

E15
**Initial report on dissemination,
exploitation and academic activities**

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SP2
TSI-063000-2021-6
OPEN6G

**Programa de Universalización de
Infraestructuras Digitales para la Cohesión –
6G I+D**



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Nivel de diseminación	PU
Tipo	RE

Nivel de diseminación

PU	Público
PP	Restringido a otros participantes del programa
RE	Restringido a un grupo especificado por el consorcio
CO	Confidencial solo para miembros del consorcio

Tipo

PR	Prototipo
RE	Reporte
SP	Especificación
TO	Herramienta
OT	Otro

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2 Acronym List

ACK	Acknowledgement
AI	Artificial Intelligence
ISAC	Integrating Sensing and Communications
RAN	Radio Access Network
RIS	Reconfigurable Intelligent Surface
UNICO	Universalización de Infraestructuras Digitales para la Cohesión

3 Executive Summary

This document represents the deliverable E15 “Initial report on dissemination, exploitation and academic activities”, envisaged in the framework of Open6G TSI-063000-2021-6’s Work Package 6 (P6). It includes the dissemination and exploitation plan for the project, as well as an overview of the planned academic activities to be carried out during the project. This plan considers all the activities related to the promotion of the Open6G TSI-063000-2021-6 project and its results beyond the project own community.

The three main objectives of this deliverable is to contain the dissemination plan, the exploitation plan, and the academic activities plan for the duration of the project. The dissemination plan includes activities boosting awareness of Open6G TSI-063000-2021-6 results in the scientific community, working on the same research field. In general, this will be carried out through publications in high impact journals/magazines, and participation and organization of technical events. This also includes the dissemination of Open6G TSI-063000-2021-6 contributions in a way that is easily understood by a non-specialist audience, e.g., the media and the general public. The exploitation plan covers activities aiming at using the results in further research activities other than those covered by the project, such as developing, creating and marketing products or processes, creating and providing a service. The academic activities plan seeks to ensure that the key concepts of the Open6G TSI-063000-2021-6 contributions are integrated in the academic community.

This first Open6G TSI-063000-2021-6 deliverable also briefly reports early exploitation and dissemination achievements.

4 Introduction

4.1 Objectives

The Dissemination, Exploitation and Academic Activities plan of the Open6G project describes the tools and strategies used for the creation of impact related to the results of the project, detailing the plan of activities used for this purpose.

OPEN6G Dissemination, Exploitation and Academic Activities work package (P6) covers the following three types of activities:

- **Dissemination activities:** These activities have the goal of raising awareness of OPEN6G results in a technical community, i.e., working in the same field of research. These activities will usually be performed through peer-reviewed publications in scientific conferences and journals, and through participation and organization of technical events (e.g., workshops, tutorials, etc.). However this will also include communication activities encompassing all actions concerning the promotion of the project and its results beyond the project's own community. In this way, the target will also include the general public, i.e., non-specialists, and the message shall be encoded in a way that is understood by this audience.
- **Exploitation activities:** These activities cover initiatives that foster further research activities, i.e., other than those covered by OPEN6G. These include (i) activities to develop, create and market products or processes, (ii) activities to create and provide a service, and (iii) standardization activities.
- **Academic activities:** There will be different academic activities carried out to strengthen the links between academia and research. Some of these activities will be the publication of results in some of the most prestigious international specialized magazines, participation in conferences of recognized prestige, dissemination of the obtained knowledge through its incorporation to Spanish Universities PhD programs with a solid research focus in telecommunications, mathematics and computer science research. PhD Program on Network engineering, degree and master thesis in the framework of the project and demonstrators as a proof of concept of the obtained results.

These core planned activities are key to maximize the impact of the OPEN6G project results and ensure a positive outreach of the project, ultimately facilitating the process of potential exploitation by different industry sectors and/or enhanced work by the academia. It is crucial to disseminate the findings of such innovative actions, in order to foster more innovation, feed positive synergies which may accelerate development and implementation and, for specific industry partners, market competitiveness.

4.2 Target Audience

This document is intended to be of interest to all audiences, so that the proposed plans and activities can be easily understood. Interested readers, as well as the entities involved in the project, can enrich the set of impact creation activities with the aim of maximizing the visibility of the project.

5 Communication strategy

5.1 Communication Plan

An adequate plan will be followed to create a significant impact with the public or audience of interest. This section presents the strategy to be implemented to achieve successful communication of the project results. The results generated in the project will be made known to the general audience or to a specialized audience, presented with a clear project brand, embarked on the UNICO I+D 6G program, a defined target audience, an activity identified to disseminate the results, and an appropriate work schedule.

The dissemination plan is a key part for the creation of impact in the Open6G project. This plan will comprise various ways of presenting, discussing project solutions and approaches, including participation in fairs, summits, workshops, and conferences; production of magazine articles; also, organization of dedicated events through which to approach the large professional network and digital communities of stakeholders in the field of 5G, AI-driven Open RAN, Integrated Sensing and Communication (ISAC) systems and Radio Intelligent Surfaces (RIS).

5.2 Communication tools

The UNICO I+D 6G Open6G website <https://i2cat.net/unico/open6g/> will have an important role in the dissemination and communication activities, since it has been designed to function as a "dissemination and promotion" center and give public access to various materials, from technical specification and reports (i.e., project deliverables, white papers, etc.) and extending to press releases, blogs, videos, news about events and activities taken at major conferences and exhibitions (e.g. demos, stands, presentations, etc.). Therefore the website will be initially the main platform to disseminate and communicate the results of the Open6G project to a general audience. Figure 1 presents the front page of the UNICO I+D 6G program website.

The website has been created under the responsive design criteria in order to guarantee the best user experience whether viewed on a desktop or a smartphone. Also, the website has been designed to be compliant with the Visual Identity requirements established by Plan de Recuperación, Transformación y Resiliencia from the Spanish Government, see, <https://planderecuperacion.gob.es/identidad-visual>, for more details in section 7.3 (Visual Identity).



Figure 1: UNICO I+D 6G program website.

In this website, a dedicated subsite is integrated for the Open6G project. The subsite offers a general description of the project and its main objectives and a brief reference to the principal investigator. All the information about the project's activities (past, on-going, upcoming), developments, and results will be accessible from the Open6G subsite. Figure 2 presents the front page of the Open6G I+D 6G program website.

Additionally, the Open6G subsite already includes pages where to disseminate the results achieved in the project. Specifically, the website incorporates a “News” section to communicate the different phases of the project as well as the achievements reached within it. The website also includes a “Documents” section which offers open access to all the scientific publications (e.g. journals, conferences, workshops, etc.) and links to the code repositories with the resulting software. Open6G subsite will also include links to other relevant sites, from projects point of view, as for example the code repository, or links to the project publications.

The URL for Open6G subsite is the following: <https://i2cat.net/unico/open6g/>

In order to ensure the sustainability of the project results, the UNICO I+D 6G program web site will be available a minimum of two years after project’s end.



Figure 2: Open6G program website.

Open6G will be present in social networks as well. News, events and achievements from the project will also be disseminated through LinkedIn and Twitter.

The i2CAT [Twitter](#) account will help when disseminating news, events and achievements from the project. Open6G social presence will also extend to the i2CAT [LinkedIn](#). The following figures present examples of the communication of open tenders of this project. Figures 3 and 4 depict two examples of communication previously done by I2CAT through its corresponding LinkedIn and Twitter accounts respectively.

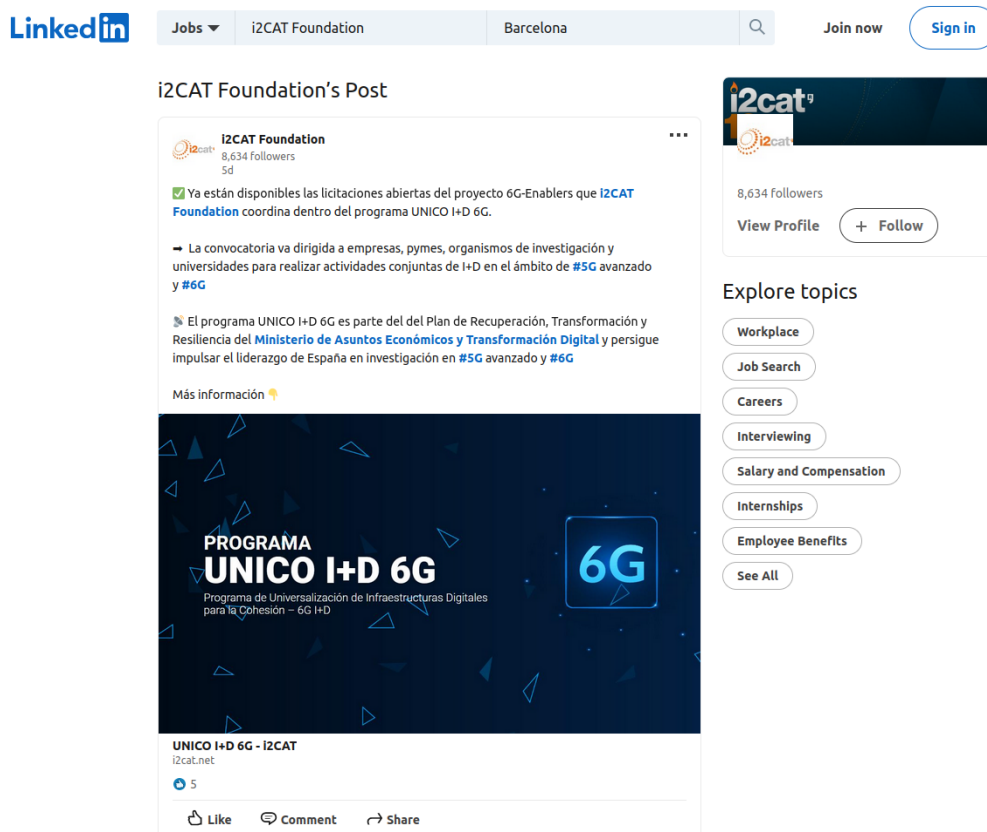


Figure 3: Example of notification through the i2CAT's LinkedIn account



Figure 4: Example of notification through the i2CAT's Twitter account

The i2CAT Communications department will closely work with the project's research team to keep track of the project and elaborate press releases when the project achievements might be of interest to the media. i2CAT will also mention the project in other external campaigns aimed at disseminating the i2CAT's 5G and 6G research strategy.

Furthermore, once the tender process finishes in the second year of the project and the external partners are defined, additional communication tools will be used according to the interests and capabilities of the partners.

5.3 Visual identity of promotional materials

Additionally, in order to inform the public when organizing or participating in events, leaflets, brochures and posters are key elements to disseminate information about the project. Leaflets will be distributed on the events where the Open6G project will be present.

The project will respect the visual identity in such material according to the following rules:

1. In the publications, communication activities, and websites, it must be indicated the Ministerio de Asuntos Económicos y Transformación Digital and the European Union-NextGenerationEU as funding entities, in the “marco del Plan de Recuperación, Transformación y Resiliencia y el Mecanismo de Recuperación y Resiliencia”, as indicated in the “artículo 34.2 del Reglamento (UE) 2021/241 del Parlamento Europeo y del Consejo, de 12 de febrero de 2021, por el que se establece el Mecanismo de Recuperación y Resiliencia”.
2. It must present in all the communication activities (posters, electronic publications, website, etc.), in a correct and relevant form, the UE banner with the statement of the funding that indicates «financiado por la Unión Europea-NextGenerationEU», with the logo of the PRTR (available in this link¹).
3. Communication activities will avoid any discrimination image against women, promoting the equality, and the role plurality. Additionally, it must avoid sexist language.

¹ <https://planderecuperacion.gob.es/identidad-visual>.

5.4 Document templates

In order to have a more coherent view of the Open6G outcomes, a set of templates are available to be used for presentations and deliverables. These templates will be available to the whole project members and subcontractors. An example of a deliverable template is provided in Figure 5.

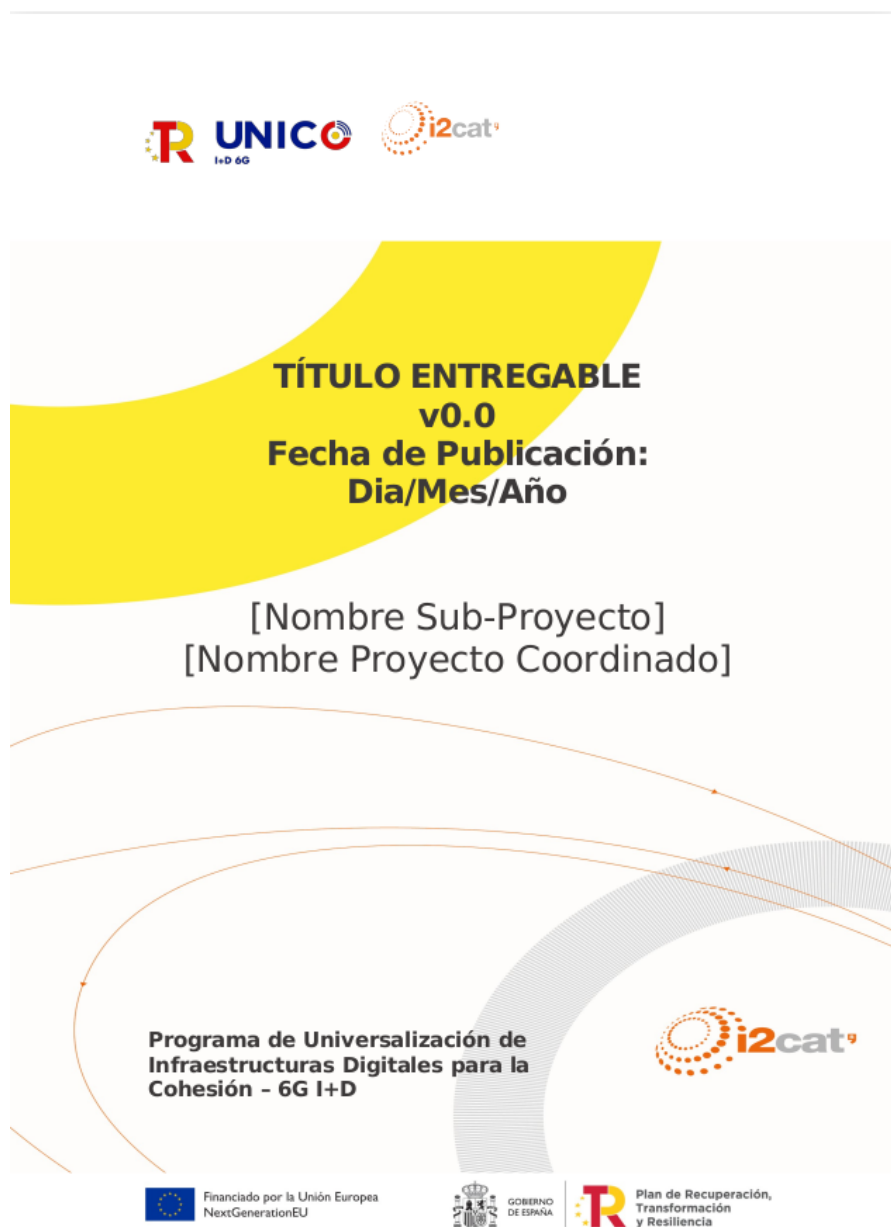


Figure 5: Deliverable document template

6 Dissemination strategy

6.1 Publication activities

Among the actions targeting the dissemination of the scientific results of Open6G, the publication of scientific works will be one of the most relevant. These publications will expand the project's reach and will include top-tier peer-reviewed scientific journals (Q1) and international conferences publications. These publications will target different audiences at different venues, such as the Industry Community, the Scientific Community or just the general public attending EU organized Events. Additionally, the Open6G partners will increase the impact of the project's results through the participation and organization of technical events (e.g., presentations, talks, demonstrations, panels, workshops, tutorials and other events) in such international conferences.

The types of documents in each of the segments are as follows:

- Industry related (SCWE, MWC, etc.): Publications of White papers, magazines, technology roadmaps, and industry-led journals.
- Scientific community: Publication of scientific results in high-impact journals (e.g., IEEE TMC, ACM/IEEE TON, IEEE JSAC, IEEE TNSM, IEEE Communications Magazine, IEEE Network) and leading conferences (IEEE ICC, IEEE Globecom, IEEE NFV/SDN, such as ACM CoNEXT, NSDI, IEEE INFOCOM, ACM MobiCom, AAAI, ICML, IEEE SECON, IFIP/IEEE IM, IFIP Networking, IEEE/IFIP NOMS, IEEE CNMS, etc.).
- EU events (e.g., EuCNC, etc.): Presentation of Open6G results, research and innovation activities, booth exhibition and demo set ups.

Posters may be created during the project's lifetime. At the beginning posters will include key information related to the project. Later versions will be enhanced with research results and achievements of the project. The posters will be used in conferences, workshops and other events in order to increase awareness about the objectives and outcomes achieved by the project.

6.2 Publication procedure and Acknowledgements

All scientific publications shall follow an internal procedure of i2CAT to ensure its quality. Specifically, 14 days prior to the submission of the document, the main author shall provide the resulting manuscript to the different authors to receive their feedback. When a publication gets reviewed and approved, it will be submitted to the corresponding publisher media, and follow the corresponding peer-reviewed process. If the manuscript is accepted for publication, it shall be uploaded to the project website.

Additionally, all the publications, conference proceedings, presentations on workshops, seminars, press releases or public events must include the following text:

Spanish: *“Este trabajo ha recibido financiación del Ministerio de Asuntos Económicos y Transformación Digital y de la Unión Europea – NextGenerationEU, en el marco del Plan de Recuperación, Transformación y Resiliencia (PRTR) (convocatoria UNICO I+D 5G 2021, expediente TSI-063000-2021-X- Completar con el acrónimo del proyecto).”*

English: *This work was supported by the Spanish Ministry of Economic Affairs and Digital Transformation and the European Union – NextGeneration EU, in the framework of the Recovery Plan, Transformation and Resilience (PRTR) (Call UNICO I+D 5G 2021, ref. number TSI-063000-2021-X-To complete with the project’s Acronym)”*

The reference numbers for the 3 different Open6G subprojects are:

- Open6G: Open6G: AI-driven Open 6G Automation
Número de referencia: **TSI-063000-2021-3-Open6G**
- Open6G: Joint Open 6G Communications and Sensing
Número de referencia: **TSI-063000-2021-6-Open6G**
- Open6G: Smart Surfaces for Joint Communications and Sensing Systems
Número de referencia: **TSI-063000-2021-7-Open6G**

6.3 Scientific Publications in the first year

Although the communication and dissemination plan is not completely defined, year 1 has already produced several works. The scientific publications with Open6G ACKs reported during the first part of the project (first year) in international conferences and workshops are listed below in Table 1.

Table 1: Publications in scientific conferences and workshops

#	Title	Conference	Authors
1	OROS: Orchestrating ROS-driven Collaborative Connected Robots in Mission-Critical Operations	24th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM) 2022	Carmen Delgado, Lanfranco Zanzi, Xi Li, Xavier Costa-Pérez

Table 2 lists the scientific publications with Open6G ACKs which have been reported during the first year of the project in scientific journals and magazines.

Table 2: Publications in scientific journals

#	Title	Journal	Authors
1	Sensing Integrated DFT-Spread OFDM Waveform and Deep Learning-powered Receiver Design for Terahertz Integrated Sensing and Communication Systems	IEEE Transactions on Communications 2022	Yongzhi Wu, Filip Lemic, Chong Han, Zhi Chen

6.4 Collaborations with other projects

In order to maximize the impact of the achieved results by the project, collaboration with other EU-funded projects will be established. This will improve the dissemination of the carried out work and boost its significance.

Preliminary, two EU projects have been straightforwardly identified as possible candidates to collaborate with:

- **H2020 DAEMON** DAEMON develops and implements innovative and pragmatic approaches to Network Intelligence (NI) design that enable high performance, sustainable and extremely reliable zerotouch network systems. DAEMON designs an end-to-end NI-native architecture for Beyond 5G (B5G) that fully coordinates NI-assisted functionalities and beyond 5G and 6G smart connectivity considered in Open6G
- **HORIZON-JU-SNS BEGREEN** BEGREEN takes a holistic view to provide evolving radio networks that not only accommodate increasing traffic and service levels but also consider power consumption as a factor. Among its goals, the consideration of the cost of the energy and the societal factors, linked to the necessary reduction in global emissions, are significantly linked with Open6G goals.

7 Exploitation Strategy

The results obtained within the Open6G research will be considered for publication as patents, and tentatively the creations of a spin-off will be considered. However the specific exploitation strategy will be defined after the end of the tender process, where all external partners are defined and once they express their IPR policies and internal exploitation strategies. Next deliverables E16 and E17 will contain detailed information about the market analysis, business plans and exploitation plans.

8 Academic Activities

The knowledge generated in the Open6G project will be incorporated by I2CAT into UPC's academic activities. This way, students will benefit from the project's state-of-the-art results. In this line, the Open6G project will aim to add core skills for technology development within the project into academic curriculums. Lecture materials related with Open6G might be introduced in academic courses and considered for the undergraduate, master and PhD syllabus.

Additionally, a number of PhD and MSc theses on specific topics on Open6G research agenda will be proposed.

As an exploitable result, some of the software developed during the project might be set public as open source, so the academic and research communities can build future projects based on these tools.

9 Conclusions

This deliverable reports on the planned communication and dissemination activities to be undertaken in the Open6G project. The aim of these plans is to maximize the project impact by targeting key communities for dissemination and communication, and interacting with the academia in which Open6G contributions might be possibly promoted.

This document only outlines preliminary plans and relies on the next year tender process's outcome to detail the exact strategies. Future deliverables (E16 and E17) will report back on the actual plans and will update on the achievements in terms of dissemination, communication and academic activities. As technical work progresses, the plans presented in this document will also evolve, whenever needed, to ensure an effective and coherent dissemination of results.