presented the Vertical Engagement Tracker tool & the status of inputs. He has requested additional inputs, as it is needed to reach a critical mass of Use Cases.

The TB chair talked about EuCNC 2024 project plans where will take place in Antwerp, Belgium in 2024. A common file to record intentions from projects is created. Up to now, 4 sessions/WS have been recorded in the common file. It is expected by all TB members to provide input regarding to planned EuCNC 2024 proposals (sessions, workshops, etc.) to help plan SNS presence.

Input collection for 2023 Q2 SDO Impact Report has started from the Pre-Standardization WG. Template has been circulated by the Pre-Standardization WG chairman (reminder sent by SB chairman) The input deadline has been 16 January 2024.

4.5 TB documentation repository

All the agendas, minutes and other supporting documents of the SNS-I TB meetings are stored in the SNS JU BSCW document repository where they can be accessed by all beneficiaries of the SNS-Initiative. Reference documents and slides used in the meetings, when available, are also there. Figure 6 shows a snapshot from the SNS JU TB BSCW space.

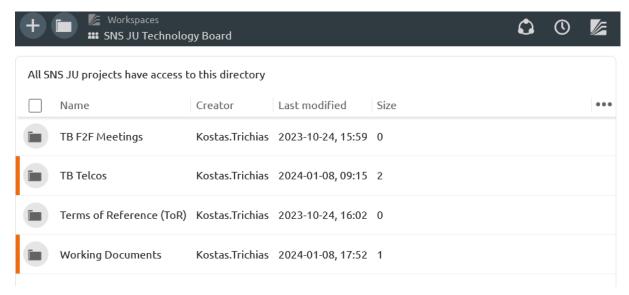


Figure 6: Screenshot of the SNS JU BSCW – TB space

5 Conclusions

In its first year SNS OPS has been busy with initiating and organising as well as supporting the collaborative activities in the SNS-I.

SNS OPS has supported the preparation and adoption of an SNS Collaboration Agreement and organised its signing. SNS OPS ensured that all 279 parties that participate in the SNS Call 1 projects have signed it, and collected all signatures.

Looking towards the future, 27 new projects from Call 2 have started in January 2024, and SNS OPS will again take care of disseminating the SNS Collaboration Agreement to these projects and take care of it is being signed by all parties. In parallel, SNS OPS will support the amendment of the SNS Collaboration Agreement that became necessary due to the re-interpretation of some key definitions by the European Commission.

In addition, SNS OPS has organised the setup of the SNS-I SB and TB, has organised their kickoff meetings, organised the election of the SB and TB Chairs, has taken care of preparing the ToR of these bodies, and provided various secretarial- meeting- and tool support.

After the SNS OPS activities in 2023 have been characterised by setting up the collaborative bodies and supporting the launch of their activities, in 2024 the activities of the SB and TB are expected to go into the operational, productive mode. SNS OPS will support these activities as started in 2023 and will also address any additional need or requirement that might come up.

All SNS OPS activities in above areas have been successfully completed and all goals for the period have been achieved.

Appendix A List of organisations that acceded to the SNS JU Collaboration Agreement

The SNS JU Collaboration Agreement was concluded between 279 parties by the end of 2023.

| Participant Legal Name | Country Code | Participant PIC |
|---|-----------------|--------------------|
| CHALMERS TEKNISKA HOGSKOLA AB | SE | 999980373 |
| ERICSSON AB | SE | 999910921 |
| HUBER + SUHNER AG | СН | 899292045 |
| INFINEON TECHNOLOGIES AG | DE | 999978918 |
| INFINEON TECHNOLOGIES AUSTRIA AG | AT | 999705087 |
| KATHOLIEKE UNIVERSITEIT LEUVEN | BE | 999991334 |
| LINKOPINGS UNIVERSITET | SE | 999852236 |
| TECHNIKON FORSCHUNGS- UND PLANUNGSGESELLSCHAFT MBH | AT | 999761735 |
| LUNDS UNIVERSITET | SE | 999901318 |
| 6G SMART NETWORKS AND SERVICES INDUSTRY ASSOCIATION | BE | 935632513 |
| EIGHT BELLS LTD | CY | 917066131 |
| AALBORG UNIVERSITET | DK | 999904034 |
| AALTO KORKEAKOULUSAATIO SR | FI | 991256096 |
| ACCELLERAN | BE | 942650075 |
| ACST GMBH | DE | 990879833 |
| AIRBUS DS SLC | FR | 920862323 |
| ADVA OPTICAL NETWORKING SE | DE | 999811787 |
| AETNA GROUP SPA | IT | 919579595 |
| ATHENS INTERNATIONAL AIRPORT S.A. | EL | 999484994 |
| ALTICE LABS SA | PT | 999911503 |
| ANTERAL SL | ES | 957946490 |
| APPART AE NEW TECHNOLOGIES COMPUTER AND TELECOMMUNICATIONS | EL | 941424286 |
| APPLE TECHNOLOGY ENGINEERING BV & CO KG | DE | 886995549 |
| ARCELIK A.S. | TR | 998821708 |
| ARM LIMITED | UK | 999813824 |
| ATHONET SRL | IT | 942321342 |
| ATOS IT SOLUTIONS AND SERVICES IBERIA SL | ES | 952979120 |
| ATHENS UNIVERSITY OF ECONOMICS AND BUSINESS - RESEARCH CENTER | EL | 999896856 |
| MTU AUSTRALO ALPHA LAB | EE | 889769167 |

| Participant Legal Name | Country Code | Participant PIC |
|--|-----------------|--------------------|
| ARISTOTELIO PANEPISTIMIO THESSALONIKIS | EL | 999895692 |
| AVANTI HYLAS 2 CYPRUS LIMITED | CY | 956158392 |
| ADVANCED WIRELESS SOLUTIONS AND SERVICES (AW2S) | FR | 895626609 |
| B&R INDUSTRIAL AUTOMATION GMBH | AT | 970686470 |
| BARKHAUSEN INSTITUT GGMBH | DE | 897336040 |
| BI2S-BUSINESS AND IOT INTEGRATED SOLUTIONS LTD | CY | 905804819 |
| BI-REX- BIG DATA INNOVATION RESEARCH EXCELLENCE | IT | 903031783 |
| ROBERT BOSCH GMBH | DE | 999908787 |
| BRAINSTORM MULTIMEDIA SL | ES | 999441732 |
| BARCELONA SUPERCOMPUTING CENTER CENTRO NACIONAL DE SUPERCOMPUTACION | ES | 999655520 |
| BRITISH TELECOMMUNICATIONS PLC | UK | 999908593 |
| COLLINS AEROSPACE IRELAND, LIMITED | IE | 971136162 |
| CAFA TECH OU | EE | 907711936 |
| CAPGEMINI PORTUGAL SA | PT | 920077981 |
| Construction Robotics GmbH | DE | 889313655 |
| COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES | FR | 999992401 |
| ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS | EL | 998802502 |
| ALTRAN INNOVACION SL / CAP GEMINI 886141852 | ES | 950049041 |
| CUMUCORE OY | FI | 923625077 |
| CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE TELECOMUNICAZIONI | IT | 999649603 |
| CONSIGLIO NAZIONALE DELLE RICERCHE | IT | 999979500 |
| CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS | FR | 999997930 |
| COGNITIVE INNOVATIONS PRIVATE COMPANY | EL | 915396955 |
| COSMOTE KINITES TILEPIKOINONIES MONOPROSOPI AE | EL | 999654550 |
| COMUNE DI TORINO | IT | 986538792 |
| CONSORZIO PER LA RICERCA NELL' AUTOMATICA E NELLE TELECOMUNICAZIONI C.R.A.T. | IT | 999655229 |
| CROSSMEDIA BELGIQUE | BE | 886703094 |
| CENTRE TECNOLOGIC DE TELECOMUNICACIONS DE CATALUNYA | ES | 999638739 |
| CYENS CENTRE OF EXCELLENCE | CY | 906763761 |
| DIGITAL FOR PLANET-D4P | СН | 897171237 |
| DIMOS ATHINAION EPICHEIRISI MICHANOGRAFISIS | EL | 991350089 |
| DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV | DE | 999981731 |

| Participant Legal Name | Country Code | Participant PIC |
|---|-----------------|--------------------|
| DRAXIS ENVIRONMENTAL SA | EL | 996151686 |
| EBOS TECHNOLOGIES LIMITED | CY | 997848022 |
| ERICSSON ARASTIRMA GELISTIRME VE BILISIM HIZMETLERI ANONIM SIRKETI | TR | 950341108 |
| ERICSSON GMBH | DE | 999944386 |
| EFACEC ENGENHARIA E SISTEMAS SA | PT | 971832428 |
| EMC INFORMATION SYSTEMS INTERNATIONAL UNLIMITED COMPANY | IE | 959978349 |
| EKTACOM | FR | 951474359 |
| EOTVOS LORAND TUDOMANYEGYETEM | HU | 999896468 |
| ERICSSON ESPANA SA | ES | 999941088 |
| ERICSSON FRANCE | FR | 895532034 |
| ERICSSON MAGYARORSZAG KOMMUNIKACIOS RENDSZEREK KFT | HU | 999944289 |
| EUROPEAN ROAD TRANSPORT TELEMATICS IMPLEMENTATION COORDINATION ORGANISATION - INTELLIGENT TRANSPORT SYSTEMS & SERVICES EUROPE | BE | 999785112 |
| EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH | СН | 999979015 |
| EURECOM GIE | FR | 999606147 |
| EURESCOM-EUROPEAN INSTITUTE FOR RESEARCH AND STRATEGIC STUDIES IN TELECOMMUNICATIONS GMBH | DE | 999912279 |
| FRIEDRICH-ALEXANDER-UNIVERSITAET ERLANGEN- NUERNBERG | DE | 999995408 |
| FUNDINGBOX ACCELERATOR SP ZOO | PL | 951227688 |
| FUNDINGBOX COMMUNITIES SL | ES | 911373783 |
| FORSVARETS FORSKNINGINSTITUTT | NO | 999789574 |
| FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG EV | DE | 999984059 |
| 5G COMMUNICATIONS FOR FUTURE INDUSTRY VERTICALS SL | ES | 896973745 |
| FOGUS INNOVATIONS & SERVICES P.C. | EL | 917691296 |
| IDRYMA TECHNOLOGIAS KAI EREVNAS | EL | 999995893 |
| FUNDACION DE LA COMUNIDAD VALENCIANA PARA LA INVESTIGACION, PROMOCION Y ESTUDIOS COMERCIALES DE VALENCIAPORT | ES | 998709188 |
| GESTAMP SERVICIOS SA | ES | 924115703 |
| GIGASYS SOLUTIONS LTD | UK | 900272618 |
| GREENERWAVE | FR | 903463821 |
| GROUND TRANSPORTATION SYSTEMS ITALIA SRL | IT | 885746674 |

| Participant Legal Name | Country Code | Participant PIC |
|---|-----------------|--------------------|
| HUBER+SUHNER POLATIS LIMITED | UK | 985958053 |
| HIRO MICRODATACENTERS B.V. | NL | 904044463 |
| HOLO-INDUSTRIE 4.0 SOFTWARE GMBH | DE | 905786486 |
| HISPASAT SA | ES | 999784530 |
| THE HEBREW UNIVERSITY OF JERUSALEM | IL | 999975038 |
| HUAWEI TECHNOLOGIES DUESSELDORF GMBH | DE | 996543275 |
| FUNDACIO PRIVADA I2CAT, INTERNET I INNOVACIO DIGITAL A CATALUNYA | ES | 999583061 |
| INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS | EL | 999654356 |
| INTRACOM SA TELECOM SOLUTIONS | EL | 999969994 |
| INLECOM COMMERCIAL PATHWAYS COMPANYLIMITED BY GUARANTEE | IE | 893373008 |
| ICTFICIAL OY | FI | 894353969 |
| SAS IDATE | FR | 887114665 |
| INTERDIGITAL EUROPE LTD | UK | 950635891 |
| INTERDIGITAL R&D FRANCE | FR | 898815096 |
| IDIADA AUTOMOTIVE TECHNOLOGY SA | ES | 999788313 |
| IHP GMBH - INNOVATIONS FOR HIGH PERFORMANCE MICROELECTRONICS/LEIBNIZ-INSTITUT FUER INNOVATIVE MIKROELEKTRONIK | DE | 999606438 |
| FONDAZIONE ISTITUTO ITALIANO DI TECNOLOGIA | IT | 999596447 |
| INSTITUT JOZEF STEFAN | SI | 999971837 |
| FUNDACION IMDEA SOFTWARE | ES | 998520426 |
| INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM | BE | 999981149 |
| STICHTING IMEC NEDERLAND | NL | 999577144 |
| INESC TEC - INSTITUTO DE ENGENHARIADE SISTEMAS E COMPUTADORES, TECNOLOGIA E CIENCIA | PT | 999513706 |
| INFOLYSIS P.C. | EL | 915352141 |
| CORIANT R&D GMBH | DE | 953414165 |
| INFILI TECHNOLOGIES SOCIETE ANONYME | EL | 932053019 |
| INFINERA UNIPESSOAL LDA | PT | 943750734 |
| INTERNET INSTITUTE, COMMUNICATIONS SOLUTIONS AND CONSULTING LTD | SI | 946634059 |
| INNOCUBE I.K.E. | EL | 891624486 |
| INTEL DEUTSCHLAND GMBH | DE | 967538432 |
| NETCOMPANY-INTRASOFT SA | LU | 999702371 |
| INSTITUTO POLITECNICO DO PORTO | PT | 991473861 |
| IQUADRAT INFORMATICA SL | ES | 996237822 |

| Participant Legal Name | Country Code | Participant PIC |
|---|-----------------|--------------------|
| ATHINA-EREVNITIKO KENTRO KAINOTOMIAS STIS TECHNOLOGIES TIS PLIROFORIAS, TON EPIKOINONION KAI TIS GNOSIS | EL | 999562788 |
| ISRD SP Z O.O. | PL | 889804087 |
| INSTITUTO DE TELECOMUNICACOES | PT | 999580248 |
| ITALTEL SPA | IT | 886601147 |
| IUVO SRL | IT | 929242056 |
| K3Y | BG | 905140563 |
| KING'S COLLEGE LONDON | UK | 999981052 |
| KEYSIGHT TECHNOLOGIES BELGIUM | BE | 939097256 |
| KEYSIGHT TECHNOLOGIES DENMARK APS | DK | 939084937 |
| KEYSIGHT TECHNOLOGIES SPAIN SL | ES | 919967692 |
| KEYSIGHT TECHNOLOGIES FINLAND OY | FI | 955188295 |
| KUNGLIGA TEKNISKA HOEGSKOLAN | SE | 999990946 |
| LIGHTBEE SL | ES | 934490144 |
| LIONIX INTERNATIONAL BV | NL | 918272908 |
| OY L M ERICSSON AB | FI | 999942931 |
| L.M. ERICSSON LIMITED | IE | 999946326 |
| LENOVO DEUTSCHLAND GMBH | DE | 917812643 |
| LULEA TEKNISKA UNIVERSITET | SE | 999876874 |
| MARTEL GMBH | СН | 999695387 |
| MARPOSS SOCIETA PER AZIONI | IT | 899722046 |
| MATSUKO S.R.O | SK | 929824832 |
| MITSUBISHI ELECTRIC EUROPE BV | NL | 930203423 |
| MONTIMAGE EURL | FR | 999716242 |
| METAMIND INNOVATIONS IKE | EL | 889264185 |
| MELLANOX TECHNOLOGIES LTD - MLNX | IL | 990560024 |
| MARPOSS MONITORING SOLUTIONS GMBH | DE | 953485945 |
| MPICOSYS - EMBEDDED PICO SYSTEMS SPZOO | PL | 985206400 |
| NEARBY COMPUTING SL | ES | 904712502 |
| NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS" | EL | 999978239 |
| NEC LABORATORIES EUROPE GMBH | DE | 910561893 |
| NET AI TECH LTD | UK | 888921193 |
| NEUTROON TECHNOLOGIES SL | ES | 891810241 |
| NATIONAL INSTRUMENTS DRESDEN GMBH | DE | 974894427 |
| ETHNIKO KAI KAPODISTRIAKO PANEPISTIMIO ATHINON | EL | 999643007 |

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| NOKIA NETWORKS FRANCE | FR | 950760051 |
| NOKIA SOLUTIONS AND NETWORKS KFT | HU | 996375562 |
| NOKIA SOLUTIONS AND NETWORKS OY | FI | 999925471 |
| NOKIA DENMARK AS | DK | 996116087 |
| NOKIA SPAIN SA | ES | 999806064 |
| NOVA TELECOMMUNICATIONS SINGLE MEMBER SA | EL | 985390312 |
| NOVA ID FCT - ASSOCIACAO PARA A INOVACAO E DESENVOLVIMENTO DA FCT | PT | 937405091 |
| NOKIA SOLUTIONS AND NETWORKS GMBH &CO KG | DE | 999940603 |
| NUBIS IDIOTIKI KEFALAIOUCHIKI ETAIRIA | EL | 895483825 |
| NVIDIA GmbH | DE | 919708508 |
| NXP SEMICONDUCTORS GERMANY GMBH | DE | 996753474 |
| NEXTWORKS | IT | 996613600 |
| OCULAVIS GMBH | DE | 916491988 |
| OPENNEBULA SYSTEMS SL | ES | 969580476 |
| ONE SOURCE CONSULTORIA INFORMATICA LDA | PT | 968818347 |
| One Reality | SE | 887031730 |
| ORANGE POLSKA SPOLKA AKCYJNA | PL | 999951079 |
| OPSYS SENSING TECHNOLOGIES LTD | IL | 888933027 |
| OPTARE SOLUTIONS SL | ES | 955546225 |
| ORANGE SA | FR | 999908981 |
| ORAMAVR SA | СН | 893482230 |
| ORANGE ROMANIA SA | RO | 954892445 |
| ORGANISMOS TILEPIKOINONION TIS ELLADOS OTE AE | EL | 999792581 |
| OULUN YLIOPISTO | FI | 999844670 |
| BOREAL TECHNOLOGY AND INVESTMENTS SL | ES | 890932682 |
| PHIX BV | NL | 907680217 |
| PICADVANCED, SA | PT | 934950215 |
| PROMOZIONE PER L INNOVAZIONE FRA INDUSTRIA E UNIVERSITA ASSOCIAZIONE | IT | 972458175 |
| P-NET ANADYOMENA DIKTYA NEAS GENIAS & EFARMOGES IDIOTIKI KEFALAIOUCHIKI ETAIREIA | EL | 887635749 |
| POLARITON TECHNOLOGIES AG | СН | 901228262 |
| POLITECNICO DI TORINO | IT | 999977754 |
| PROSEGUR GLOBAL SIS ROW SL | ES | 884613714 |
| PUBLIC SAFETY COMMUNICATION EUROPE FORUM AISBL | BE | 984488212 |
| PARALLEL WIRELESS ISRAEL LTD | IL | 885314539 |

| Participant Legal Name | Country Code | Participant PIC |
|---|-----------------|--------------------|
| QUALCOMM France (formaly QUALCOMM COMMUNICATIONS SARL PIC 887059860) | FR | 883340492 |
| QUALCOMM CDMA TECHNOLOGIES GMBH | DE | 996457430 |
| QAMCOM RESEARCH AND TECHNOLOGY AB | SE | 957254007 |
| THE QUEEN'S UNIVERSITY OF BELFAST | UK | 999992013 |
| RAYTRIX GMBH | DE | 942467521 |
| RUNEL NGMT LTD | IL | 934564543 |
| RHEA SYSTEM | BE | 987472029 |
| RHEA SYSTEM LUXEMBOURG SA | LU | 892309403 |
| REAL WIRELESS LIMITED | UK | 935339282 |
| RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN | DE | 999983962 |
| SUITE5 DATA INTELLIGENCE SOLUTIONS LIMITED | CY | 910462080 |
| SILICON AUSTRIA LABS GMBH | AT | 901837907 |
| SIEMENS AKTIENGESELLSCHAFT OESTERREICH | AT | 999953601 |
| SEQUANS COMMUNICATIONS SA | FR | 999687821 |
| SES TECHCOM SA | LU | 999584419 |
| SOUTH EAST TECHNOLOGICAL UNIVERSITY | IE | 886107126 |
| SIDROCO HOLDINGS LIMITED | CY | 912316332 |
| SIEMENS AKTIENGESELLSCHAFT | DE | 999987260 |
| SOFTWARE IMAGINATION & VISION SRL | RO | 897024185 |
| SATELIO IOT SERVICES, SL | ES | 899480904 |
| SIEMENS INDUSTRY SOFTWARE OY | FI | 888040530 |
| SMILE | FR | 904841221 |
| SONY EUROPE BV | NL | 899858913 |
| SPACE HELLAS ANONYMI ETAIREIA SYSTIMATA KAI YPIRESIES TILEPIKOINONIONPLIROFORIKIS ASFALEIAS - IDIOTIKI EPICHEIRISI PAROCHIS YPERISION ASFA | EL | 999778322 |
| SOFTWARE RADIO SYSTEMS LIMITED | IE | 937177723 |
| SAMSUNG ELECTRONICS (UK) LIMITED | UK | 999765712 |
| SCUOLA SUPERIORE DI STUDI UNIVERSITARI E DI PERFEZIONAMENTO S ANNA | IT | 999884731 |
| SPHYNX TECHNOLOGY SOLUTIONS AG | СН | 916839248 |
| SATWAYS-OLOKLIROMENES LYSEIS ASFALEIAS KAI AMYNAS-IDIOTIKI EPICHEIRISI PAROCHIS YPIRESION ASFALEIAS (IEPYA)-ETAIREIA PERIORISMENIS EFTHYNIS | EL | 987804060 |
| SYNTHARA AG | СН | 899425517 |
| THALES ALENIA SPACE FRANCE SAS | FR | 999908205 |

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|--|-----------------|--------------------|
| THALES ALENIA SPACE LUXEMBOURG | LU | 891665420 |
| THALES ALENIA SPACE UK LTD | UK | 936556147 |
| TURKCELL TEKNOLOJI ARASTIRMA VE GELISTIRME ANONIM SIRKETI | TR | 935067391 |
| THALES DIS FRANCE SAS | FR | 890652158 |
| FUNDACION TECNALIA RESEARCH & INNOVATION | ES | 999604110 |
| ERICSSON TELECOMUNICAZIONI SPA | IT | 996447342 |
| Telit Cinterion Deutschland GmbH | DE | 954516279 |
| THALES SIX GTS FRANCE SAS | FR | 999971934 |
| TELEFONICA INVESTIGACION Y DESARROLLO SA | ES | 999910824 |
| TELECOM ITALIA SPA | IT | 999908496 |
| NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO | NL | 999988909 |
| TELENOR ASA | NO | 999910630 |
| TRUST-IT SRL | IT | 906664821 |
| TELEFONICA SA | ES | 997255837 |
| TAGES | FR | 900534227 |
| TECHNISCHE UNIVERSITAET BRAUNSCHWEIG | DE | 999861257 |
| TECHNISCHE UNIVERSITAET DRESDEN | DE | 999897729 |
| TECHNISCHE UNIVERSITEIT EINDHOVEN | NL | 999977269 |
| TECHNISCHE UNIVERSITAET GRAZ | AT | 999977948 |
| UNIVERSITATEA TEHNICA GHEORGHE ASACHI DIN IASI | RO | 999853303 |
| TECHNISCHE UNIVERSITAT KAISERSLAUTERN | DE | 999885895 |
| UNIVERSITY OF BRISTOL | UK | 999974262 |
| GIOUMPITEK MELETI SCHEDIASMOS YLOPOIISI KAI POLISI ERGON PLIROFORIKIS ETAIREIA PERIORISMENIS EFTHYNIS | EL | 985034419 |
| UBITECH LIMITED | CY | 926362126 |
| UBIWHERE LDA | PT | 991811906 |
| UNIVERSIDAD CARLOS III DE MADRID | ES | 999899572 |
| UNIVERSITY COLLEGE DUBLIN, NATIONAL UNIVERSITY OF IRELAND, DUBLIN | IE | 999974359 |
| UNIVERSIDAD COMPLUTENSE DE MADRID | ES | 999874546 |
| THE UNIVERSITY OF HERTFORDSHIRE HIGHER EDUCATION CORPORATION | UK | 999911115 |
| UNIVERSITETET I OSLO | NO | 999975814 |
| UNIVERSIDAD DE MALAGA | ES | 999898311 |
| UNIVERSIDAD MIGUEL HERNANDEZ DE ELCHE | ES | 999851363 |

| Participant Legal Name | Country Code | Participant PIC |
|--|-----------------|--------------------|
| UNIVERSIDAD DE MURCIA | ES | 999844282 |
| UNIVERSITE DU LUXEMBOURG | LU | 999878620 |
| ALMA MATER STUDIORUM - UNIVERSITA DI BOLOGNA | IT | 999993953 |
| UNIVERSITY OF SURREY | UK | 999985223 |
| PANEPISTIMIO PATRON | EL | 999894528 |
| PANEPISTIMIO DYTIKIS MAKEDONIAS | EL | 986185518 |
| UNIVERSITAT POLITECNICA DE CATALUNYA | ES | 999976202 |
| UNIVERSIDAD POLITECNICA DE MADRID | ES | 999974844 |
| UNIVERSITY OF PIRAEUS RESEARCH CENTER | EL | 999586941 |
| UNIVERSITAT POLITECNICA DE VALENCIA | ES | 999864846 |
| UNIVERSITY OF STUTTGART | DE | 999974747 |
| UNIVERSITEIT VAN AMSTERDAM | NL | 999985708 |
| ULTRAVIOLET CONSULT DOO | RS | 889724062 |
| UNIVERSITY OF THE WEST OF SCOTLAND | UK | 999589657 |
| VALSTS AKCIJU SABIEDRIBA ELEKTRONISKIE SAKARI | LV | 898187700 |
| Vodafone Group Services GmbH | DE | 991001956 |
| FUNDACION CENTRO DE TECNOLOGIAS DE INTERACCION VISUAL Y COMUNICACIONES VICOMTECH | ES | 955552336 |
| VIVID COMPONENTS GERMANY UG | DE | 887005249 |
| VIRTUAL OPEN SYSTEMS | FR | 968966466 |
| VPIPHOTONICS GMBH | DE | 950983248 |
| TEKNOLOGIAN TUTKIMUSKESKUS VTT OY | FI | 932760440 |
| WAVECOM SOLUCOES RADIO SA | PT | 998142708 |
| WEST AQUILA SRL | IT | 993174077 |
| WINGS ICT SOLUTIONS INFORMATION & COMMUNICATION TECHNOLOGIES IKE | EL | 952269953 |
| YERBA BUENA VR EUROPE SL | ES | 910768600 |
| PRIVREDNO DRUSTVO ZENTRIX LAB DRUSTVO SA OGRANICENOM ODGOVORNOSCU PANCEVO | RS | 898982906 |
| ZORTENET IDIOTIKI KEFALAIOUXIKI ETAIREIA | EL | 897526936 |