

A holistic flagship towards the 6G network platform and system to inspire digital transformation for the world to act together in meeting needs in society and ecosystems with novel 6G services.

D7.3 Dissemination, communication, and clustering





Hexa-X-II project has received funding from the <u>Smart Networks and Services Joint Undertaking (SNS JU)</u> under the European Union's <u>Horizon Europe research and innovation programme</u> under Grant Agreement No 101095759.

Smart Networks and Services Joint Undertaking (SNS JU) approval pending

Date of delivery: 31/12/2023 Version: 1.0

Project reference: 101095759 Call: HORIZON-JU-SNS-2022

Start date of project: 01/01/2023 Duration: 30 months

Document properties:

Document Number: D7.3

Document Title: Dissemination, communication, and clustering

Editor(s): Katja Longhurst (OUL), Sallamaari Syrjä (OUL), Nurul Huda

Mahmood (OUL)

Authors: Katja Longhurst (OUL), Nurul Huda Mahmood (OUL), Matti

Latva-aho (OUL), Sallamaari Syrjä (OUL), Maurizio Cecchi (PIU), Barbara Ferraioli (PIU), Ishita Mishra (PIU), Mauro

Boldi (TIM)

Contractual Date of Delivery: 31/12/2023

Dissemination level:

Status: Final

Version:

File Name: Hexa-X-II D7.3_v1.0

Revision History

Revision	Date	Issued by	Description
0.1	22.08.2023	Hexa-X-II WP7	Document created with initial outline
0.2	13.11.2023	Hexa-X-II WP7	First complete draft released for internal review
0.3	24.11.2023	Hexa-X-II WP7	Review comments addressed, ready for final internal review
0.4	27.11.2023	Hexa-X-II WP7	Final draft released for general assembly approval
1.0	14.12.2023	Hexa-X-II WP7	Final version

Abstract

This document, Deliverable D7.3, reports on the dissemination, communication, and clustering activities of the Hexa-X-II project within its first year. It assesses progress against the detailed communication plan outlined in Deliverable D7.2 and evaluates the impact of these activities. Notably, the document captures the extensive work conducted across various communication fronts, including project website engagement, social media outreach, event participation, academic publication, and the development of system proof of concepts. Despite not yet having full-scale demonstrations, considerable progress in communication deliverables has been achieved, with expectations for significant growth in demonstrator numbers by the project conclusion. The deliverable provides a transparent account of the achievements and the quantitative progress towards the dissemination and communication of key performance indicators, offering a foundational analysis for ongoing and future activities.

Keywords

6G, clustering, communication, dissemination, EU projects, Hexa-X-II, knowledge sharing, outcomes, social media channels, stakeholders.

Disclaimer

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Executive Summary

This document serves as an intermediate update on the dissemination, communication, and clustering activities of the Hexa-X-II project. It is intended to provide a status report on the activities outlined in Deliverable D7.2, "Planning for dissemination, exploitation, standardisation, and clustering." The focus here is on the progress made, key milestones achieved, and any adjustments to the initial plans. This document aims to ensure that the project's stakeholders are well-informed about its ongoing activities and their alignment with the project's overall objectives. This deliverable builds on the Hexa-X-II communications plan, which is a comprehensive document that outlines strategies and tactics to effectively engage and inform the project's audience about its research, achievements, and key results.

The key achievements in terms of communication, dissemination and outreach can be summarised as follows:

- Website Development and Engagement: The Hexa-X-II website has been enhanced to serve as the central hub for information dissemination. It showcases project updates, news, and resource materials. Analytics have shown increased visitor traffic and engagement.
- **Social Media Presence**: Efforts to bolster the project's social media footprint have resulted in a marked increase in followers and interactions across platforms. Regular updates and strategic content placement have strengthened the project's online visibility.
- **Newsletter:** Hexa-X-II also offers a newsletter which can be subscribed to via the project website. The newsletter is sent out periodically (target twice per year), and it features news highlights such as latest deliverables and upcoming events featuring Hexa-X-II.
- **Academic and Industry Conferences:** The project has maintained a strong presence at key academic and industry events, promoting discourse and collaboration opportunities within the 6G research community.
- **Publications and Academic Contributions**: A series of papers and articles have been published in reputed journals and conferences, contributing to the body of knowledge in 6G technology and ensuring the project's visibility in the academic sphere.
- **Stakeholder Engagement**: Ongoing dialogues with stakeholders have been intensified, ensuring that the project remains aligned with industry needs and regulatory frameworks.
- **Clustering Activities**: Cooperation with related initiatives and projects has been established, fostering a collaborative environment for shared progress in 6G development.
- Outreach and Educational Activities: Initiatives aimed at the broader public, including workshops and webinars, have been conducted to educate and stimulate interest in 6G technology.

This executive summary highlights the significant strides made by the Hexa-X-II project in its dissemination and communication activities. Adjustments to the communication plan have been implemented to address emerging challenges and leverage new opportunities, ensuring that the project remains on the forefront of the 6G research and development landscape.

Acronyms and abbreviations

Acronym	Full abbreviation
DOI	Digital Object Identifier
DX.Y	Deliverable X.Y, where X is the WP number and Y is the deliverable number
FA	Functionality Allocation
IEEE	Institute of Electrical and Electronics Engineers
KPI	Key Performance Indicator
M&O	Management and Orchestration
MoU	Memorandum of Understanding
PoC	Proof of Concept
SDO	Standards Developing Organization
SNS JU	EU Smart Networks and Services Joint Undertaking
SNS-ICE CSA	EU Smart Networks and Services International and European Cooperation Ecosystem Coordination and Support Actions
TRL	Technology readiness level
WP	Work package

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1. Introduction

Effective communication and dissemination are crucial for the success of the Hexa-X-II project. We present in this document the progress and activities in terms of communication, dissemination, outreach, and proof of concept in the Hexa-X-II project within the first 11 months of year 1 (Y1 - 2023). During this first year of the project, communication and dissemination activities were carried out as planned, in some cases exceeding the expected number of contributions. The Hexa-X-II consortium managed to plan and invest the required efforts and resources to achieve remarkable communication and dissemination performance indicators. In a nutshell, communication, and dissemination activities were performed successfully in most of the categories considered within the first year of the project, including the following:

- Project website engagement.
- Social media engagement.
- Newsletter engagement.
- Event organizations.
- Appearances in news/media.
- Academic paper publications, both journals and conferences.
- Invited talks within various events.

The activities within the system proof of concepts (PoC) development task are also progressing as planned. The absence of full-scale demonstrations and prototype exhibitions were expected at this point as they require mature enough technical advancements and therefore were planned for the later stage in the project. In this way, although the current number of demonstrators is zero, we expect this number to significantly grow for the final edition of dissemination and communication report (deliverable D7.6).

A highlight of the key numbers achieved with respect to the communication activities is provided in Figure 1-1. The figure serves to illustrate the key performance indicators (KPI) of important communication and dissemination metrics. The rate of achieved deliverables and publications stands above 30%, which is in line with the project completing its first year (40% of total lifetime) by the time of publishing this report; and considering the initial lag in ramping up the project activities at the beginning of the project. Hexa-X-II has participated in 37 international events in its first year, which is an impressive achievement. This reflects the global interest in the project activities and its research outputs. The project has also established a good process to get news items out in a timely manner – reflected by the number of press releases and publish news items. This is in addition to the two newsletters released during this period.

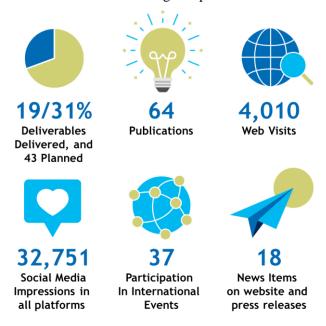


Figure 1-1: Highlight of the KPIs for main communication items.

1.1 Objective of the deliverable

This document, D7.3, aims to report on the activities and milestones achieved since the start of the project in January 2023 until the finalisation of this deliverable (mid-November 2023) and evaluate the progress with respect to the comprehensive communication plan outlined in D7.2, which included several key measures such as project branding, a project website analytics, social media presence, newsletters, press releases, and white papers [HEX23-D72]. The objective of this deliverable D7.3 is two-fold: first, to provide an overview of the dissemination and communication activities of the Hexa-X-II project during Y1, and second, to present along with this overview an assessment of the impact achieved with respect to the dissemination KPIs. These dissemination and communication activities include published papers, organised events, presentations, social media impact, and so on. For each of these categories, the document provides a summary of the number of contributions at mid-November 2023, and a discussion on the resulting level of achievement, considering the different nature of the various activities considered.

1.2 Structure of the deliverable

The deliverable is structured into five chapters. In Section 1, we introduce the dissemination and communication activities of Hexa-X-II. Section 2 comprises the communication activities to the general public. Here we present the overall achievements, press releases, the web and social media impact, news items and newsletters, as well as initiatives on international cooperation. In Section 3, we focus on industrial and scientific dissemination. We present in this section the overall achievements, participation in industrial and scientific events and workshops, online talks, and publications. Finally, Section 4 presents the status of the three planned system proof of concepts (PoCs) before concluding the deliverable in Section 5.

2. Communication

All partners have committed since the first day to promote the project to the general public through different kinds of activities. The Hexa-X-II project has carried out social media appearances, press releases, project communications, presentations, workshops, and so on. This strong initiative has resulted in the creation and use of social media accounts like X (formerly known as Twitter) and LinkedIn. The number of views and followers on these platforms has grown rapidly during this first year, reaching many users and therefore increasing awareness about the Hexa-X-II initiative and its developments. YouTube is only used as a video repository and is not actively promoted as a social media channel [HEX223-D71]. In this chapter, we report on all the activities that were categorised under "dissemination (public or restricted)" and "communication to the general public" in the project plan.

2.1 Overview of Hexa-X-II Project's Communication Goals

The communication strategy of the Hexa-X-II project is tailored to engage and inform a diverse audience about the research progress, achievements, and key results of the project. Through a variety of platforms and activities, the project has aimed to provide a clear view of its goals, position the stakeholders for evolution towards 6G, and foster a community amongst stakeholders. The objectives include providing a clear view of project goals and results, increasing awareness of project results among stakeholders, stimulating the exploitation of project achievements, enforcing stakeholder community building, creating liaisons with other projects, communicating high-level results, and impacting future 6G standardisation.

The project's communication efforts are tailored to the needs and interests of the different audience groups. The target audience groups include a wide range of stakeholders and partners who are involved in the project or who have an interest in its research and findings, such as telecom operators and vendors, service providers over telecommunication networks, research and academic community, standards bodies, policymakers, governments and regulatory agencies, 6G-IA and related European/International fora, and the general public. The overall goals of the communication, dissemination and outreach activities include:

- Engaging and informing the project's audience about its research and achievements through versatile channels and platforms,
- covering a wide range of topics and content types to engage a diverse audience,
- increasing visibility and awareness of the project,
- fostering engagement and participation from stakeholders, and
- communicating the project's impact and results to relevant audiences.

Table 2-1 below provides indicative KPIs used to evaluate the project's communication strategy and targets to be achieved by the end of the project. It may be noted that these objectives are set during the project proposal.

Table 2-1: Targeted KPIs per communication activity

KPI	Target	Verification
Newsletters	2 per year	Proof in Dissemination Reports
Newsletter recipients	200	Email delivery
Submissions in Magazines and technical press	2	Number of published articles
Press releases with project acknowledgements	>5	Number of published press releases
Unique website visitors per month	250	Google Analytics
Website page views per month	1000	Google Analytics
Web visits	4500	Google Analytics
Pages / sessions in the website	>3	Google Analytics
Website average session time	>2 min	Google Analytics

Followers in Hexa-X-II X (former Twitter)	>100	X Analytics
Tweets (posts on X)	>50	X Impressions >4000
Followers in Hexa-X-II LinkedIn	>100	LinkedIn analytics
Posts in LinkedIn	>50	LinkedIn analytics

Target audience/stakeholder engagement

Table 2-2 below outlines the communication objectives of the Hexa-X-II project along with the target audience groups for each objective and provides an overview of the achievements so far.

Table 2-2: Stakeholder-specific communication objectives of Hexa-X-II and the achievements so far

		Achievements	Means of
Communication Objectives	Audience groups	so far	verification
		Deliverables	Social Media
		D1.1, D2.1,	Metrics,
Provide a clear view of the project goals and		D3.2, D4.2,	Deliverable
results, including an SNS Horizon Europe view	All	D5.2, D6.2	Documents
		Deliverable	Social Media
		D7.1	Metrics,
Increase the awareness of the project results			Online
among the stakeholders impacted by Hexa-X-II	All		Presence
	Telecom operators,	Exploitation	-
	vendors, service	activities within	
Stimulate the exploitation of the achievements	providers, and	WP7	
of Hexa-X-II towards 6G evolution of the	research		
market	community/bodies		
Enforce stakeholders' community building to		Social Media	Social Media
share and collect knowledge and increase		Engagement	Metrics
awareness in the 6G development	All		
Create liaisons and relationships with other	Standards bodies,	Engagement	Deliverable
projects in Europe and abroad (e.g., USA,	policy makers and	initiated as	Document
China, Republic of Korea, Japan), with special	different research	reported in D7.3	
focus on 5G PPP and SNS Horizon Europe	fora		
		Deliverable	Social Media
		D7.2	Metrics,
Communicate high-level results, through clear			Deliverable
and crisp messages and communications	All		Documents
	Standards bodies,	Will be reported	Deliverable
	policy makers and	in D7.5	Document
Impact future 6G standardisation evolutions	different research		
through participants involvement in the SDOs	fora		

2.2 Overall Achievements

This section presents an overall picture of the achievements related to the project's communication activities with respect to the targets planned in the initial project plan. A summary of the project's communication activities and dissemination KPIs achieved so far is presented in Table 2-3 below. Given that we are still at the end of the first year of this project, it can be observed that many of the KPIs are well placed to meet the set target; and have even already exceeded the target in a few cases. Detailed analysis of the dissemination and

communication performance with respect to different communication media is presented in the proceeding sub-sections of this section.

Table 2-3: Hexa-X-II communication and dissemination KPIs, targets vs. current status¹.

KPI	Target	Verification	Current	Percentage
			Status	achieved
Newsletters	2 per	Proof in	2	100%
	year	Dissemination Reports		
Newsletter recipients	200	Email delivery	122	61%
Submissions in Magazines and technical press ²	2	Number of published articles	2	100%
Press releases with project acknowledgements	>5	Number of published press releases	5	100%
Unique website visitors per month	250	Google Analytics	167	66,8%
Website page views per month	1000	Google Analytics	787	78,7%
Web visits (sessions)	4500	Google Analytics	4010	89,1%
Page views / sessions in the website	>3	Google Analytics	1,96	65,3%
Website average session time	>2 min	Google Analytics	3m 54s	195%
Followers in Hexa-X-II X (formerly Twitter)	>100	X Analytics	93	<90%
Tweets (posts on X)	>50	X Analytics	37	74%
X Impressions	>4000	X Analytics	6,506	<162%
Followers in Hexa-X-II LinkedIn	>100	LinkedIn analytics	542	542%
Posts in LinkedIn	>50	LinkedIn analytics	30	60%
LinedIn Impressions	>4000	LinkedIn analytics	26,245	<164%

Achieved Deliverables

Hexa-X-II deliverables are the most important instrument for disseminating the research results developed in the project, which addresses the project objective 6 – Impact creation (among others). Towards this end, each WP in Hexa-X-II promised to publish a number of deliverables, some of which are/will be publicly available through the project website [HEX2]. This section lists the *public and non-public* deliverables that have successfully been delivered to the project funder – European Commission according to the agreed schedule within the first 11 months of the project. These are as follows:

- 1. D7.1: Project website (https://hexa-x-ii.eu/) and online project presence (public), finalised on 31/01/2023 [HEX223-D71].
- 2. D7.2: Planning for dissemination, exploitation, standardisation, and clustering (*public*), finalised on 30/04/2023 [HEX223-D72].

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¹ Please note that most of the statistics from various analytics and social media platforms are collected for a calendar month. Hence, the website and social media KPIs reflect the status at the end of October 2023, whereas the other KPIs are collected until the last week of November.

² This includes technical magazines (like IEEE Communications Magazine) as well as popular technical press (like IEEE Spectrum).

- 3. D1.1: Environmental, social, and economic drivers and goals for 6G (*public*), finalised on 30/06/2023 [HEX223-D11].
- 4. D2.1: Draft foundation for 6G system design (public), finalised on 30/06/2023 [HEX223-D21].
- 5. D3.1: Initial identification of Architectural enablers (non-public), finalised on 30/06/2023.
- 6. D4.1: Presentation on identified key enablers for 6G radio design and spectrum access (*non-public*), finalised on 30/06/2023.
- 7. D5.1: Draft characteristics and classification of 6G device classes (non-public), finalised on 31/08/2023.
- 8. D6.1: Identification of 6G smart network management enablers (non-public), finalised on 31/08/2023.
- 9. D3.2: Initial architectural enablers (public), finalised on 31/10/2023 [HEX223-D32].
- 10. D4.2: Radio design and spectrum access requirements and key enablers for 6G evolution (*public*), finalised on 31/10/2023 [HEX223-D42].
- 11. D5.2: Characteristics and classification of 6G device classes (*public*), finalised on 31/10/2023 [HEX223-D52].
- 12. D6.2: Foundations on 6G smart network management and orchestration enablers (*public*), finalised on 31/10/2023 [HEX223-D62].

2.3 Project Website

The project website was established and publicly released immediately after the launch of the project in January 2023. The website is reachable at https://hexa-x-ii.eu/ and has sustained a notable number of visits during the first year of the project. This section presents the key performance indicators related to the website. Overall, it can be claimed that the project is reaching out to a wide range of audiences through its online presence. Table 2-4 provides a summary of Hexa-X-II's web and social media engagement statistics.

Table 2-4: Indicative		

KPI	Target	Current status
Unique website visitors per month	250	167
Website page views per month	1000	787
Web visits (sessions)	4500	4010
Pages / sessions in the website	>3	1,96
Website average session time	>2 min	3 min 54 sec
Website news items		13

News items on project website

To effectively communicate the latest updates and noteworthy events of the Hexa-X-II project, the team aimed to produce short news updates at an average rate of one news item per month. The goal is to create the most effective possible impact and present this information to engage the project's audience and meet the project's communication goals. The communications team are primarily responsible for creating the news items in close collaboration with the project management team. News items are published at the news section in Hexa-X-II website [HEX2].

To effectively communicate the latest updates and noteworthy events of the Hexa-X-II project, the team has produced short news updates monthly. Since January 2023, more than ten news articles have been published, covering a range of topics from project deliverables and sustainability goals to events and workshops. These news items serve to create a meaningful impact by presenting timely and relevant information designed to

engage the project's diverse audience and meet the project communication objectives. The frequency and diversity of the news topics suggest a proactive approach to keeping stakeholders informed and engaged.

The website analytics also indicate that news items and the simultaneous communication about them on Social Media drive traffic to the website. Especially the news item "Hexa-X-II: Charting the Course for 6G's Future" was read by many. Creating meaningful news items that are relevant to our visitors is the key to achieving the goals we have set. In addition, getting all the consortium members to take part in the communication efforts on their own channels is crucial.

Web engagement

During the first year of the project, the Hexa-X-II website has been gathering a significant amount of both traffic and engagement, and significant progress has been made towards reaching the target KPIs within the first 11 months of the project. In particular, the project is being well received in the online world through close to 800 page views per month with an average session time of almost four minutes per visit (the median value for average session duration for companies is 77.61 seconds.). While the Hexa-X-II project has successfully engaged audiences through various communication channels, it is observed that there is so far no YouTube presence as it is only used as a repository [HEX223-D71]. Given the platform's potential for broad reach and in-depth content dissemination, the communication team may take steps to enrich the Hexa-X-II YouTube channel. This will be done when the project produces videos that are likely to be of interest to the wider audience and an active YouTube presence can enhance the project's overall communication and audience engagement strategy.

2.4 News Engagement

Hexa-X-II published its first newsletter in October 2023, which is also <u>available online</u> through the project website. Currently, the newsletter has 122 subscribers, and the number is expected to grow in the coming months, given that the first newsletter was published only recently. As described in the previous section, the project website is also active in disseminating important project updates through the <u>news</u> section, which boasts over ten news articles at an impressive average rate of over one news item per month. In addition, different partner organisations in the project have published five press releases highlighting different aspects of this project.

Newsletters

The first Hexa-X-II Newsletter was distributed in October 2023. The initial plan was to release a newsletter in the first half of 2023. However, this was delayed due to administrative delays in finalizing the privacy policy, which was needed to collect newsletter subscriptions in line with General Data Protection Regulations. Since it was the first issue of the Newsletter, it covered news items from a quite long time period, such as:

- Hexa-X-II at 5G Techritory
- Reflecting on the 6G Series Workshop at the EuCNC & 6G Summit
- Hexa-X-II 1st Deliverable on Sustainability Goals for 6G Networks
- Hexa-X-II 2nd Deliverable: Paving the Way for a 6G-Enabled Future
- Defining 6G together

In addition, the newsletter included a link to <u>subscribe</u>, in case someone would receive the letter via forwarding or reading it from the <u>Newsletter archive</u>. And finally, it also encourages the readers to follow us on our Social Media Channels. The second issue of the Newsletter was distributed at the end of November. At the time of writing this report, there are 122 subscribers to the Hexa-X-II newsletter.

Press releases

Press releases are an effective way to communicate information and hence Hexa-X-II has an ambitious target to produce at least five press releases by the project partners communicating information about the project. So far five press releases have been published within the first 11 months of the project.

Four press releases were published to announce the project selection on 7th October 2022. The first was the Hexa-X press release titled <u>Hexa-X-II</u>, the second phase of the European 6G flagship initiative. Nokia's press release highlighted the project announcement by the European Commission and Nokia's role in <u>leading the next phase of Europe's 6G flagship project</u> as the project coordinator. Ericsson's press release on the same topic was titled <u>Hexa-X-II: Ericsson and European partners ramp up collaboration on 6G ecosystem and standardization</u>. Finally, 6G Flagship and the University of Oulu, the largest academic partner in Hexa-X-II, also released a press release with the title: <u>Hexa-X-II: Transforming the industry through innovation</u>.

Recently, Aalto University from Finland published a press release to announce the development of the first prototype of an Ambient Internet of Things system operating in a mobile phone network, which enables a very energy- and cost-effective data transfer method for energy neutral Internet of Things applications. We list below in

Table 2-5 these press releases including publication date, partner involved, and link to the press release.

Table 2-5: Press releases by Hexa-X-II partners

Date	Category	Partners involved	URL
7 October 2022	Project launch	Hexa-X	https://hexa-x.eu/hexa-x-ii-the-second-phase-of-the- european-6g-flagship-initiative/
7 October 2022	Project launch	Nokia	https://www.nokia.com/about- us/news/releases/2022/10/07/nokia-to-lead-the-next-phase- of-europes-6g-flagship- project/?utm_source=linkedin&utm_medium=social
7 October 2022	Project launch	Ericsson	https://www.ericsson.com/en/news/2022/10/ericssons- major-role-in-ec-hexa-x-ii-6g-initiative
7 October 2022	Projet launch	6G Flagship, University of Oulu	https://www.6gflagship.com/news/hexa-x-ii-transforming-the-industry-through-innovation/
18 August 2023	Research news	Aalto University	https://www.aalto.fi/en/news/the-iot-connection-which- utilizes-the-energy-and-infrastructure-of-the-mobile-phone- network-enables

2.5 Social media and other sites

The project initiated its social media presence in January 2023 as a means to reach and interact with a broader audience, and actively disseminated contents to the project stakeholders using different social media channels, namely X (https://twitter.com/Hexa_X_II) and LinkedIn (https://www.linkedin.com/company/hexa-x-ii/). During the first year of the project, the total impressions of Hexa-X-II social media channels gathered across different platforms, including X (formerly known as Twitter) and LinkedIn, is over 32,828 at an impressive engagement rate of 7.8% per impression (social media marketing experts agree that a good engagement rate for the education section is about 2%). Table 2-6 provides a summary of Hexa-X-II's social media engagement statistics. Detailed statistics and trends of social media KPIs are provided in the Appendix at the end of this report.

Table 2-6: Social media engagement KPI status as on 31st October, 2023

SL	Social media KPI	Hexa-X-II
1	Total social media impressions	32,751
2	Total social media engagements	2,560
3	Post Link Clicks	1,105
4	Engagement Rate per Impression	7.8%

5	Total Audience Growth	639
6	Followers in Hexa-X-II X (formerly Twitter)	93
7	Website average session time	3m 54s
8	Tweets (Post on X)	37
9	Followers in Hexa-X-II LinkedIn	542
10	Posts in LinkedIn	30

2.6 International Cooperation

Hexa-X-II project is dedicated to promote collaboration with other European and international initiatives related to 6G. By fostering direct collaboration among key 6G stakeholders and verticals at a global level, the goal is to establish a sustainable meta-cluster. To achieve this, consortium members are actively participating in major international 6G fora and industrial initiatives. All activities are coordinated within Task 7.4 regarding the clustering plan and activities for international cooperation and exchange of results.

The focus of Task 7.4 is to foster cooperation with associations such as:

- Global 6G Fora:
- Other international initiatives on 6G services:
- 6G cluster in India and other areas interested in the 6G evolution.

In international collaboration settings, Hexa-X-II members promote:

- Exchange of results;
- Sharing knowledge and experience;
- Best practices for the emerging 6G services to different relevant verticals.

The Hexa-X-II project, along with the SNS JU community, have a strong presence at the **5G Techritory 2023** event, which takes place in Riga, Latvia, on October 18th and 19th. More precisely, in collaboration with SNS-ICE CSA, the project is organising a panel of experts to discuss the real need for 6G and 3 co-creation events that will actively engage all participants. Hexa-X-II cooperates with SNS ICE, especially for the "6G for Sustainability" event, also with direct involvement in the event with specific talks.

The agenda of the event "6G for Sustainability" includes three specific presentations by our project:

- The three pillars of Hexa-X-II towards 6G: sustainability, inclusion, trustworthiness– Mikko Uusitalo (Nokia)
- Environmental, societal and economic drivers for 6G sustainability Maurizio Cecchi (Institute PIIU)
- Sustainability: the enablement effect Mauro Boldi (Telecom Italia)

The topics listed above focus on 6G sustainability. Sustainability has become the cornerstone for the development of new systems and applications and will be a driver for the design of 6G.

During this co-creation event, sustainability is considered from three different angles:

- Environmental sustainability, ensuring the preservation of natural resources and ecosystem
- Social sustainability aims at the well-being of all individuals and communities; Inclusion and trustworthiness are two important aspects.
- Economic sustainability, targeting long-term economic growth while respecting the conditions for environmental and social sustainability

During this Techritory event, Hexa-X-II presented the drivers and goals for 6G inspired by these three interconnected pillars of sustainability, to be used as a baseline for Hexa-X-II to deliver a system blueprint of the 6G platform. Not only are the environmental, social, and economic sustainability aspects inseparable and have direct and indirect impacts on one another, but several trade-offs can also arise between different sustainability factors within each aspect. A socially sustainable 6G must prioritise cybersecurity and safeguard end-users' privacy, involve human oversight in AI-based approaches to ensure accountability and foster trust, and improve availability, flexibility, adaptability, as well as non-discriminatory practices.

Hexa-X-II project will also participate in the **2023 IEEE GLOBECOM**. The IEEE Global Communications Conference (GLOBECOM) stands as one of the IEEE Communications Society's premier events, dedicated to fostering innovation across a broad spectrum of communication-related fields. Annually, over 3,000 scientific researchers and their management teams submit proposals for program sessions to be included in the conference agenda. Following rigorous peer review, the most exceptional proposals are chosen to form part of the conference program, encompassing technical papers, tutorials, workshops, and industry sessions, all aimed at advancing technologies, systems, and infrastructure that continue to reshape the world, providing users with unparalleled access to high-speed, seamless, and cost-effective global telecommunications services.

Scheduled for December 4th to 8th, 2023, the 2023 IEEE Global Communications Conference (GLOBECOM) will take place in the vibrant city of Kuala Lumpur, Malaysia. Themed as "Intelligent Communications for Shared Prosperity," this flagship event of the IEEE Communications Society will present a comprehensive, high-quality technical program featuring 13 symposia along with various tutorials and workshops. IEEE GLOBECOM 2023 will also host an engaging Industry program, featuring keynotes, panels, and exhibits from distinguished leaders in research, industry, and government, as well as business and industry experts. During this event, HEXA X II coordinator will present the initial achievements of the project.

6G India

Hexa-X-II project has started some links with Prof Abhay Karandikar and Prof Kiran Kumar Kuchi, who are among the founding members of India 6G. India is preparing for the arrival of 6G wireless broadband technology, with commercial deployment expected around 2030. India's 6G Vision was released in March 2023 and states: "Design, develop and deploy 6G network technologies that provide ubiquitous intelligent and secure connectivity for high quality living experience for the world." The purpose of India 6G is "To align the technology and innovations vision of the Government of India with the overall national vision of Bharat 6G Mission, Atmanirbhar Bharat, Digital India and Make in India based on principles of Affordability, Sustainability and Ubiquity".

Moreover, India's 6G Alliance was formed in July 2023. It is an industry-led, government-backed group aiming to translate the vision into reality. The alliance has 16 founding members from the industry and academia, including big players like Reliance Jio, Vodafone Idea, IIT Madras, IIT Kanpur, and the public body C-DoT are also among the initial affiliates.

India 6G Mission Task Force, an initiative supported by the Indian Government, reports highlighted Hexa-X project for laying the foundations for 6G systems and with the goal to enable EU leadership in B5G/6G research and development. It further mentioned the project's deliverable D1.2 which captured the 6G vision, use cases and societal values – including aspects of sustainability, security and spectrum. India wants to ensure efficient coordination among various Indian organizations involved in 6G, as well as with international counterparts such as the SNS-JU, Hexa-X, by establishing Memoranda of Understanding (MoUs) and cooperation agreements. This will enable them to harness their expertise and prevent redundant efforts.

For the upcoming year Hexa-X-II is organizing several events, such as a workshop with International external players January or February 2024 where International Experts will be invited, an online event in collaboration with the Germany 6G Platform, and a set of workshops for EUCNC 2024 in Antwerp.

3. Industrial and Scientific Dissemination

This section reports the status of industrial and scientific dissemination as of late November 2023. This dissemination corresponds to activities such as participation in industrial and scientific exhibitions, events, small-scale demonstrators, industrial and scientific workshops organised by Hexa-X-II, etc.

3.1 Industrial and Scientific Dissemination Goals and Overall Achievements

Dissemination is an essential factor in maximising the impact of the project providing technical details of the project outcomes. Dissemination goals are about raising awareness in relation to the 6G challenges. The benefits and the value 6G networks can bring to society with respect to environmental, social, and economical sustainability and new business opportunities. They can promote the technical advances that can support environmental, social and economical sustainability, including trustworthiness, resilience, and digital inclusion, as well as network transforming/automation enablers, innovative radio aspects, devices of the future, AI-based network management enablers, etc.

The Horizon Europe requirement for <u>Open Access</u> to scientific publications is fully embraced by Hexa-X-II. All scientific publications will be made open access through the Hexa-X-II Zenodo community page and through the <u>Open Research Europe</u> publishing platform. Scientific publications are peer-reviewed and require general assembly acceptance prior to publishing. The Zenodo repository is publicly accessible without any credentials and supports versioning. Uploaded publications must have a Digital Object Identifier (DOI) that can be used as a reference to the document in other sites & repositories.

Hexa-X-II intends to disseminate its innovation results in international peer-reviewed scientific journals, magazines, conferences, industrial/stakeholder events and standards-developing organisations (SDO). The industrial and scientific dissemination plans can be grouped into the following main dissemination categories:

- Publications in peer-reviewed scientific journals.
- *Participation at conferences* (including peer-reviewed paper presentations, demos/exhibitions, workshops, webinars and invited talks).
- Participation in research community networks and stakeholder groups, including the coordination with 5GPPP, 6G-IA, SNS and other EU projects and presentations at relevant industry for and events such as NGMN, GSMA, 5G-ACIA, Telco Global API Alliance, FUSECO, Layer123
- Internal workshops and events, trainings, and whitepapers.

This initial dissemination plan described in the project's description is reproduced and compared against the current status in Table 3-1 below.

Table 3-1: KPIs of industrial and scientific dissemination activity in Hexa-X-II, target vs. status

KPIs	Target	Means of verification	Current status
# of journal paper submission during the project lifetime	>200	D7.3, D7.6, D7.5,	22
# of conference and workshops paper submissions by all Hexa-X-II partners		D7.8	20
# of workshops organized and participated in during the project lifetime	10		1
# of Joint SNS Stream B workshops organised	2		0
# of demos and industrial exhibitions given during the project lifetime	10		1

3.2 Participation in industrial, business, and scientific events

Here we summarise the participation in industrial and scientific exhibitions and events. Up to the first year, Hexa-X-II has caused an impact regarding industrial and scientific exhibitions. In fact, Hexa-X-II members have participated in a total of 19 events. The following Table 3-2 presents a summary of the events during Y1.

Table 3-2: Participation in industrial and scientific exhibitions and events, and business conferences.

SL	Title	Type of	Target audiences	Date
SL	Tiuc	activity	Target audiences	Date
1	Panellist at 6G Summit Berlin	Conferences	Industry and business partners; Research communities	26.4.2023
2	Panel participation and presentation on 6G and sustainability at 6G Global Summit Bahrain	Conferences	Research communities; Innovators; International organization (UN body, OECD, etc); National authorities; Regional authorities	5.5.2023
3	Joining 6G panel at Critical communications Conference	Conferences	Research communities; Industry and business partners; International organization (UN body, OECD, etc); National authorities; EU Institutions	24.5.2023
4	Talk on 6G at Critical communications conference	Conferences	Industry and business partners; Research communities; Innovators; Investors; International organization (UN body, OECD, etc); EU Institutions; National authorities	25.5.2023
5	Talk on 6G at the Explore 6G event in Tampere	Conferences	Industry and business partners; Research communities; National authorities	25.5.2023
6	Presentation on Hexa-X-II at the EU Taiwan 6G event	Other scientific collaboration	Industry and business partners; Research communities; EU Institutions; Regional authorities	30.5.2023
7	Panel presentation at ICC 2023	Conferences	Research communities; Industry and business partners; Innovators	30.5.2023
8	Organization of workshop "The 6G series workshop by Hexa-X and Hexa-X- II" at EuCNC & 6G Summit	Conferences	Research communities; EU Institutions; Industry and business partners	6.6.2023
9	Invited talk and panel participation on Hexa projects at IEEE WoWMom	Conferences	Research communities; Industry and business partners	13.6.2023
10	Organization of Netsoft 2023 conference in Madrid	Other scientific collaboration	Research communities	19.6.2023
11	Keynote at ACM Mobisys on Hexa projects	Conferences	Research communities; Industry and business partners	21.6.2023
12	VTC Panel on 6G	Conferences	Industry and business partners; International organization (UN body, OECD, etc); Specific user communities	23.6.2023

13	Invited keynote on	Conferences	Research communities; Industry and	27.6.2023
13	Hexa-X and Hexa-X- II at German national 6G main event	Conferences	business partners; International organization (UN body, OECD, etc); National authorities; EU Institutions	21.0.2023
14	Presentation on 6G at CxO industry Forum	Education and training events	Industry and business partners; Innovators	31.8.2023
15	Panel talk "Towards Secure and Trustworthy 6G Networks" at 6G Core Technologies Workshop	Conferences	Research communities; Industry and business partners; Innovators	12.9.2023
16	Invited talk at 2nd Annual Australian Beyond 5G Connectivity Summit	Conferences	Industry and business partners; Research communities; National authorities; Innovators	11.10.2023
17	Keynote at International Conference on ICT Convergence 2023 (ICTC 2023)	Conferences	Research communities; Industry and business partners; International organization (UN body, OECD, etc); National authorities; Innovators	11.10.2023
18	Talk on Hexa projects and sustainability at Techritory meeting in Riga	Conferences	Research communities; Industry and business partners; Innovators; Investors; International organization (UN body, OECD, etc); EU Institutions; National authorities; Regional authorities	19.10.2023
19	Co-organized a symposium on "Vision and Facts on 6G and Future Networks in Europe" at IEEE Future Networks World Forum, Nov 13-15th	Conferences	Research communities; Industry and business partners; Innovators; Investors; International organization (UN body, OECD, etc)	13.11.2023
20	Presented Hexa projects at SNS Event in Istanbul	Conferences	Research communities; Industry and business partners; Innovators; International organization (UN body, OECD, etc); National authorities; Regional authorities	23.11.2023
21	Talk on 6G in Global 6G Development Conference	Conferences	Research communities; Industry and business partners; International organization (UN body, OECD, etc); National authorities; Regional authorities	05.12.2023
22	Panel co-organizing and participation at IEEE Globecom 2023	Conferences	Research communities; Industry and business partners; Innovators; Investors; International organization (UN body, OECD, etc); EU Institutions; National authorities; Regional authorities	07.12.2023
23	European Digital SMEs Alliance event	Meetings	Industry and business partners; Innovators	07.12.2023

In addition to participating in various scientific conferences and workshops, Hexa-X-II partners also communicated and disseminated information about the project and its research findings through various other channels such as giving interviews and presentations; and participating in exhibitions. Table 3-3: List of presentations and dissemination of Hexa-X-II at different events.

Table 3-3: List of presentations and dissemination of Hexa-X-II at different events.

SL	Event name	Description	Communicatio n channel	Date
1	ICT-52 online workshop	Presentation of Hexa-X-II at Hexa-X	Event	18.1.2023
2	6G Bridge program launch	Speech with info on Hexa-X-II at launch event of national 6G Bridge program in Finland	Event	6.2.2023
3	Webinar: Networking Channel	Presentation to Networking channel on Hexa-X-II	Event	15.2.2023
4	Mobile World Congress 2023	Highlighted Hexa-X-II at Nokia MWC 2023 booth	Exhibition	27.2.2023
5	Webinar: Networking Channel	Presentation of Hexa-X and Hexa-X-II views on 6G on the Networking Channel: https://networkingchannel.eu/what-is-6g-and-what-are-the-research-challenges-the-vision-of-the-european-6g-flagship-project-hexa-x/	Video	15.3.2023
6	TTC-6G Stakeholder Workshop	Presented Hexa-X and Hexa-X-II at high level TTC meeting between Europe and USA	Event	20.4.2023
7	TTC-6G Stakeholder Workshop	Europe-US meeting organized by EC; Giovanni Romano (TIM) will talk in the session on "Introduction and Scene Setter" with a specific talk on the road towards standardization, from 3GPP to ITU; Hexa- X-II has provided a contribution on the standardization roadmap	Event	20.4.2023
8	Published SNS Journal article on Hexa-X-II	Published SNS Journal article on Hexa-X-II	Media article	2.6.2023
9	EUCNC & 6G Summit 2023	Poster on Hexa-X-II at the Hexa-X-booth in EUCNC & 6G Summit 2023	Exhibition	7.6.2023
10	Special Session at EuCNC & 6G Summit 2023	Presentation of Hexa-X-II work on critical use cases at "Dependable wireless communication systems and deterministic 6G communication" Special Session at EuCNC & 6G Summit 2023	Event	7.6.2023
11	Interview and article	Interview and article in IT magazine Tivi in Finland with visibility for Hexa-X-II	Media article	14.6.2023
12	VTC Spring 2023	VTC Spring 2023 - Panel with TIM on behalf of Hexa-X-II	Event	23.6.2023
13	Newsletter article	Horizon Futures Watch Newsletter article on Hexa-X-II and interview of Mikko	Interview	10.10.2023

14	SNS JU workshop	Slides on Hexa-X-II to SNS JU for their	Event	12.10.2023
	_	microelectronic workshop		

3.3 Organisation and attendance of Hexa-X-II industrial and scientific workshops

Hexa-X-II organized one workshop in Y1 of the project, which is <u>The 6G series workshop by Hexa-X and Hexa-X-II</u>, collocated at EuCNC & 6G Summit 2023, Gothenburg, Sweden. It was held on June 3, 2023. The 6G Series Workshop set the stage for Hexa-X-II to unveil its vision for next-generation connectivity. Organised together with the predecessor project Hexa-X, the workshop featured a stellar line-up of industry leaders, academics, and tech enthusiasts, and had over 100 attendees.

The workshop was a comprehensive forum for discussing the future of 6G systems, featuring presentations from Hexa-X-II's leading figures like Mikko Uusitalo (Nokia) and Patrik Rugeland (Ericsson). Topics ranged from enhanced radio performance and AI/ML integration to innovative network architectures featuring contributions from Sylvaine Kerboeuf (Nokia), Mårten Ericson (Ericsson), and Nandana Rajatheva (U Oulu), among others. Sustainability was another major focus, with, for instance, a Hexa-X-II-led panel chaired by Maurizio Cecchi (PIIU) on the long-term challenges of 6G sustainability. The workshop served as a catalyst for fostering global collaboration in 6G research. Invitations were extended to other ICT-52 and SNS-JU Stream B 6G projects, making the event a platform for collective progress.

Given that Hexa-X-II has just completed the first year of its 2.5-year timeline, the workshop is one of the first of many milestones in its journey to shape the future of 6G connectivity. Furthermore, many of the Hexa-X-II work packages are planning to organize WP specific industrial and scientific workshops, in collaboration with other SNS-JU/International projects.

3.4 Scientific Publications

The numbers of scientific publications (conference papers, journals, etc.) has started growing since the beginning. After the initial time invested during the first months of the project, to perform the initial gap analyses, identify the research problems, etc., the growth of scientific achievements is gaining momentum. Up to the date, Hexa-X-II has 64 accepted/submitted scientific contributions, including journal articles, magazine articles, conference papers, and others. An overview of the publication status is shown in Table 3-4. Figure 3-1 presents the grouping of the Hexa-X-II scientific publications by the lead WPs. This publication rate is expected to grow significantly during the next months of the project, surpassing the KPI of having more than 200 publications throughout the project lifetime with a large margin. As mentioned earlier, all submitted publications are available through the project's Zenodo repository:

https://zenodo.org/communities/hexa_x_ii_2023/.

Table 3-4: Overview of Hexa-X-II publications

Publication type	Number of submitted papers	Target	Achievement
Conference papers	35	200	64 (32%)
Journal articles	27		
Magazine articles	1		
Others	1		

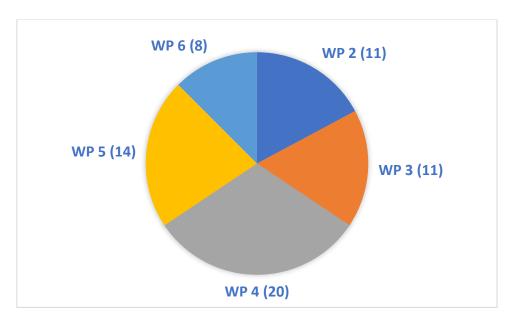


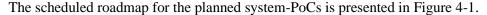
Figure 3-1: distribution of the Hexa-X-II scientific publications according to the lead WPs.

4. System PoC Demonstration

4.1 Description of the Planned Proof of Concepts

To showcase the ambitious project objectives, Hexa-X-II will develop three (3) System-PoCs (numbered as System-PoC A, B and C). Each System-PoC will encompass a set of Component-PoCs. Three System-PoCs were chosen for demonstrating technical maturity and capability up to technical readiness level (TRL) 5 for selected research work carried out in the project. The system-PoCs also consider the feasibility of achieving the targeted 6G KPIs and KVIs. Each System-PoC will encompass a set of Component-PoCs, which provides a wide range of technical enablers for addressing project objectives and meanwhile keep the overall efforts and complexity on a reasonable level. The planned system-PoCs are:

- System-PoC A: Foundation, management and orchestration of the 6G continuum. This system-PoC will focus on WP6 aspects for demonstrating smart network management mechanisms. It consists of one component-PoC.
- System-PoC B: Elements of the 6G network architecture. This system-PoC will mainly focus on network architecture elements (WP3) and refinements of management (WP6) with three Component-PoCs.
- System-PoC C: End-to-End system with radio and device components. The final system-PoC will focus on radio (WP4) and devices (WP5) aspects with four Component-PoCs. Additional elements will be developed for delivering further insights for exploitation without being tightly integrated in terms of software and hardware at the system-level.



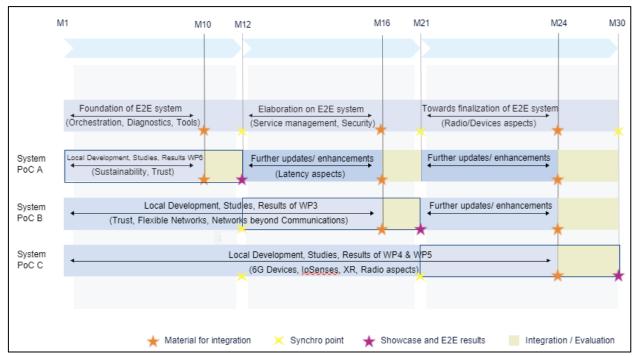


Figure 4-1: Timing of the planned System-PoCs. M refers to month with respect to the project start date.

4.2 Status of the Planned Proof of Concepts

As can be seen in Figure 4-1, only the initial stage of system-PoC A is planned to be ready in Y1 of the project. Herein, we describe the current status and initial results of the component-PoC A.1: Sustainability and trustworthy-oriented orchestration in 6G, which is the only component-PoC in system-PoC A. The other system PoCs are still work in progress, and their findings will be reported in deliverable D7.6, due at the end of this project period.

Component-PoC#A.1: Sustainability and trustworthy-oriented orchestration in 6G

This PoC will demonstrate AI mechanisms for control and programmability of 6G network elements focusing on environmental sustainability particularly energy consumption aspects. Given the AI mechanisms that need to be executed and the system capabilities, resources will be assigned in a manner that optimizes the energy consumption while considering performance and security requirements (e.g., whether a deployed node should be used to run a certain service).

The solution will use network programmability and consider a zero-touch approach to automate the network reconfiguration and energy-aware self-optimization at runtime. Since AI takes a critical role in configuring the network for optimization from energy saving and security perspectives, the AI models providing these functionalities should also be hardened-by-design to protect against possible security and privacy attacks targeting AI model itself, supporting social sustainability aspects particularly trustworthiness. Figure 4-2 provides a high-level representation of PoC#A.1 flow. The status, the capabilities, the energy consumption, and trustworthiness level of the elements of the environment as well as the service and workload requirements will be collected to ensure energy efficiency, as well as high security, trust and performance. AI mechanisms will be explored to control and programming the network elements as well as for decision enforcement.

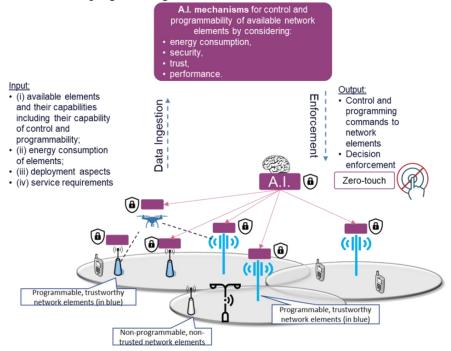


Figure 4-2: High level view of the PoC#A.1

Current status

Two Functionality Allocation (FA) mechanisms were developed for optimally placing functionality to the various compute nodes of the system. As power consumption is considered as a KPI metric, the first FA mechanism was developed focusing on optimizing the power consumption for both processing and the transmission. A metaheuristic algorithm is developed based on a Genetic Algorithm paradigm. The results are compared with two baseline algorithms, the feasible random placement and the SoTA round-robin placement. The validation scenario comprised 7 compute nodes (3 robotic units, 2 edge servers, 2 cloud servers) with increasing number of compute workloads/ tasks at the nodes. The FA algorithm compared to the baselines can achieve 8.8-28.6% reduction of power consumption, as demonstrated in Figure 4-3. Currently, work is ongoing on integrating the trust manager component to succeed maximum trustworthiness; and to develop a machine learning algorithm to possibly obtain better performance.

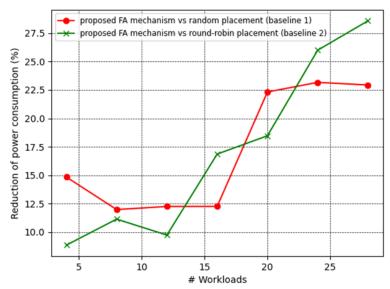


Figure 4-3: Reduction of power consumption with increasing number of workloads of our FA mechanism compared with two baseline algorithms.

The second FA mechanism was developed, along with performance diagnosis workflow, for enhancing the management and orchestration (M&O) operations. The results are compared with the typical M&O workflow (notification, action) in

Table 4-1. Both workflows are used for handling 4 types of events that can happen in an industrial context. For each type, 10 instances of events are manually triggered following the typical patterns of the industrial automation service. The average over these 10 instances is presented in the table. The proposed FA mechanism shows significantly better recovery time being in the range of $10.65 \, s - 13.09 \, s$ compared to the typical M&O having the range of $21.7 \, s - 315.65 \, s$. Work is ongoing to extend this FA mechanism by integrating the trust manager component to succeed maximum trustworthiness.

Table 4-1: Collected time measurements during unexpected events.

Operation description	Typical M&O KPIs	Optimised M&O KPIs
Redeployment of functionalities to existing resources caused by malfunction (robot offline)	Notification time: 9.3s Detection time: 301s Reaction time: 0.29s Operations time: 3.05s Application time: 2s Recovery time: 315.64s	Notification time: 3.9s Detection time: 3.2s Reaction time: 0.505s Operations time: 2.78s Application time: 2s Recovery time: 12.425s
Scaling of functionalities to new resources, caused by increased load/low battery	Notification time: 9.7s Detection time: 1.4s Reaction time: 5.6s Operations time: 3s Application time: 2s Recovery time: 21.7s	Notification time: 3.5s Detection time: 2.3s Reaction time: 0.46s Operations time: 2.39s Application time: 2s Recovery time: 10.65s
Deployment of functionalities to new resources, caused by malfunction (robot offline)	Notification time: 9.8s Detection time: 300.5s Reaction time: 0.3s Operations time: 3.05s Application time: 2s Recovery time: 315.65s	Notification time: 3.9s Detection time: 3.2s Reaction time: 0.78s Operations time: 3.21s Application time: 2s Recovery time: 13.09s
Redeployment of functionalities to maximum number of resources, caused by significant load increase	Notification time: 9.9s Detection time: 1.4s Reaction time: 5.6s Operations time: 3s Application time: 2s Recovery time: 21.9s	Notification time: 3.45s Detection time: 2.96s Reaction time: 1.06s Operations time: 3.12s Application time: 2s Recovery time: 12.59s

5. Summary

This document offers an in-depth review of the Hexa-X-II project's dissemination and communication activities in its inaugural year. It delineates the project's diverse achievements across key areas, such as stakeholder engagement, publication outputs, and event participation, providing a clear indication of the project's reach and influence. A preliminary evaluation of the communication KPIs is presented, with current statistics serving as a benchmark for the project's successful impact-creation efforts. These metrics not only affirm the positive trajectory of the project but also pinpoint domains requiring vigilant oversight by the project partners, facilitated through Task 8.1, to ensure the communication goals are met effectively and efficiently.

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[HEX223-D72] Hexa-X-II Deliverable D7.2, "Planning for dissemination, exploitation,

standardisation and clustering", April 2023. Available at https://hexa-x-ii.eu/wp-

content/uploads/2023/05/Hexa-X-II D7.2 v.1.0.pdf.

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A. Appendix

Different Social Media statistics and snapshots of social media posts on X (formerly Twitter) and LinkedIn are presented in this Appendix.



Figure A-1: Performance Summary across social media channels.

Profile ♦	Audience 🕏	Net Audience Growth	Published Posts \$	Impressions 🕏	Engagements 🕏	Engagement Rate (per Impression)	Video Views
Reporting Period	637	639	67	32,751	2,560	7.8%	3,818
Jan 1, 2023 – Oct 31, 2023	_	<i>></i> —	≯ —	<i>></i> −	7 —	_	_
Compare to	_	0	0	0	0	_	_
Mar 3, 2022 – Dec 31, 2022							
9 @Hexa_X_II	93	93	37	6,506	592	9.1%	339
in Hexa-X-II	542	544	30	26,245	1,968	7.5%	3,479
Hexa-X-II Project	2	2	_	N/A	_	N/A	_

Figure A-2: Aggregate profile and page metrics across social media channels.

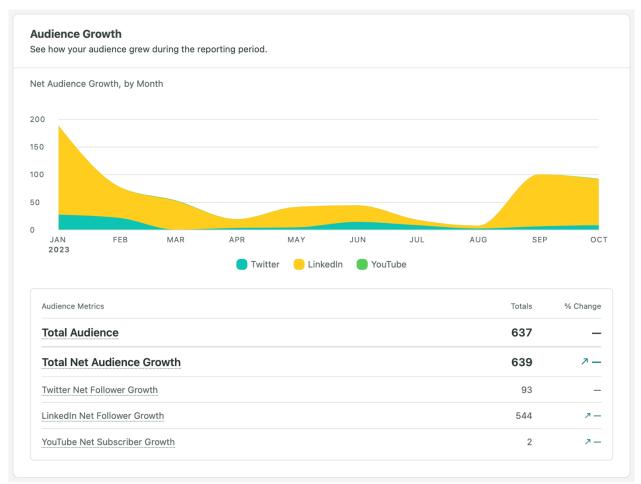


Figure A-3: Audience growth across social media channels.

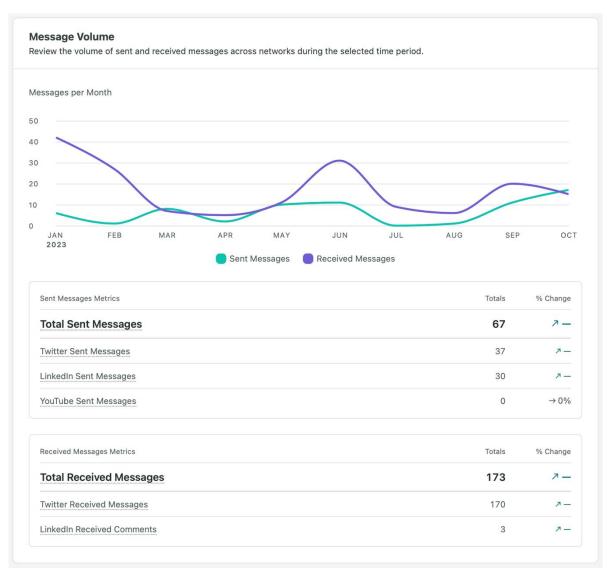


Figure A-4: Number of posts made and comments received.

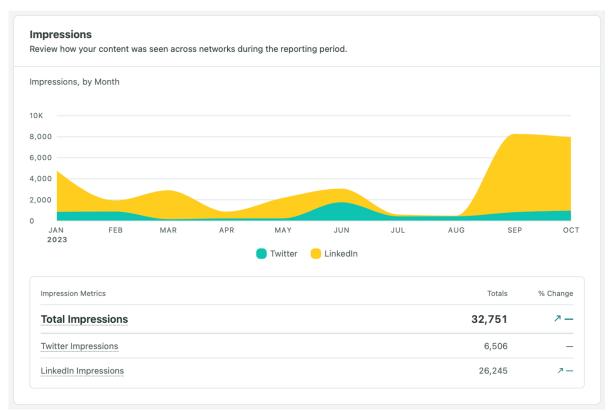


Figure A-5: Impressions across social media channels.

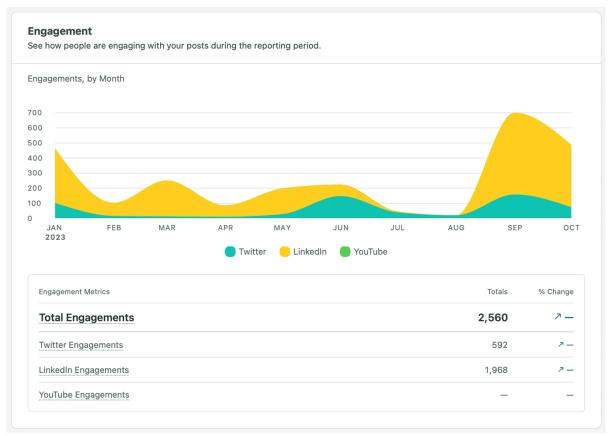
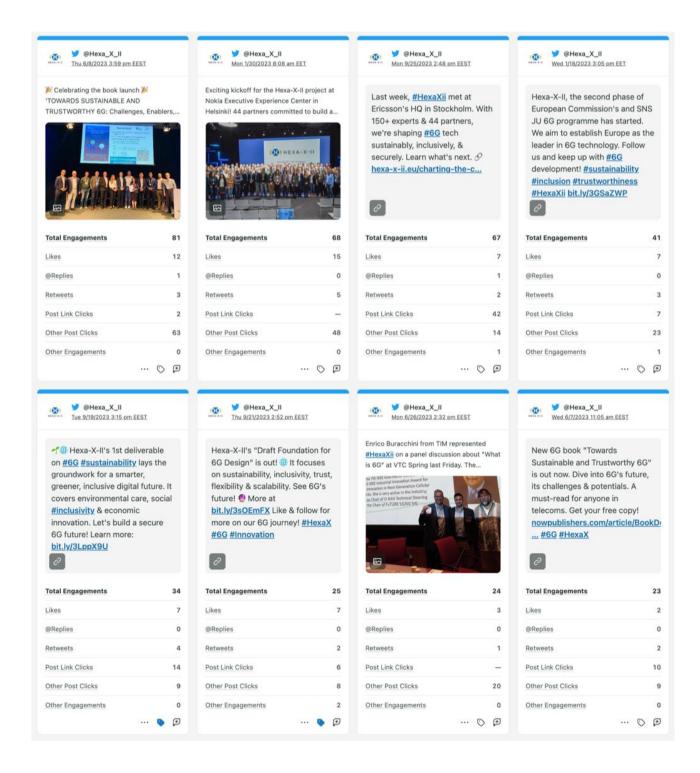
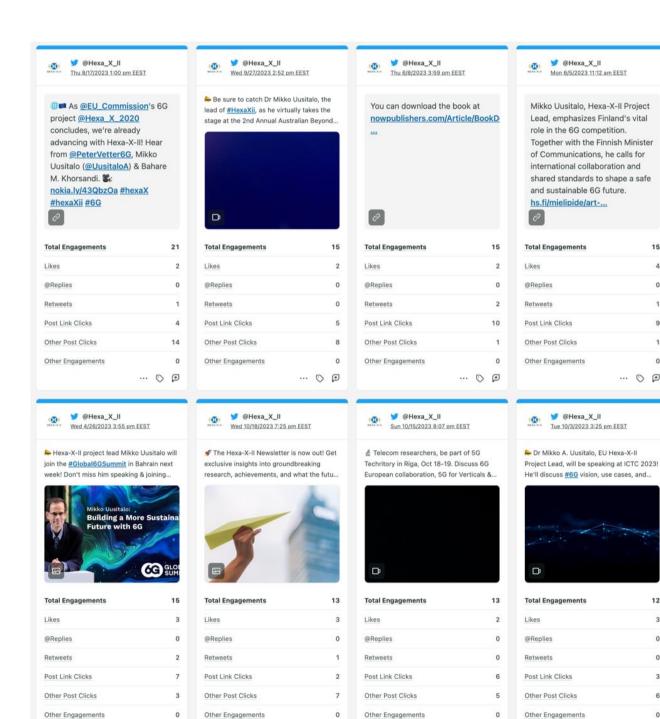


Figure A-6: Engagement across social media channels.

A.1 Snapshot of Social Media Posts

On X





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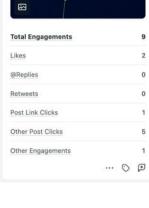
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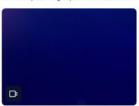
▶ Don't miss #HexaXii at the EuCNC & 6G Summit, June 6-9! Join us at booth H02:06 to learn about the future of 6G networks a.



Total Engagements	12
Likes	5
@Replies	1
Retweets	1
Post Link Clicks	2
Other Post Clicks	3
Other Engagements	0
	🔘 🗷



Tune in tomorrow, Dr Mikko Uusitalo, as the lead of #HexaXii, will sharing an Update from European Flagships Hexa-X and Hexa...



Total Engagements		11
Likes		2
@Replies		0
Retweets		0
Post Link Clicks		1
Other Post Clicks		8
Other Engagements		0
	 0	1



Tue 6/6/2023 11:59 am EEST

Hamed Farhadi, the Technical Manager of @Hexa_X_2020 gave a comprehensive presentation on 6G radio enablers. A deep dive into the groundbreaking technologies that will drive the future of wireless communication. #6G #HexaX #FutureOfTech #EuCNC23 #GSummit

Total Engagements		9
Likes		2
@Replies		0
Retweets		0
Post Link Clicks		-
Other Post Clicks		7
Other Engagements		0
	 0	1



12

0

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Don't miss Mikko Uusitalo's remote presentation today at the Second International Workshop on 6G...



Total Engagements	8
Likes	2
@Replies	0
Retweets	1
Post Link Clicks	-
Other Post Clicks	5
Other Engagements	0
	🔖 😥



Dr Mikko A. Uusitalo, EU Hexa-X-II Project Lead, will be speaking at ICTC 2023! He'll discuss #6G vision, use cases, and...



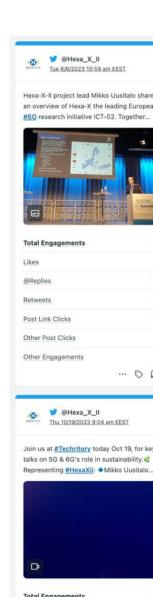
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Telecom researchers, be part of 5G Techritory in Riga, Oct 18-19. Discuss 6G European collaboration, 5G for Verticals &...



Total Engagements		7
Likes		3
@Replies		0
Retweets		0
Post Link Clicks		0
Other Post Clicks		4
Other Engagements		0
	 0	1









▶ Don't miss #HexaXii at the EuCNC & 6G Summit next week, June 6-9! Join us at booth H02:06 to learn about the future of...



Total Engagements	. 6
Likes	2
@Replies	0
Retweets	0
Post Link Clicks	3
Other Post Clicks	1
Other Engagements	0
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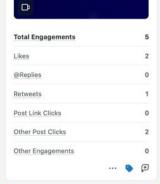


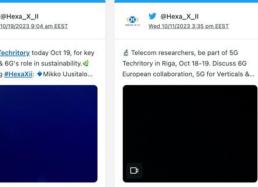
> Hexa-X-II project lead Mikko Uusitalo will join the #Global6GSummit in Bahrain tomorrow! Don't miss him speaking & joini...



Total Engagements	Ę
Likes	3
@Replies	
Retweets	
Post Link Clicks	
Other Post Clicks	d
Other Engagements	(
	0 €











"The golden era of 6G technology development is tantalizingly close - and with it a safer, more sustainable, and connected planet that promises to shake up the future of mankind." arctictoday.com/arctic_busines

... #HexaXii #6G



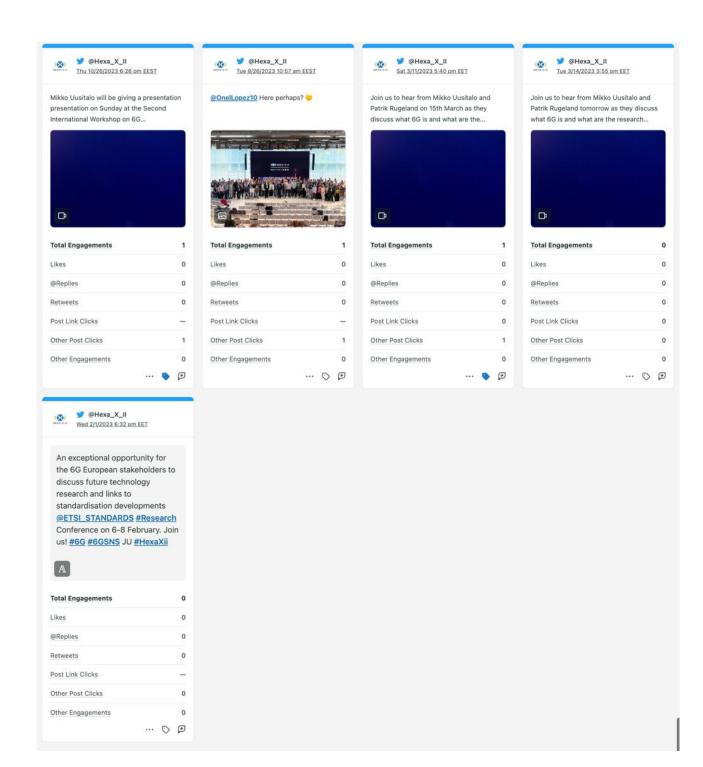
Total Engagements	4
Likes	2
@Replies	0
Retweets	0
Post Link Clicks	0
Other Post Clicks	2
Other Engagements	0
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Join Mikko Uusitalo, our lead at Hexa-X-II, at the Critical Communications World event in Helsinki. He'll be part of a panel discussio...



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On LinkedIn

