

CORENEXT

D8.2

COREnext (Interim) Impact Report

AUSTRALO



Funded by
the European Union

© COREnext 2023-2025

Page 1 of 52

Revision v1.0

Work package	WP8
Task	T8.1, T8.2
Dissemination level	PU — Public, fully open. e.g., website
Deliverable type	R — Document, report (excluding periodic and final reports)
Due date	31-07-2024
Submission date	23-07-2024
Deliverable lead	AUSTRALO
Version	V1.0
Authors	Arantxa Echarte (AUS)
Contributors	All
Reviewers	Jose Luis Gonzalez (CEA), Andreas Georgakopoulos (WINGS)

Abstract

The purpose of this Interim Impact Report (D8.2 Interim Impact Report) is to provide an update on the progress and effectiveness of the impact of the communication, dissemination, exploitation and standardisation activities undertaken as part of the project in the first 18 months. It serves as a mid-point evaluation to assess whether our efforts are on track to achieve the desired outcomes and objectives outlined in D8.1 Impact Master Plan.

Keywords

Impact, communication, dissemination, exploitation, standardisation, IPR, Key Exploitable Assets.

Document Revision History

Version	Date	Description of change	Contributor(s)
v0.1	17-06-2024	Initial draft ready for review	Arantxa Echarte (AUS)
v.0.2	24-06-2024	Review	Andreas Georgakopoulos (WINGS), Jose Luis Gonzalez (CEA)
v.0.3	15-07-2024	AUS/BI final review	Diana López (AUS), Michael Roitzsch (BI)
v.1.0	22-07-2024	Final submission	Arantxa Echarte (AUS)

Contributing Partners

Abbreviation	Company name
BI	BARKHAUSEN INSTITUT
AUS	AUSTRALO
CHAL	CHALMERS TEKNISKA HOGSKOLA
CEA	COMMISSARIAT AL ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES
EAB	ERICSSON
CYB	CYBERUS TECHNOLOGY
EUR	EURECOM
IFAG	INFINEON TECHNOLOGIES AG
IMEC	INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM
NXP	NXP SEMICONDUCTORS
RAD	RADIALL
SEQ	SEQUANS
TUD	TECHNISCHE UNIVERSITAET DRESDEN
TIM	TELECOM ITALIA
WINGS	WINGS ICT SOLUTIONS
IMS	INSTITUT POLYTECHNIQUE DE BORDEAUX
ETHZ	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZURICH
IHP	IHP MICROELECTRONICS
NOK	NOKIA NETWORKS GERMANY
NNF	NOKIA NETWORKS FRANCE
IIIV	NNF/IIIV LABS
IFAT	INFINEON TECHNOLOGIES
KAL	KALRAY

Disclaimer

The information, documentation and figures available in this deliverable are provided by the COREnext project's consortium under EC grant agreement **101092598** and do not necessarily reflect the views of the European Commission. The European Commission is not liable for any use that may be made of the information contained herein.

Copyright Notice

©COREnext 2023-2025

Executive Summary

The purpose of this deliverable (D8.2 Interim Impact Report) is to provide an update on the progress and effectiveness of the impact of the communication, dissemination, exploitation and standardisation activities undertaken as part of the project in the first 18 months. It serves as a mid-point evaluation to assess whether our efforts are on track to achieve the desired outcomes and objectives outlined in D8.1 Impact Master Plan.

This Interim Impact Report serves as a valuable tool to assess the effectiveness of our efforts and make informed decisions about future activities. It helps ensure that communication efforts remain aligned with project goals and objectives, ultimately contributing to the project's overall success. The scope of the report includes progress updates, achievements, metrics and evaluation, and it will serve as a roadmap for continuous successful impact efforts.

COREnext implements the Agile Marketing Lab Framework©, methodology designed by AUSTRALO, in order to maximise C&D performance and impact. Through this methodology we adopt an iterative approach that focuses on raising awareness and conveying the key aspects and benefits of the project to all target audiences and end users.

Key indicators of our communication and dissemination efforts in the first 18 months of the project include significant traffic to the COREnext website, with over 4,800 views from more than 1,500 visitors. Additionally, COREnext has published 748 social media posts reaching over 1,270 followers. The website hosts 21 awareness publications, 1 white paper, 7 deliverables, and 11 scientific publications, all crucial for maximising project impact.

This report also presents the COREnext KERs (Key Exploitable Results), its innovation management and IPR (Intellectual Property Rights) and standardization strategies.

In summary, COREnext's integrated strategies in communication and dissemination, exploitation, innovation management, and standardisation are established to significantly enhance project impact, visibility, and success through targeted and adaptive approaches. Moving forward, COREnext remains committed to continuous improvement, aiming to deepen engagement, broaden influence, and effectively communicate its mission to foster active participation.

Table of Contents

Executive Summary	5
1 Introduction	10
2 Communication and dissemination (C&D) plans and results	12
2.1 C&D Continuous improvement	12
2.2 Communication plan and results	13
2.2.1 Communication Tools and Materials	14
2.2.2 Communication KPIs	31
2.3 Dissemination Plan and results	31
2.3.1 Dissemination Tools and Materials.....	32
2.3.2 Dissemination KPIs.....	37
3 Stakeholder engagement	38
3.1 Impact Survey (B5G/6G and Microelectronics ecosystems)	39
3.2 Communication and Dissemination Task Force	39
3.3 End-user engagement	40
4 Performance Overview - Outreach	41
5 COREnext Exploitation plan update	43
6 Innovation management and business models	45
7 COREnext IPR management update	48
8 Standardisation activities	49
9 Conclusion	51

List of Figures

Figure 1 Examples of COREnext branded elements	15
Figure 2 Website structure	16
Figure 3 COREnext's profile on X	17
Figure 4 COREnext's company page on LinkedIn.	18
Figure 5 COREnext's channel on YouTube.....	19
Figure 6 Example no. 1 - LinkedIn post with 32% engagement rate	20
Figure 7 Example no. 2 - LinkedIn post with 27% engagement rate	21

Figure 8 Example no. 3 - LinkedIn post with 23,7% engagement rate	22
Figure 9 Example no. 4 - LinkedIn post with 21,73% engagement rate	22
Figure 10 Example no. 5 - LinkedIn post with 16% engagement rate	22
Figure 11 Examples of COREnext Newsletters	23
Figure 12 Example of press release	24
Figure 13 COREnext mention by WIT News	25
Figure 14 COREnext pitch deck.....	26
Figure 15 COREnext A5 Flyer	27
Figure 16 Example of COREnext computer background	28
Figure 17 Example of video from on social media (EUCNC 2023) - YouTube	29
Figure 18 COREnext Promotional video - YouTube	30
Figure 19 COREnext presentation video - YouTube	30
Figure 20 Example of a public deliverable on COREnext website	33
Figure 21 White Paper presentation at EuCNC2024	34
Figure 22 Zenodo: CORENEXT project Zenodo	35
Figure 23 COREnext stakeholder map and engagement strategy	38
Figure 24 Identified projects for the C&D task force	40
Figure 25 COREnext audience geolocation (LinkedIn data May 2024)	41
Figure 26 COREnext audience industries (LinkedIn data May 2024)	42
Figure 27 COREnext conceptual business model - Business Model Canvas	47

List of Tables

Table 1 Communication objectives	14
Table 2 Communication tools used for each stakeholder group	14
Table 3 COREnext Communication KPIs by month 18	31
Table 4 Dissemination tools used to engage stakeholders	32
Table 5 COREnext Dissemination KPIs.....	37
Table 6 COREnext KERs.....	44
Table 7 COREnext Standardisation activities.....	50



Acronyms and Definitions

AI	Artificial Intelligence
DoA	Description of Action
C&D	Communication and Dissemination
CPU	Central Processing Unit
GDPR	General Data Protection Regulation
HPC	High Performance Computing
IoT	Internet of Things
IP	Intellectual Property
IPR	Intellectual Property Rights
KEAs	Key Exploitable Assets
KERs	Key Exploitable Results
KPI	Key Performance Indicator
PoC	Proof of Concept
RF	Radio Frequency
SEO	Search Engine Optimisation
SERP	Search Engine Results Page
TEE	Trusted Execution Environment
WP	Work Package
3GPP	3 rd Generation Partnership Project

1 Introduction

The document D8.2 – COREnext (Interim) Impact Report is part of COREnext's WP8 – Impact, Outreach, and Collaboration. WP8 includes three main tasks: Task 8.1 (Dissemination and Communication), Task 8.2 (Innovation Management, Exploitation, and Sustainability), and Task 8.3 (Stakeholder Collaboration Framework).

The Interim Impact Report (D8.2) provides an update on the progress and effectiveness of the communication, dissemination, exploitation, and standardization activities from the first 18 months of the project. It serves as a mid-point evaluation to assess if the efforts are on track to achieve the outcomes and objectives in D8.1 Impact Master Plan.

The **objectives** defined in D8.1 were to **operate a collaboration framework** that would identify and build synergies with a range of target groups, covering the collaboration with the 6G-IA and Horizon/SNS initiatives; **design and execute dissemination and communication strategies** to efficiently raise awareness about the project's outcomes, promoting the activities and results among a critical mass; **manage the assets and innovation through performance indicators and IPR management**, developing exploitation roadmaps, sustainability, and business models of the key results; and **contribute** actively to relevant **standardisation** actions.

The Interim Impact Report is a tool for assessing the effectiveness of efforts and making informed decisions about future activities. It ensures communication efforts align with project goals, contributing to overall success. The Report includes updates on progress, achievements, metrics, and evaluations, serving as a roadmap for ongoing successful impact efforts.

Section 1 of this report is an introduction. **Section 2** provides an overview of the communication and dissemination plans and results, covering communication and dissemination tools, materials and opportunities, assessment and KPIs, and aspects of continuous improvement. **Section 3** discusses the COREnext stakeholder engagement strategy and methodology, including the impact survey, the communication task force, and the end-user engagement plan. **Section 4** presents the achieved outreach, based on metrics from Google, LinkedIn, and X Analytics. **Section 5** includes the exploitation plan update. **Section 6** presents an update on innovation and a conceptual business model. **Section 7** offers an IPR management update. **Section 8** relates to the first standardisation activities. Finally, **Section 9** presents the conclusions.

As a result of our communication and dissemination (C&D) efforts in the last 18 months, the COREnext website has received over 4,800 views from more than 1,500 visitors at this stage of the project. COREnext has published 748 social media posts, reaching over 1,270 followers. Additionally, the website hosts 21 awareness publications, 1 white paper, 7 deliverables, and 11 scientific publications. Disseminating these assets is crucial for maximising our project's impact.

WP8 and its deliverables are led by AUSTRALO, leveraging their marketing expertise and proprietary methodologies. AUSTRALO oversees T8.1 and T8.3, while WINGS, the partner responsible for project Data Management, leads T8.2.

WP8 receives inputs from all partners and contributes to the impact of the rest of technical work packages (WP2-WP8). We also work closely with WP7 for research and dissemination purposes. This

work package activities have a cross-cutting influence over the work plan, aiming to put in place the measures that maximise impact.



2 Communication and dissemination (C&D) plans and results

Effective, comprehensive and flexible communication and dissemination plans are essential: to provide a structured approach for sharing information with stakeholders, practitioners, policymakers, and the broader public, and play a crucial role in maximising COREnext's visibility and impact.

Well-crafted communication and dissemination plans help ensure that the results of any project or research initiative are shared effectively with the right audiences. By clearly defining objectives, understanding the target audience, crafting key messages, selecting appropriate channels, and evaluating outcomes, COREnext can maximise its impact and contribute to meaningful change.

2.1 C&D Continuous improvement

Continuous improvement in communication and dissemination is essential for staying relevant, engaging effectively with stakeholders, optimising resources, and ensuring long-term impact. It involves regularly assessing and refining the strategy to meet the evolving needs of the project and its audience.

Some key elements of our communication and dissemination plans that are under ongoing assessment are:

- **Defining clear objectives:** establishing specific, measurable, achievable, relevant, and time-bound goals to guide our efforts through weekly planning.
- **Identifying target audiences:** segmenting our audience based on demographics, interests, and knowledge to tailor our messages effectively - based on Google Analytics and social media analytics.
- **Developing key messages:** crafting clear, concise, and compelling messages that convey the core values and benefits of our project, by having those reviewed by members.
- **Selecting appropriate channels:** choosing the most effective communication channels to reach our target audiences, such as websites, blogs, social media, newsletters, and press releases – based on engagement analysis.
- **Creating a content calendar:** planning and scheduling content in advance to ensure a consistent flow of information aligned with project milestones and events through a weekly reviewed content calendar.
- **Leveraging partner resources:** collaborating with partners to amplify our message and reach a broader audience through shared resources and endorsements. This is mainly achieved through the COREnext **activity and scientific publications trackers**, which report all efforts linked to communication and dissemination of the project and its results. This is a collective effort to which all partners contribute.
- **Monitoring and Measuring Performance:** we maintain oversight of communication and dissemination performance using **KPIs** (Key Performance Indicators) based on data obtained from Google Analytics, LinkedIn Analytics, and X Analytics. During the project's first half, COREnext garnered 1,200 followers across social media platforms and logged more than 4,500 website

views. This trend demonstrates the successful execution of carefully planned social media strategies and tactics, aimed at fostering a growing online community. The steady growth in the number of followers serves as a tangible indicator of the expanding online community. Moreover, the increased interaction rates, such as likes, comments, and shares, demonstrate the level of engagement and resonance of COREnext content.

Two other factors that contribute to our continuous improvement strategy are the **internal communication** and **SEO (Search Engine Optimisation)** strategies.

The **internal communication strategy** helps the consortium work effectively. For example, members attended monthly meetings and contributed actively; communication representatives responded promptly to C&D requests (i.e. Reviews, surveys, etc.), and members contributed valuably to the activity and publication logs, which facilitated a timely dissemination. A clear, effective internal communication strategy is key to ensure that interests are aligned within the consortium, and everybody is informed of the latest developments.

Lastly, we continuously assess our **SEO approach**, which is the process of optimising a website or online content to improve its visibility and ranking on search engine results pages (SERPs). The primary goal of SEO is to attract organic (non-paid) traffic from search engines like Google, Bing, and Yahoo. By implementing effective SEO strategies, a project like COREnext can improve its online presence, attract more qualified traffic, and ultimately achieve further impact.

2.2 Communication plan and results

COREnext developed a comprehensive communication plan designed to effectively engage with all identified target groups and stakeholders. COREnext implements the Agile Marketing Lab Framework, a methodology designed by AUSTRALO, in order to maximise C&D performance and impact. Through this methodology we adopt an iterative approach that focuses on raising awareness and conveying the key aspects and benefits of the project to all target audiences and end users.

The primary aim of the communication activities is to keep stakeholders informed about the project's progress, milestones, and achievements. The communication plan is underpinned by key objectives essential for its implementation. While these objectives can be viewed as a unified entity, some are directed towards particular target groups, as seen in **Table 1**.

	Boost awareness & interest	Communicate technical & scientific results	Deliver top-level messages about the project	Raise awareness in non-specialised audience
B5G/6G Ecosystem	✓	✓		
Microelectronics Ecosystem	✓	✓		
Partnerships and Networks	✓		✓	
Application Sectors	✓	✓		
Policy makers	✓	✓	✓	
Society as a whole	✓			✓

Table 1 Communication objectives

Consequently, they require specific tools and activities tailored to each group throughout the project's lifecycle. **Table 2** outlines the communication tools used in the initial phase of the project to engage with relevant stakeholder groups.

	B5G/6G Ecosystem	Microelectronics Ecosystem	Partnerships & Networks	Application Sectors	Policy makers	Society as a whole
Website	✓	✓	✓	✓	✓	✓
Social media	✓	✓	✓	✓	✓	✓
Newsletters	✓	✓	✓	✓	✓	✓
Press releases	✓	✓	✓	✓	✓	
Slide decks and one pagers	✓	✓	✓	✓		
Multimedia	✓	✓	✓	✓	✓	✓

Table 2 Communication tools used for each stakeholder group

2.2.1 Communication Tools and Materials

Communication tools and materials are essential to our efforts to reach and engage with our target audiences. By leveraging a mix of digital and traditional channels, we can ensure that our messages are accessible, engaging, and impactful. We monitor the effectiveness of each tool and material, making adjustments as needed to optimise our communication strategy.

2.2.1.1 Brand

COREnext focused on establishing its **branding** in the first half of the project. Easily interpretable, comprehensible, engaging and recognisable visual materials have been created and shared, enabling COREnext concepts and advantages to be instantly identifiable to a broader audience, while simultaneously fostering and nurturing interest in the project and its key outcomes (see **Figure 1**). Branding a research project effectively can significantly boost its visibility and engage a wider audience, ultimately enhancing the project's overall impact and success.

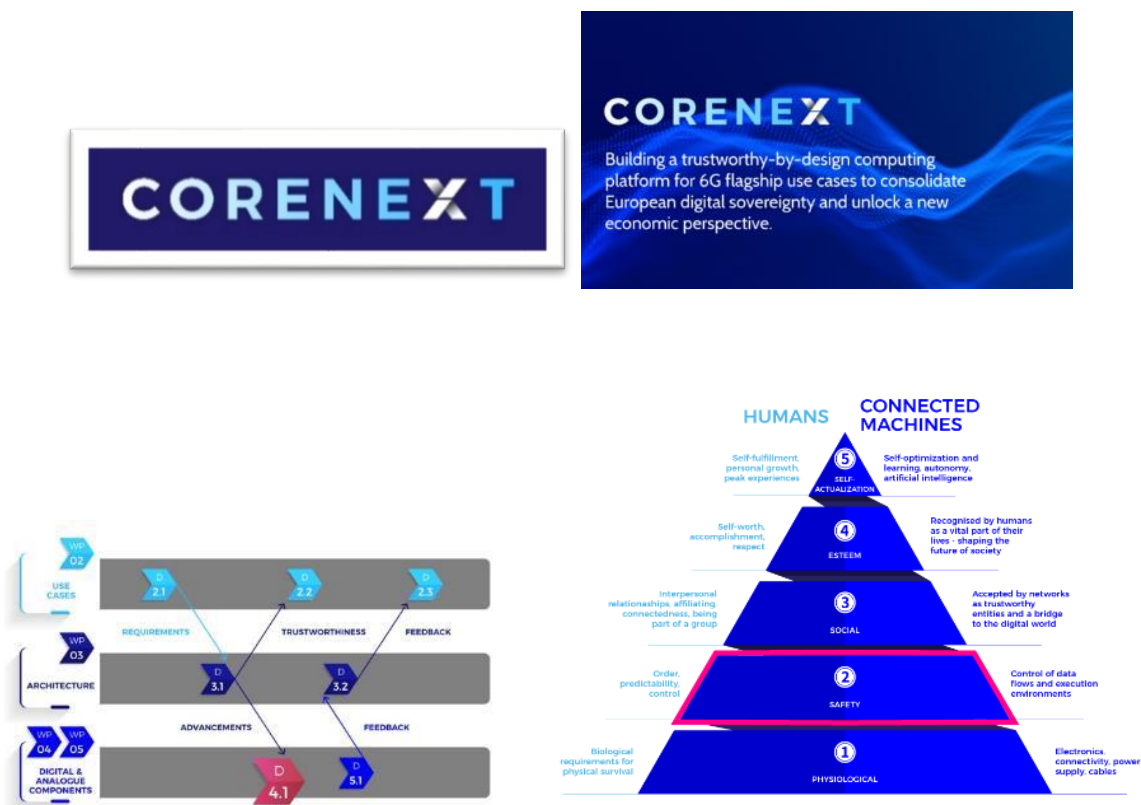


Figure 1 Examples of COREnext branded elements

2.2.1.2 Website

Websites are indispensable in research projects due to their vast information resources, credibility, accessibility, and ability to provide diverse perspectives and up-to-date information. Properly utilising websites can significantly enhance the quality and impact of a research project. For example, we frequently link our social media channels to the website to drive traffic, enhancing overall engagement and raising awareness of COREnext's activities and achievements.

The COREnext website has been through two iterations in this first period, and it now presents a significant amount of information and resources (see **Figure 2**).

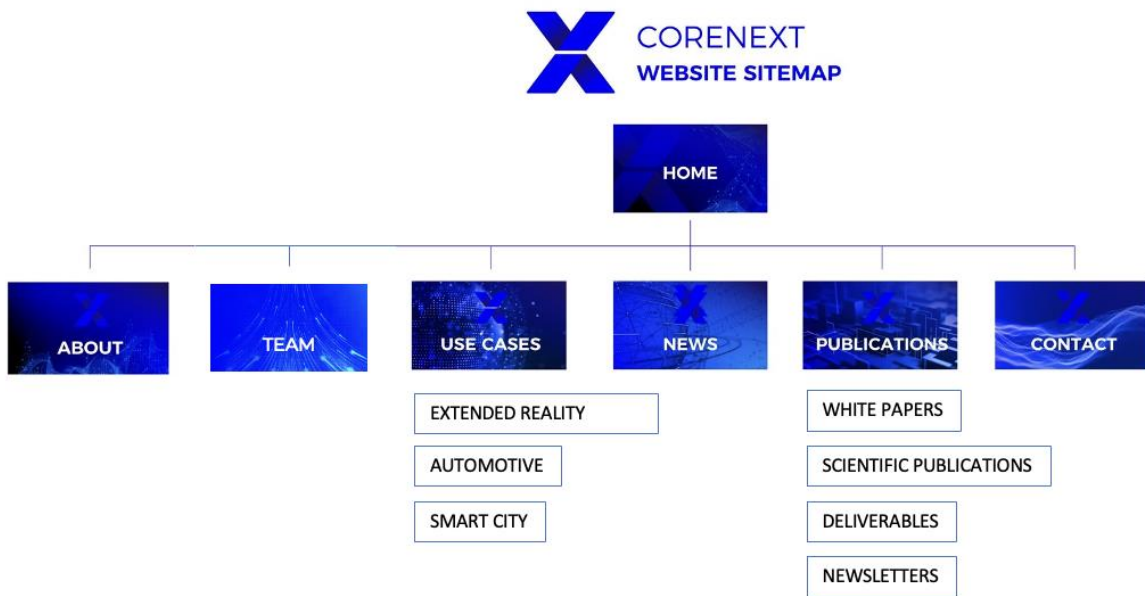


Figure 2 Website structure

As a result of our C&D efforts, at this stage of the project, the COREnext website has received more than **4.8K views** from over **1.2K unique visitors**. Additionally, the website features **21 awareness publications**, **1 white paper**, **7 deliverables** and **11 scientific publications**.

2.2.1.3 Social Media – X, LinkedIn, and YouTube

Social media channels provide a powerful way to engage with stakeholders across a wide range of industries and sectors, making them an essential tool for seeking to build strong relationships with identified target groups, increasing the potential impact of the project’s results.

By publishing on X, formerly Twitter, we can amplify the reach and impact of the COREnext findings, engage with a broader audience, and foster meaningful conversations within industry and the academic community. So far, COREnext has published **381 posts** and has **876 followers** on X.

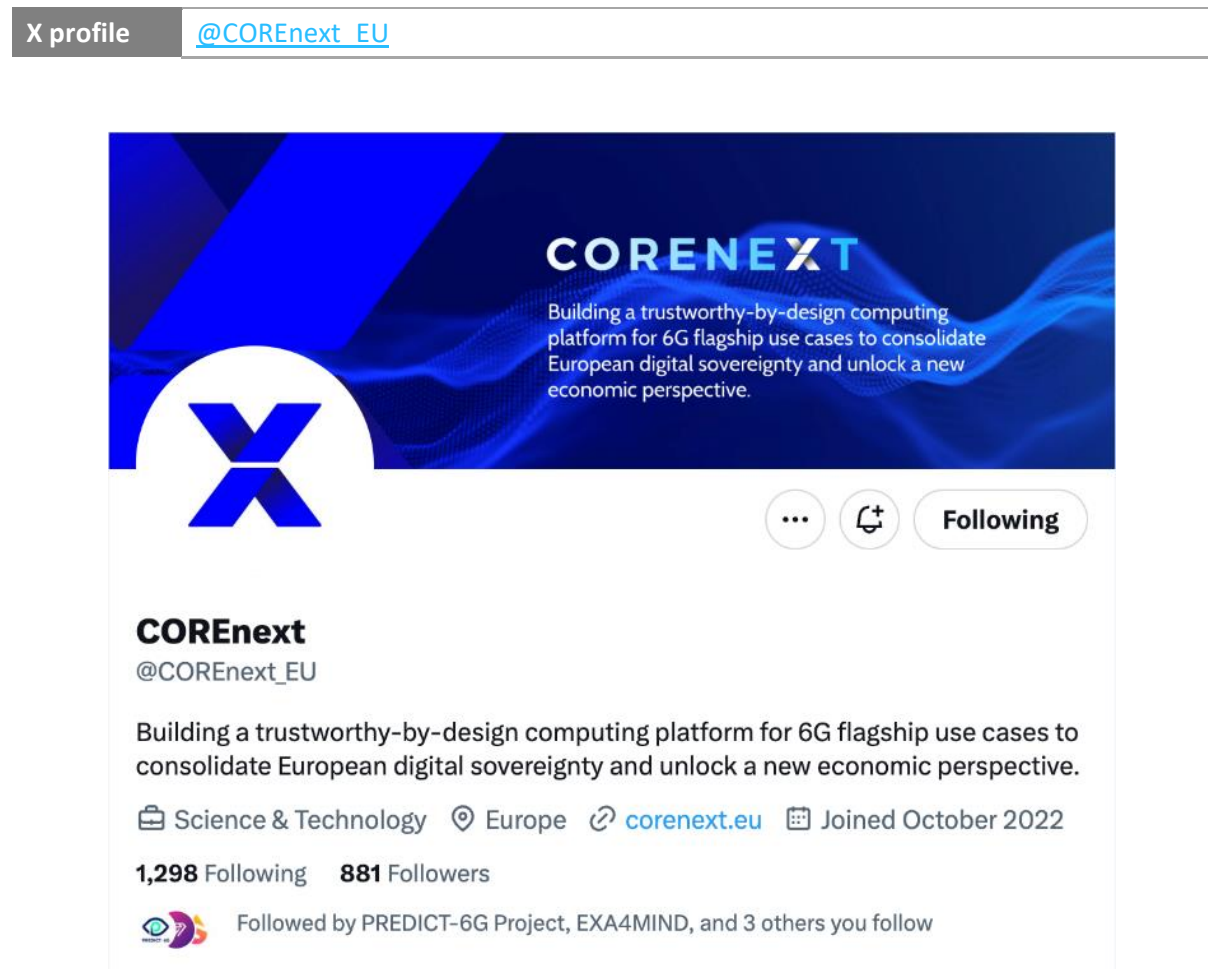


Figure 3 COREnext's profile on X

Similarly, LinkedIn provides COREnext with a powerful platform to disseminate research findings, connect with relevant professionals, and enhance our visibility and credibility within their field. So far, COREnext has posted **367 posts** and has **397 followers** on this platform.

LinkedIn company page [/corenext-eu](#)

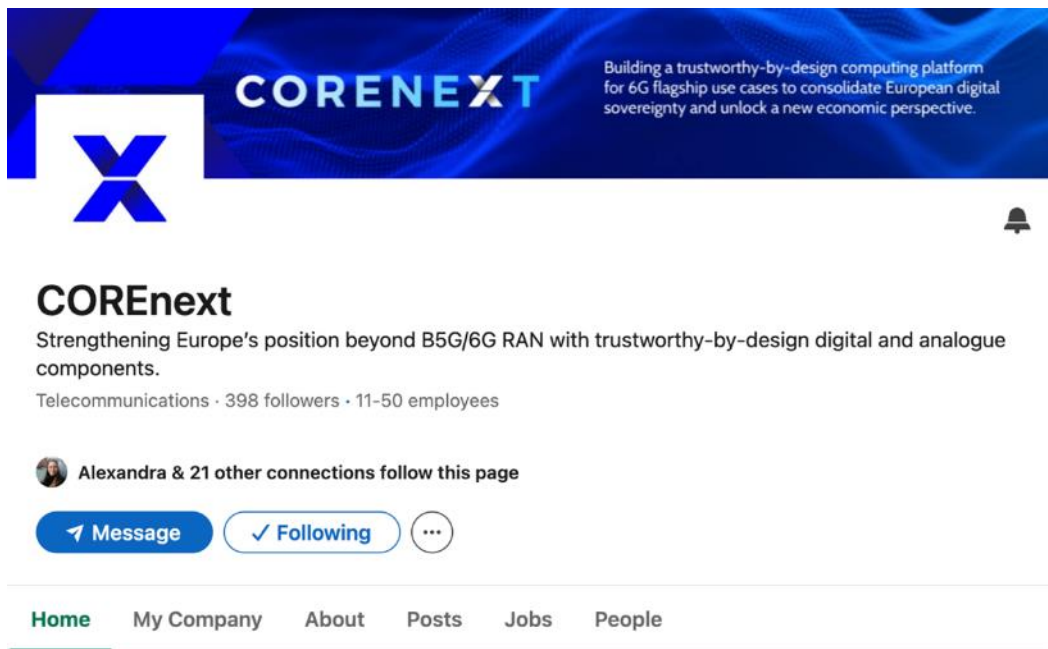


Figure 4 COREnext's company page on LinkedIn.

The COREnext **YouTube channel** has just been set up and it will offer a powerful tool for disseminating findings to a wide audience in an engaging and accessible format, thereby increasing the impact and visibility of COREnext's work.

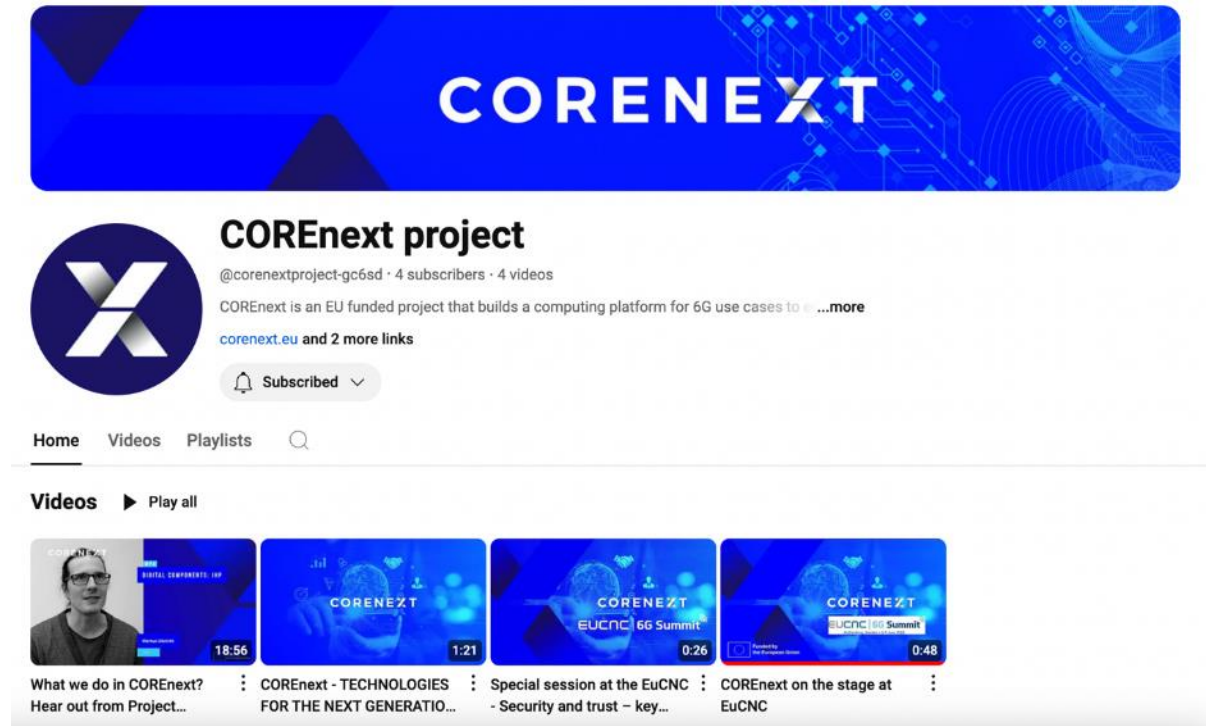


Figure 5 COREnext's channel on YouTube

2.2.1.3.1 COREnext social media content analysis

Regular **analysis of COREnext's social media channels** is key to enhance our content strategy and better cater to our targeted audience's needs. By frequently reviewing engagement metrics, such as likes, shares, comments, and click-through rates, we can identify which topics resonate most with our followers. This data-driven approach allows us to tailor our posts to focus on areas of high interest, such as advancements in digital and analogue solutions for computing, communication, and sensing. Additionally, monitoring audience demographics and feedback helps us refine our messaging and format, ensuring that we provide valuable, relevant information that supports our mission and goals. As already mentioned, this continuous improvement process fosters stronger connections with our community and maximises the impact of our communications.

Analysing our social media content on LinkedIn and X reveals key insights from our top five most popular posts. Our analysis of LinkedIn's top five most engaging posts over the past year reveals insightful trends in audience preferences and engagement rates. As seen in Error! Reference source not found., the highest engagement was observed in posts featuring project meetings, where collaborative efforts resonated strongly with our professional network. Summaries of activities compiled in our newsletters also gathered significant interaction, indicating a high interest in consolidated updates and achievements. Additionally, showcasing our project partners' performance

during key industry events proved to be particularly effective, as these posts highlighted tangible results and real-world impact, fostering credibility and interest. This analysis suggests that our audience values transparency, comprehensive updates, and tangible success stories, guiding us to focus future content on these areas to maintain and boost engagement.

Error! Reference source not found. shows the COREnext LinkedIn posts with highest engagement rate, the social media metric that measures how much of your audience actively engages with your content.



Figure 6 Example no. 1 - LinkedIn post with 32% engagement rate

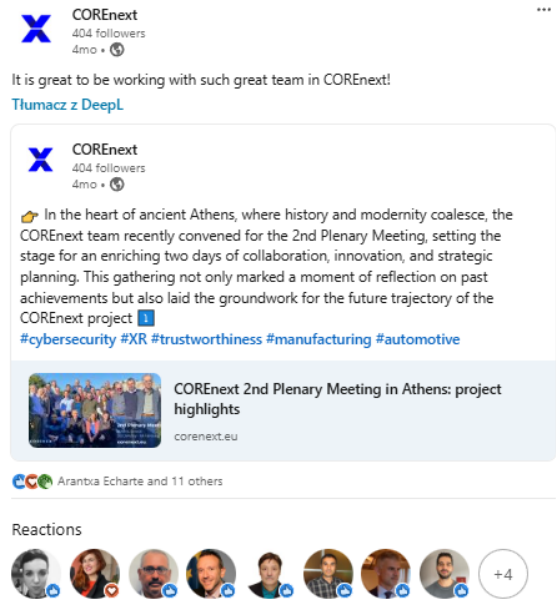



Figure 7 Example no. 2 - LinkedIn post with 27% engagement rate




Figure 8 Example no. 3 - LinkedIn post with 23,7% engagement rate

 **COREnext**
412 followers
4mo • 🌐


🌟 Don't Miss Out! 🌟

Curious about the journey of a trailblazing integrated circuit designer in the world of high-speed communication? Dive into our exclusive interview with another fantastic [#woman](#) in [COREnext](#) - Frida Strömbeck, Postdoctoral researcher at [Chalmers University of Technology](#) 🚀

 Discover Frida's insights, motivations, and groundbreaking achievements as she shares her experiences and advice for aspiring scientists, especially women in STEM fields. 💡

Read the full interview now and be inspired! 🗨️ [#womensday](#)
[#STEM](#) [#WomenInSTEM](#) [#Innovation](#) [#Technology](#) [#Interview](#) [#Inspiration](#)

Tłumacz z DeepL



Breaking Barriers and Designing the Future: An Interview with Frida Strömbeck, Pioneering Integrated Circuit...
corenext.eu





  23 1 repost

Figure 9 Example no. 4 - LinkedIn post with 21,73% engagement rate


 **COREnext**
412 followers
8mo • 🌐

 🌟 Dive into the world of "Trust in Action" with our latest [#Newsletter!](#) 📩 We're delving into the realms of XR Innovation, [#SmartCities](#), and Next-Gen Networks through the lens of [COREnext](#). 🚗 🚗 🚗 This groundbreaking exploration focuses on implementing [#trustworthiness](#) in three key industry sectors: automotive, XR, and various other verticals. 🍷

💡 Discover how cutting-edge technologies are shaping the landscape of trust and reliability in our ever-evolving digital era. 🌐 📖 Whether you're passionate about the future of [#automotive](#) tech, immersive [#XR](#) experiences, or the intricacies of next-generation networks, our Newsletter has got you covered.

Stay informed, stay inspired! 🚀 Check out our latest Newsletter now to stay at the forefront of XR innovation, Smart Cities, and the latest advancements in Next-Gen Networks. 🗨️ Link in bio! [#TrustInAction](#) [#XRInnovation](#) [#SmartCities](#) [#NextGenNetworks](#) [#TechInnovation](#) [#COREnext](#) [#IndustryInsights](#)

Tłumacz z DeepL



COREnext 2nd Newsletter
zenodo.org


 5

Figure 10 Example no. 5 - LinkedIn post with 16% engagement rate

2.2.1.4 Newsletters

COREnext has issued **4 newsletters** in the first reporting period of the project and will aim to produce newsletters quarterly during the second reporting period. Online newsletters can be an effective tool for engaging with stakeholders and providing them with insights into the main activities and accomplishments of a project. The COREnext newsletter currently reaches **166 subscribers** (in Brevo and LinkedIn).

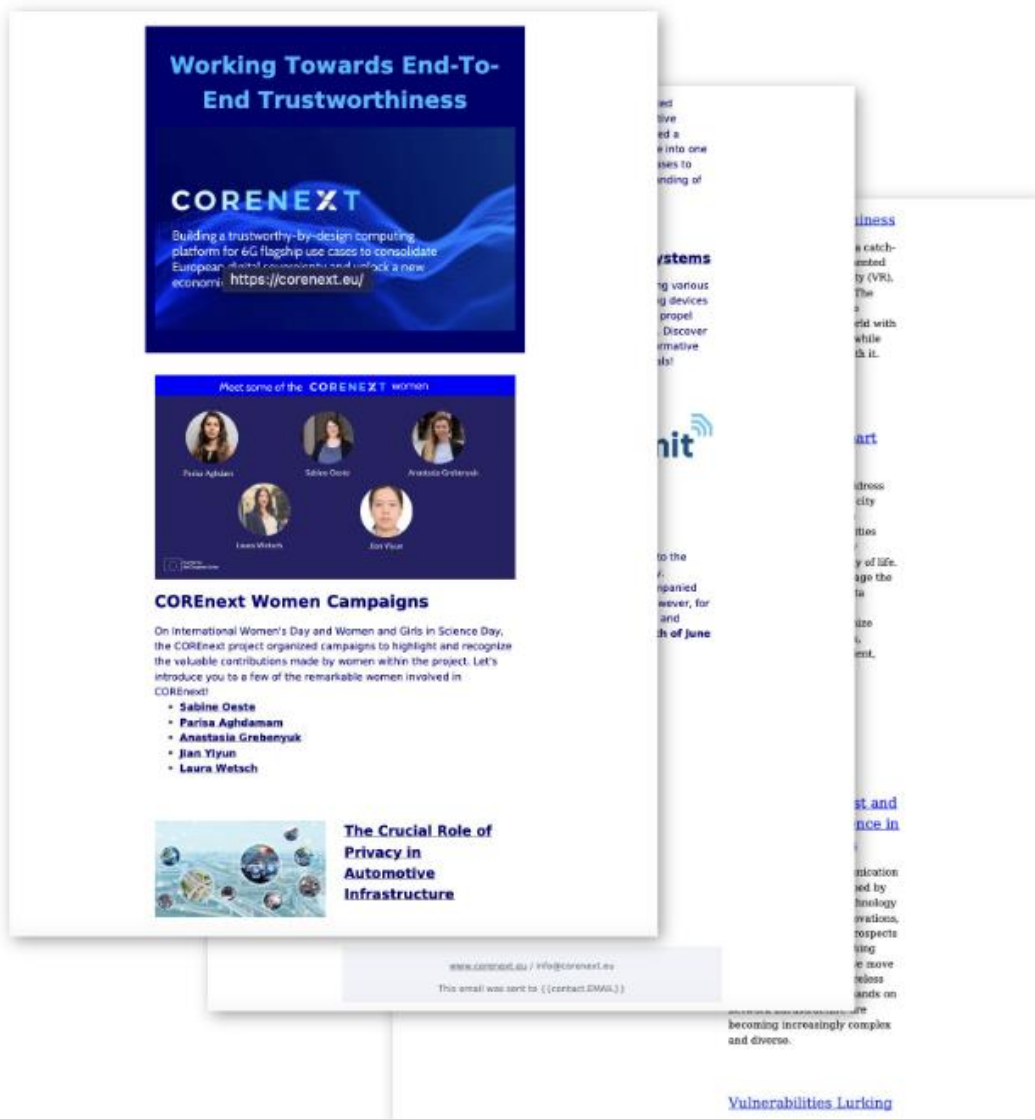


Figure 11 Examples of COREnext Newsletters

2.2.1.5 Press releases

COREnext publicises its major achievements and progress by creating and disseminating press releases to a wide range of stakeholder audience and media, including both general and specialised publications. COREnext has produced **2 press releases** to date. The first officially launched the project, and the second promoted the white paper titled "[The Key to Europe’s Digital Future.](#)"



Figure 12 Example of press release

Both have been widely disseminated via our social media, [MyNewsDesk](#), and 6G-AI and SNS-JU networks, having gathered a considerable amount of engagement (633 emails sent via MyNewsDesk; 84 views/63 downloads in Zenodo; over 3000 impressions on social media). The press releases have been featured on members’ websites and by external agencies such as WIT News (see **Figure 13**).



Figure 13 COREnext mention by WIT News

2.2.1.6 Slide decks and pitch decks

In this first period, we have produced professionally designed **slide decks** that serve as powerful engagement tools, effectively conveying COREnext vision and scope to specialised audiences in a visually appealing manner. We, for example, created a well-designed pitch deck of the project that is a powerful engagement tool to share the project’s vision and scope with specialised audiences in a clear, attractive way.



Figure 14 COREnext pitch deck

2.2.1.7 Promotional Materials – Printed/Digital Materials

Brochures, catalogues, posters, and any other paper-based resource intended for promotional use are designed and branded to present the project effectively and professionally. A well-designed flyer (as the one presented below) can have significant importance when generating interest and disseminating information about a research project.

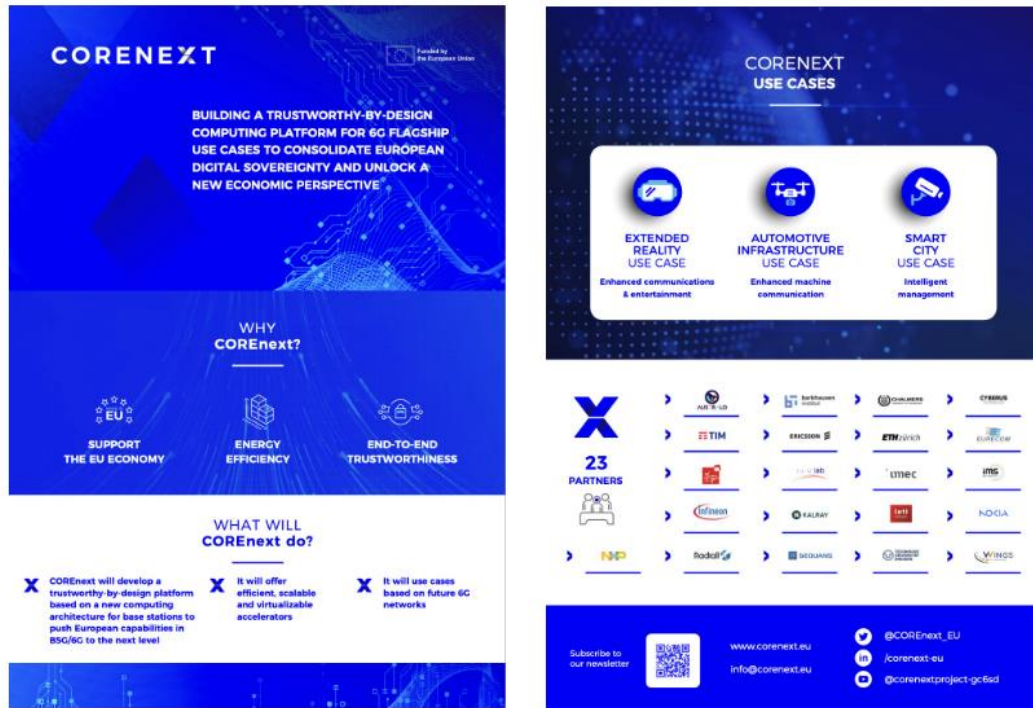


Figure 15 COREnext A5 Flyer

2.2.1.8 Branded computer backgrounds

We have also produced branded **computer backgrounds** that members can use at project meetings, reviews and meetings with other stakeholders, and which can serve as a simple yet powerful tool for reinforcing brand identity, maintaining professionalism, and leveraging every digital interaction as a C&D opportunity.



Figure 16 Example of COREnext computer background

2.2.1.9 Promotional Materials - Videos

In the initial phase of the project, we have already released four videos on the [COREnext YouTube channel](#). These include two recordings from the 2023 EUCNC conference, a promotional video, and an informative piece providing an overview of the project and its various work packages. All these videos are readily accessible on the COREnext YouTube channel.

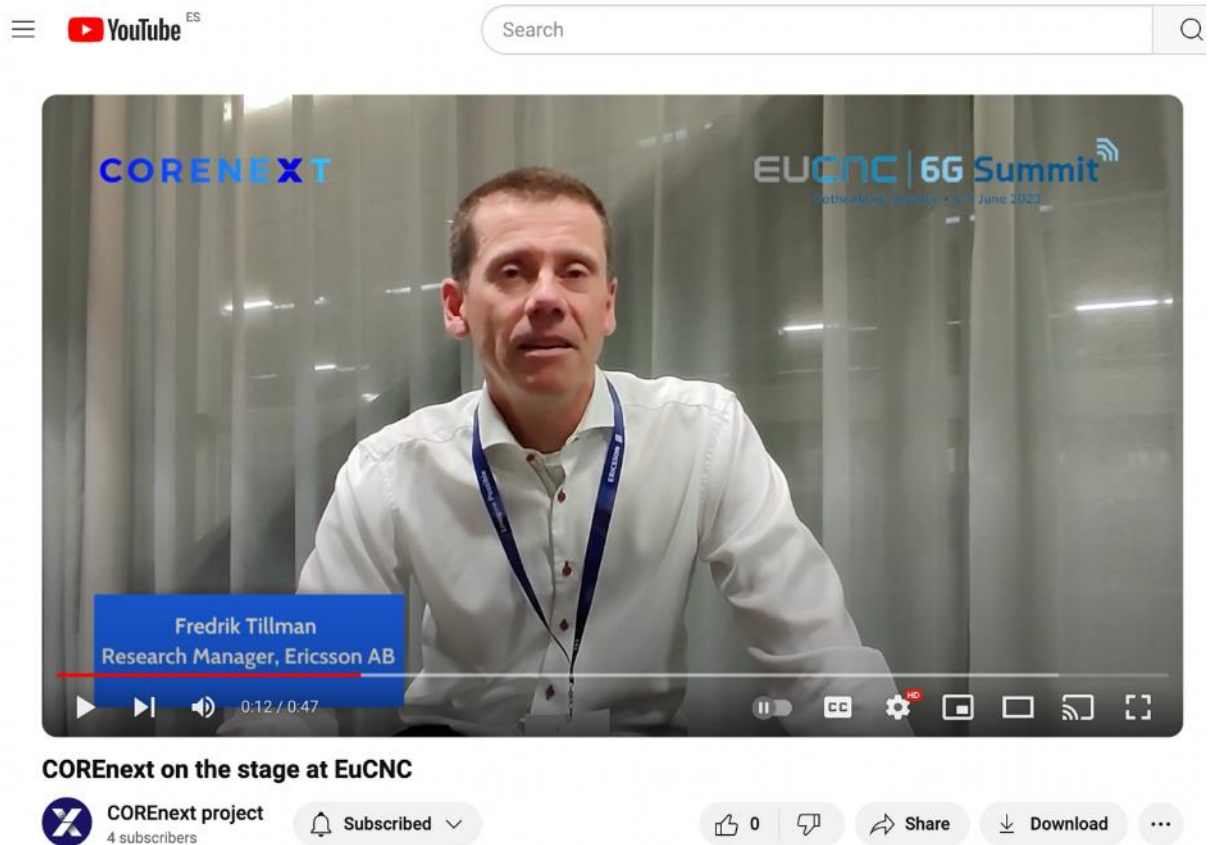


Figure 17 Example of video from on social media (EUCNC 2023) - [YouTube](#)



Figure 18 COREnext Promotional video - [YouTube](#)



Figure 19 COREnext presentation video - [YouTube](#)

Promotional videos play a significant role in promoting COREnext, increasing its visibility, engaging stakeholders, disseminating findings, and facilitating collaboration opportunities.

2.2.2 Communication KPIs

As part of our commitment to improving our communication strategy and ensuring our messages are effectively reaching and engaging our target audience, we have identified a set of Key Performance Indicators (KPIs). These KPIs help us measure the success of our communication efforts and guide future improvements. Being halfway through COREnext communication KPI targets signifies a checkpoint for evaluating the effectiveness of communication processes.

	Achieved	Target
Social media posts	750	--
Website visitors (total)	>1.5K	--
Website views (total)	>4.8K	--
Social Media impressions (total)	>72K	150K
Followers on social media (X + LinkedIn)	>1.2K	2.5K
Branding and graphic materials	>50	100

Table 3 COREnext Communication KPIs by month 18

As seen above, COREnext has achieved the midpoint towards its communication targets. This is a significant milestone that signifies progress, provides an opportunity for assessment and adjustment, and reinforces the importance of continued effort to successfully accomplish communication objectives by the end of the project.

2.3 Dissemination Plan and results

Effective dissemination is very important for COREnext, as it seeks to not only share its results with potential users and research peers but also make them accessible to a broader community, including industry, academia and other digital stakeholders. To achieve this goal, COREnext has formulated a comprehensive and flexible dissemination plan that seeks to increase awareness of project results, foster understanding, and encourage action among key target audiences. The implementation of this plan aids in the adoption of outcomes, best practices, and research insights generated throughout the project's lifecycle, thereby enhancing the project's impact.

The dissemination goals and communication activities are closely intertwined with the overall project objectives. These goals aim to have a broader impact beyond the project's boundaries. By combining dissemination and communication efforts, we can optimise the extent and effectiveness of our project outcomes, making sure that they are readily available and have a significant impact.

In the first half of the project, we have focused on producing material that generated interest by increasing engagement, outreach, awareness and impact. Participation in events, workshops, conferences, together with partner contributions to publications in targeted specific media online, printed media and research journals have also been key to maximise impact and boost visibility.

In the second half of the project, we will continue to promote further engagement and impact while also aiming to attract more potential end users interested in COREnext's results.

2.3.1 Dissemination Tools and Materials

The COREnext dissemination tools and materials play a significant role in our efforts to reach and engage with our target audiences. As stated above, by leveraging a mix of digital and traditional channels, we can ensure that our messages are accessible, engaging, and impactful. As shown below, we monitor the effectiveness of each tool and material, making adjustments as needed to optimise our dissemination strategy.

Table 4 outlines the dissemination tools used in the initial phase of the project to engage with relevant stakeholder groups.

	B5G/6G Ecosystem	Microelectronics Ecosystem	Partnerships & Networks	Application Sectors	Policy makers	Society as a whole
Project docs	✓	✓	✓	✓	✓	
Peer-reviewed publications	✓	✓		✓		
Technical publications	✓	✓		✓		
Open Access repository	✓	✓	✓	✓	✓	
Stakeholder consultation	✓	✓		✓		
Conferences & workshops	✓	✓	✓	✓	✓	✓
Congresses, exhibitions & demo spaces	✓	✓	✓	✓	✓	✓

Table 4 Dissemination tools used to engage stakeholders

2.3.1.1 Project Documentation

Documentation material in the form of **public deliverables** is available through COREnext's open access repository at [Zenodo](#) and [CORDIS](#), the European Commission's primary source of results from Horizon Europe projects. Public documentation is also accessible through the project's [official website](#).

The screenshot shows the COREnext website header with navigation links: HOME, ABOUT, TEAM, USE CASES, PUBLICATIONS, NEWS, CONTACT, and social media icons for X and LinkedIn. Below the header, on the left, is the text 'Public Deliverable'. The main content area features the title 'D4.1 Concept for Hardware Security Primitives and Heterogeneous Acceleration' in blue. Below the title is a short paragraph of text. At the bottom of this section are two buttons: a light blue 'LEARN MORE' button and a dark blue 'PDF' button with a document icon.

Figure 20 Example of a public deliverable on COREnext website

2.3.1.2 Peer-Reviewed Publications

COREnext has published and contributed to peer-reviewed publications in top scientific conferences and journals in relevant areas of research. As a Research & Innovation Action, one of the primary goals is to ensure that technical achievements and technological findings are adequately showcased and made available to a larger research community and scientific domains. Overall, in the first reporting period of the project, the COREnext consortium has published **8 conference papers, 1 conference workshop, 1 journal paper and 1 book chapter**. Additionally, **10 other conference papers, 1 conference workshop and 1 journal paper** have been accepted so far and will be published later in 2024. The published scientific papers have already been **downloaded over 1,500 times**. The high number of downloads for the published scientific papers indicates their relevance and impact within the scientific community, suggesting that the research is of significant interest and value to other scholars and practitioners in the field.

These are the subjects covered by the scientific publications above:

- **Microelectronics and VLSI:** COOL Chips, Great Lakes Symposium on VLSI, VLSISo and IEEE JC&S 2024.
- **System Software and Embedded Systems:** Workshop on System Software for Trusted Execution (SysTEX), IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS), HotOS workshop, 3rd Workshop on Heterogeneous Composable and Disaggregated Systems (HCDS).
- **Microwave and RF Engineering:** International Microwave Symposium, IEEE MTT-S International Microwave Symposium, French Microwave Days, 2024 European Microwave Conference, 2024 European Microwave Integrated Circuits Conference.
- **Circuits and Systems:** IEEE Transactions on Circuits and Systems I, 2023 30th IEEE International Conference on Electronics, Circuits and Systems (ICECS).
- **Mobile Connectivity and Sensing:** ESSCIRC 2023 Workshop: Technologies enabling future mobile connectivity & sensing.
- **Design and Automation:** 2023 Design, Automation & Test in Europe Conference & Exhibition (DATE).

- **Electronic Components and Technology:** 2024 IEEE ECTC (Electronic Components and Technology Conference).
- **Wireless Sensors and Networks:** 2024 IEEE Topical Conference on Wireless Sensors and Sensor Networks (WiSNeT).
- **Antennas and Propagation:** 18th European Conference on Antennas and Propagation (2024 EUCAP).
- **Communication:** IEEE ICC2024.

These publications are highly relevant for several reasons, including advancing scientific knowledge, driving technological innovation, influencing industry practices, and shaping policy and standards.

2.3.1.3 White papers

White papers are essential tools for communicating complex ideas, fostering innovation, supporting decision-making, and establishing authority in various fields. In May 2024 the COREnext consortium published a White Paper titled [The Key to Europe's Digital Future](#) addressing relevant strategic and technological aspects to drive Europe's digital transformation. The white paper had **239 downloads and 213 views** in its first two months after publication.

The paper was officially presented at EUCNC/6G Summit 2024 within the context of a session with the title *Trustworthiness – security, reliability, and beyond. The road to a successful digitalisation strategy in Europe* and it will be further disseminated at the [6G SNS network](#) and at the [Networld Europe Working Group's](#) social media channels.



Figure 21 White Paper presentation at EuCNC2024

2.3.1.4 Open Science

COREnext is committed to research integrity, reproducibility, transparency and Open Science practices. To support this, the consortium is, for example, now planning to produce an Open Letter to be published on the [Open Research Europe](#) open access publishing platform for scientific articles to support the publication of the White Paper ([The Key to Europe's Digital Future](#)). The project also uses widely self-archiving services for research communities like [ResearchGate](#) or [Academia](#). This allows a balance between traditional publications and open access.

COREnext uses Zenodo as its official repository. Our Zenodo repository has received **601 views** and **447 downloads** in the first half of the project.

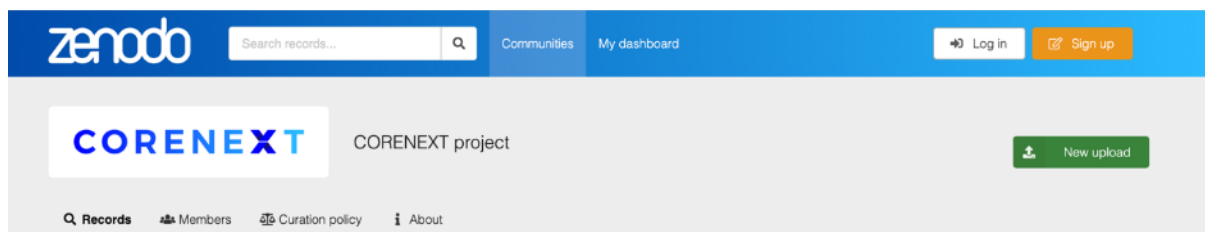


Figure 22 Zenodo: [CORENEXT project | Zenodo](#)

Lastly, COREnext uses open source code repositories (i.e. GitHub). Open source code repositories' relevance stems from their role as central hubs for version control, collaboration, project management, and community engagement in the software development landscape.

2.3.1.5 Events: conferences, workshops and symposiums

Attending events for networking and sharing knowledge is key for the dissemination of COREnext findings. Networking helps build relationships, discover opportunities, and enhance visibility, while sharing knowledge fosters continuous learning, innovation, and community support. Together, they create a synergistic environment that benefits individuals and the broader professional community.

The events and workshops attended by members cover a broad range of fields within engineering, computer science and telecommunications. These are some of the fields they encompass:

- **Privacy engineering:** focuses on the development of systems and technologies that ensure user privacy - [International Workshop on Privacy Engineering \(IWP23\)](#).
- **Solid-State Circuits and Systems-on-Chip:** involves the design and application of solid-state electronic devices - [ISSCC 2023 Advance Program](#); [the IEEE International Solid-State Circuits Conference](#), and [the 2024 IEEE Custom Integrated Circuits Conference \(CICC\)](#).
- **Networks and Communications:** covers telecommunications, network infrastructure, and future communication technologies - [EuCNC 2023 and 2024](#) and [2024 SAL Symposium on 6G](#).

- **Microwave Theory and Techniques:** involves the study and application of microwave technology and radio frequency engineering - [IEES MIT-S International Microwave Symposium \(2023 and 2024\)](#).
- **Operating Systems:** focuses on the design, development, and implementation of operating systems - [Symposium on Operating Systems Principles \(SOSP 2023\)](#).
- **Computer architecture and Programming Languages:** explores innovations in computer hardware and software, including system performance and reliability - [ACM International Conference on Architectural Support for Programming Languages and Operating Systems \(ASPLOS\)](#).
- **Embedded and Real-Time Systems:** deals with the design and application of systems that operate within strict timing constraints - [IEEE Real-Time and Embedded Technology and Applications Symposium \(RTAS 2024\)](#).

These events play a critical role in advancing knowledge, shaping industry standards, fostering collaborations, and influencing the direction of future research and technological development. They provide a forum for the dissemination of ideas, the recognition of outstanding work, and the development of professional networks, all of which contribute to the overall progress and innovation in their respective fields. Attending these events provides opportunities for networking with leading experts, researchers and industry professionals that can lead to collaborative projects and the sharing of cutting-edge research.

In summary, in the first reporting period, COREnext members have participated in **11 workshops, 18 conferences, 2 symposium and 3 meetings**. By attending these events, members can stay updated on the latest advancements, network with peers, and contribute to discussions that shape the future of these fields.

2.3.1.6 Training program

COREnext plans to deliver a series of online tutorials, which will be made publicly available through the project's website and will be posted to a public platform (i.e. YouTube). These will all be licensed via a Creative Commons license (likely "CC BY") to maximise reuse of the knowledge.

The planning for the COREnext training program will start in the summer of 2024. COREnext will co-organise **12 webinars and workshops** as a means of transferring knowledge and sharing technical and socio-economic insights with the community, particularly relevant to the B5G/6G and Microelectronics Ecosystems.

For example, the first of these events took place at EuCNC 2024, where COREnext delivered a convened session with the title *Trustworthiness – security, reliability, and beyond. The road to a successful digitalisation strategy in Europe*. This session had the aim to facilitate the exchange of ideas and promote discussion around the relevance of trustworthiness in the future of 6G in Europe.

In the second phase of the project, we will develop a comprehensive training program.

2.3.1.7 Database

WP8 is working on a GDPR compliant stakeholder database to facilitate efficient dissemination of information. Leveraging this database will enhance the efficiency, effectiveness, and impact of our communication and dissemination efforts, ensuring that we reach the right audiences with the right messages at the right times.

2.3.2 Dissemination KPIs

In our effort to ensure that our research findings reach the widest and most relevant audience possible, we have developed a set of KPIs for dissemination. These KPIs help us measure the reach and impact of our dissemination activities, ensuring we are effectively communicating our message and achieving our strategic goals.

	Achieved	Target
Peer-reviewed scientific publications: Journals + conferences + workshops + book chapters	1+8+1+1	10+20
Views related to the above	1686	--
Non-scientific publications	21	50
Videos (Teasers + interviews)	>3	3
Workshop/Webinars organised	1	12
Coding guidelines and Insight paper	0+1	1+1
Events attendance	30	34
Newsletters	4	12
Zenodo downloads	447	1K

Table 5 COREnext Dissemination KPIs

3 Stakeholder engagement

The main aim of this communication and dissemination (C&D) strategy is to amplify COREnext’s obtained benefit from navigating an ecosystem of initiatives, organisations and agents with a given position of influence and interest on the project’s performance and outcomes, while at the same time creating new synergies over the project’s lifetime, enabling greater exposure, and extending its range of action.

COREnext’s **stakeholder collaboration framework** follows a methodology based on an iterative approach of 3 phases: scout, interact and learn. **Scouting** involves identifying and listing key actors (groups and/or individuals) within the context of the project and classifying and understanding these audiences as per their degree of impact in the project’s execution and success at different stages of the project; **interacting** comprises interactions with the identified target groups; while **learning** focuses on extracting knowledge and adapting for the next iteration based on the interaction and insights obtained.

COREnext has identified key stakeholder groups essential to its success: the B5G/6G ecosystem, microelectronics application sectors, policymakers, partnerships and networks, and society at large. Here’s our strategic approach to engaging with each of these groups (see **Figure 23**).

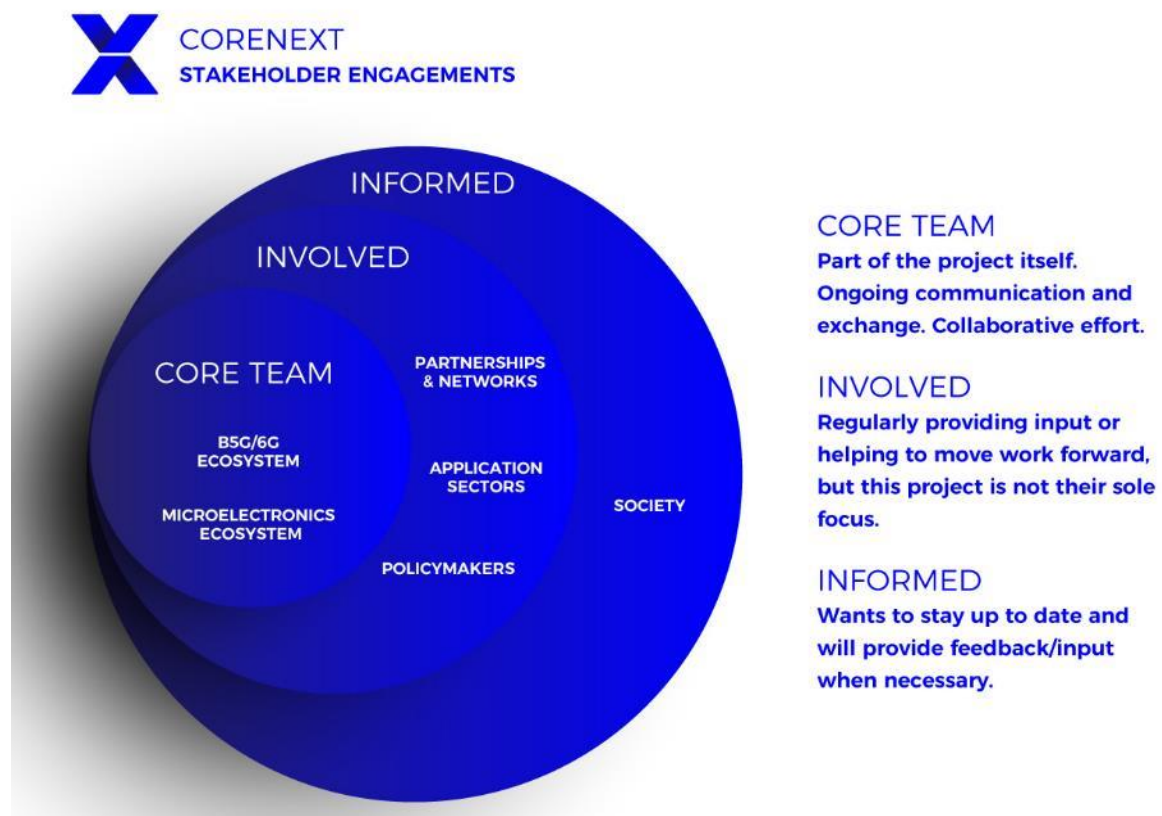


Figure 23 COREnext stakeholder map and engagement strategy

The outlined engagement strategy could involve activities such as collaborative research workshops, conferences and workshops, policy advocacy efforts, and public outreach campaigns. By engaging with these stakeholder groups effectively, COREnext can maximise its impact and achieve its objectives more successfully.

3.1 Impact Survey (B5G/6G and Microelectronics ecosystems)

In January 2023 COREnext run a consortium survey asking all members to assess the potential impact of COREnext in the real world. By assessing this impact, we meant to understand how results will influence, for example, the implementation of 6G, society in general, industry, the economy and/or policy.

The results of the survey highlighted that the areas with potential impact are the **implementation of 6G, technology beyond 6G, commercial, research, social values, ethics, sustainability, industry innovation, policy, education/training, policy, standards, and end users.**

We are now establishing baselines for these potential impact areas to measure impact effectively using an impact pathway approach.

3.2 Communication and Dissemination Task Force

Recognising the importance of strategic communication, COREnext will actively build a dedicated **Communication and Dissemination Task Force** in the second half of the project. This task force will be composed of experts in communication, marketing, and public relations from other projects related to the COREnext topics, who will work collaboratively to develop and implement a comprehensive communication strategy. The Communication Task Force will be responsible for identifying the most effective communication channels and tactics to maximise the impact and visibility of all project's results. The task force will tailor the communication efforts to suit different target audiences, considering their specific interests, needs, and preferences, and will collaboratively explore innovative approaches to engage with stakeholders and the general public. Joint activities may also include organising events, workshops, webinars, or interactive platforms to facilitate dialogue and collaboration.

The initially identified projects for the communication and dissemination task force are:

- [CONFIDENTIAL6G](#): Confidential Computing and Privacy-preserving Technologies for 6G.
- [TrialsNet](#): Trials supported by Smart Networks beyond 5G.
- [Hexa-X-II](#): 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.
- [CENTRIC](#): Towards an AI-native, user-centric air interface for 6G networks.
- [6Gtandem](#): A Dual-frequency Distributed MIMO Approach for Future 6G Applications.
- [PREDICT-6G](#): Programmable AI-Enabled Deterministic networking for 6G.



Figure 24 Identified projects for the C&D task force

3.3 End-user engagement

COREnext initiated discussions with organisations such as [CiberVoluntarios](#), [TrustAware](#), and Cyclopes, aiming to craft an end-user engagement initiative to enhance comprehension and awareness regarding 6G technology and its trustworthiness. The objective is to foster a deeper understanding among end-users about the capabilities and implications of 6G, while also addressing concerns related to trust and reliability. Through collaborative efforts with these esteemed organisations, COREnext seeks to develop a robust framework that empowers end-users to navigate the complexities of 6G with confidence and clarity.

4 Performance Overview - Outreach

Measuring **performance** in dissemination and communication involves assessing various metrics to gauge the effectiveness of our efforts in reaching and engaging our target audience. We regularly monitor these metrics and adjust our communication strategies based on the insights gained. This way we can effectively measure and improve our outreach in dissemination and communication efforts (see **Table 3** COREnext Communication KPIs and **Table 5** COREnext Dissemination KPIs).

In this first half of the project, we have:

- Measured the size of our audience **by tracking metrics such as website visitors, social media followers, email subscribers, or event attendees. See KPIs above.**
- Evaluated the level of interaction our content generates, **including metrics such as likes, shares, comments, reposts, and click-through rates. See KPIs above.**
- Used tools like Google Analytics **to monitor website traffic, including the number of unique visitors and page views. See Table 3.**
- Used platform-specific analytics tools (e.g., LinkedIn and X Analytics) **to track engagement metrics, audience demographics, and post-performance.**

For example, this was our stakeholders' geolocation in LinkedIn in May 2024.

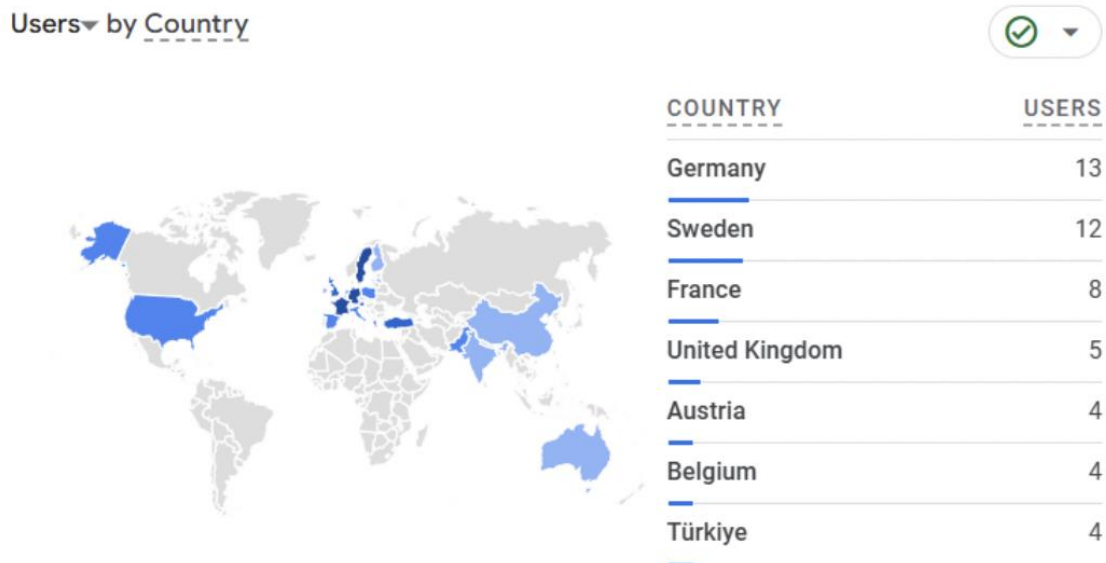


Figure 25 COREnext audience geolocation (LinkedIn data May 2024)

Moreover, by examining COREnext's LinkedIn analytics, we identified that our engagement extends to sectors such as Research Services, Higher Education, Appliances, Electrical and Electronics Manufacturing, Computers and Electronics Manufacturing, Communications, Equipment Manufacturing, Motor Vehicle Manufacturing, Semiconductors Manufacturing, Satellite Telecommunications, IT Services and IT Consulting, Technology, Information and Internet,

Telecommunications Carriers, Software Development, Business Consulting and Services, Marketing Services and Government Administration. This demonstrates the breadth of industries with which COREnext is engaging on LinkedIn.

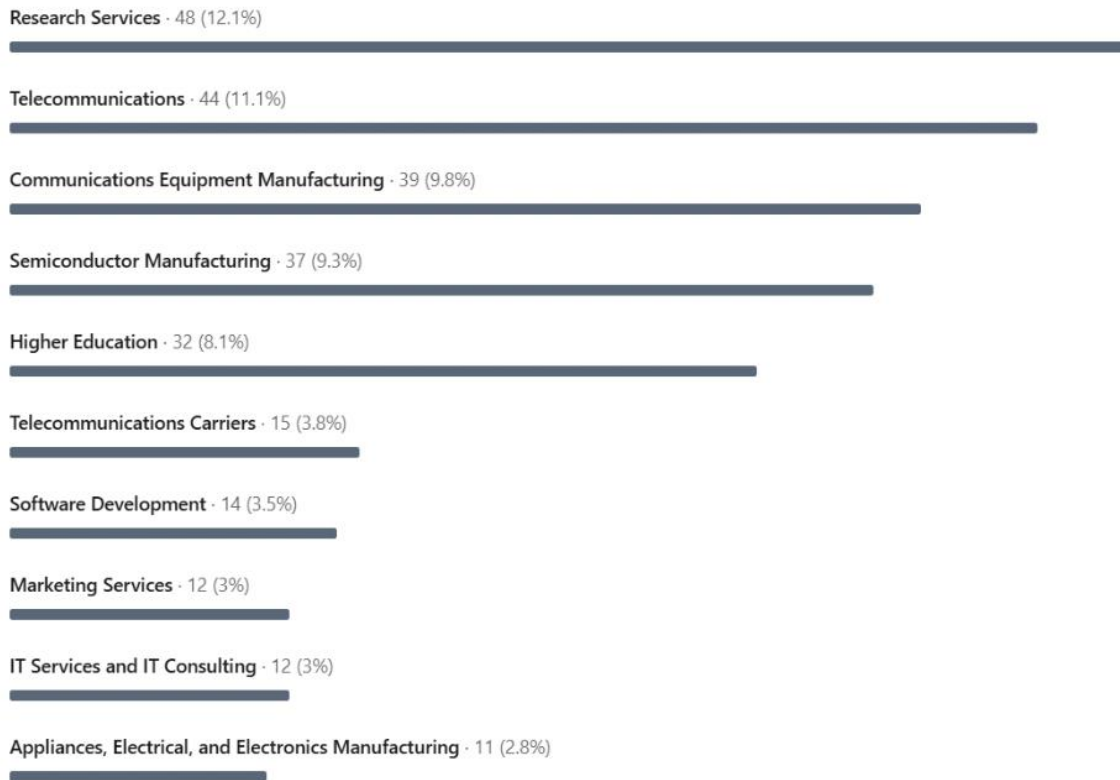


Figure 26 COREnext audience industries (LinkedIn data May 2024)

For the second half of the project, we also plan to expand our monitoring activity to:

- Analyse email campaign metrics, **including open rates, click-through rates, conversion rates, and unsubscribe rates, to assess the effectiveness of our email outreach efforts.**
- Monitor media mentions, **press releases, and news articles related to the project to evaluate its visibility.**
- Gather feedback from our audience through surveys, **polls, or direct inquiries to understand their perception of our communication efforts and identify areas for improvement.**

As stated above, WP8 is committed to continuous improvement, empowering COREnext to cultivate stronger connections, broaden its influence, and effectively communicate its mission to an ever-expanding audience. In the project's second half, WP8 aims to continue to foster deeper engagement and facilitate the conversion of interested followers into active participants.

5 COREnext Exploitation plan update

Key Exploitable Results (KERs) refer to the specific outcomes or findings of a research project or innovation process that have significant potential for practical application and commercialisation. These results are particularly valuable as they can be developed into products, services, or processes that provide economic, social, or environmental benefits.

COREnext has identified 3 main KERs as mentioned in **Table 6**:

KERs	Description	Relevant partners
KER #1: Trustworthy Disaggregated Computing Architecture	<p>One of the KERs of the project will be the definition of a trustworthy disaggregated computing architecture by elaborating on disaggregation dimensions, data flows, and attacker model from requirements and at the same time analysing and balancing the trade-off between trustworthiness and efficiency.</p> <p>Project partners will exploit work on trustworthy disaggregated computing architecture by proposing among others, a solution to secure hardware resources on the execution platform. A risk analysis will be driven, and most significant risks will be addressed and prevented with the main objective of keeping processing performances. The solution will be integrated into the global project architecture (i.e., Trustworthy Disaggregated Computing Architecture) and validated on the project testbed.</p>	<p>NNF will work in securing computing in the presence of untrusted FPGA components. Several security frameworks exist covering classical CPUs and GPUs usage in cloud. For FPGA-based cloud solutions, similar mechanisms do not exist. One objective is to propose, implement and evaluate a secured framework, considering multi-tenant FPGA-based cloud solutions. Moreover, partners' work on open-source hardware activities will support both the commercial exploitation activities of COREnext that make use of trustworthy disaggregated computing architecture. Also, project's outcomes will be used to guide the standardisation of 5G-advanced and 6G RAN as well as the corresponding optical solutions.</p>
KER #2: Trustworthy Digital and Analogue Components in Base Station, Terminal, Edge Cloud	<p>A KER will be the advancement of digital processing capabilities on the component level. Improvements will be realised in terms of operation latency, throughput, and energy efficiency. Embedded trustworthiness primitives such that security and privacy are design goals from the beginning is considered as well. Also, this KER considers the mechanism and method for identifying radio hardware devices based on their unique physical properties to support trustworthy wireless access and sensing as well as ultra-high-speed, short-range data interconnect based on low-power</p>	<p>EAB and NOK (& NNF) as global leading vendors will exploit the results of the project to develop the next generation of end-to-end communication systems. CHAL and IMEC will exploit the knowledge about hardware components and systems for sub-THz secure communication links. IFAG & IFAT will exploit new solutions for sub-THz wireless connectivity, high data-rate interconnects, and high-resolution sensors for applications like next generation telecom, datacom and sensing, securing IFAT & IFAG's European leading position as a chip</p>

	<p>and low-cost H-band transceiver circuits and plastic microwave fibres.</p>	<p>set provider for such systems. IHP will benefit from end-to-end solutions for high throughput backhaul/fronthaul links as well as hardware for access points. NXP will benefit from a mixed analogue-digital solution and antenna integration capabilities. These will be differentiators on the market for future joint sensing-6G chips and application solutions. In addition, local and international partners can receive early access to upcoming advanced technologies and prototype modules to accelerate next generation products.</p>
<p>KER #3: Trustworthy Internet of Things (IoT) and Vertical Services and Applications</p>	<p>Various partners are working on aspects related to trustworthy IoT and vertical services and applications. Specifically, project partners offer integrated digital solutions for citizens, businesses, and public administrations.</p>	<p>BI, TIM, WINGS contribute to the delivery of platforms and solutions for trustworthy IoT and vertical services and applications which will leverage on trustworthy disaggregated computing architecture as well as trustworthy digital and analogue components. Learning about new technologies or new infrastructure solutions helps to envision possible new services to improve existing ones and enhance them with trust and safety aspects.</p>

Table 6 COREnext KERs

6 Innovation management and business models

Innovation management within the COREnext project on microelectronics and trustworthiness presents a myriad of benefits critical for its success. Firstly, effective innovation management ensures the alignment of project goals with market demands and technological advancements. By constantly assessing market trends and consumer needs, project teams can steer their research and development efforts towards creating solutions that are not only innovative but also commercially viable. This proactive approach enhances the project's competitiveness in the rapidly evolving microelectronics industry, fostering its sustainability and long-term impact.

Secondly, innovation management facilitates efficient resource allocation and collaboration among diverse stakeholders involved in the COREnext project. Through structured processes such as idea generation, feasibility analysis, and project prioritisation, teams can optimise their use of resources, including funding, expertise, and time. Additionally, clear communication channels and collaborative frameworks enable seamless integration of insights and expertise from academia, industry partners, and research institutes. This interdisciplinary collaboration fosters synergies, accelerates progress, and enhances the overall quality of research outcomes.

Lastly, innovation management cultivates a culture of continuous improvement and learning within the COREnext project, driving iterative development and adaptation to emerging challenges and opportunities. By fostering an environment where experimentation is encouraged and failure is viewed as a learning opportunity, teams can rapidly iterate on ideas, refine their approaches, and pivot when necessary. This agile mindset not only enhances the project's ability to address evolving market needs but also fosters resilience in the face of uncertainty. Ultimately, by embracing innovation management principles, the COREnext project can maximise its potential for creating ground-breaking advancements in microelectronics while ensuring the trustworthiness and reliability of its solutions.

Achieving the benefits of innovation management within the COREnext project involves a systematic approach that integrates various strategies and methodologies. Here's a breakdown of the key steps involved:

- **Idea Generation and Screening:** partners engage in idea generation activities to brainstorm potential solutions and innovations. Ideas are evaluated and screened based on criteria such as feasibility, market potential, and alignment with project goals. This helps prioritise promising concepts for further development.
- **Cross-functional Collaboration:** effective innovation management relies on cross-functional collaboration, bringing together diverse expertise from academia, industry partners, and research institutions. Clear communication channels and collaborative frameworks are established to facilitate knowledge sharing, idea exchange, and interdisciplinary collaboration. By leveraging the collective insights and resources of multiple stakeholders, partners can enrich their understanding of complex challenges and develop more robust solutions.
- **Resource Allocation and Project Prioritisation:** with a multitude of ideas and opportunities identified, partners need to prioritise their efforts and allocate resources effectively. By aligning

resource allocation with strategic priorities and market needs, partners can maximise the return on investment and accelerate progress towards key objectives.

- **Agile Iteration and Continuous Improvement:** innovation management embraces an agile mindset, emphasising iterative development and continuous improvement. This iterative approach enables partners to gather feedback, learn from failures, and refine their approaches in real-time, ultimately driving innovation and enhancing project outcomes.

By following these steps and embracing the principles of innovation management, the COREnext project can effectively harness the collective creativity, expertise, and resources of its stakeholders to drive meaningful advancements in microelectronics while ensuring trustworthiness and reliability in its solutions.

Until now, four innovation radar questionnaires have been filled by partners according to the aspects and templates mentioned in the [EU Innovation Radar](#).

The current innovations so far are related to:

- 1) **Towards Disaggregation-Native Data Streaming between Devices:** workloads often require data to be streamed through chains of multiple (accelerator) devices, but typically, these data streams physically do not directly flow device-to-device, but are staged in memory by a CPU hosting device protocol logic. We show that augmenting devices with a disaggregation-native and device-independent data streaming facility can improve processing latencies by enabling data flows directly between arbitrary devices.
- 2) **Core-Local Reasoning and Predictable Cross-Core Communication with M³:** M³ is an existing hardware/software co-design for heterogeneous systems that features strong isolation between cores. We first survey M³'s current state for real-time applicability and study both the communication latencies in comparison to other systems and M³'s different approach to task priorities. Furthermore, we improve M³'s real-time applicability by adding a network-on-chip traffic regulation and enabling the enforcement of resource limits. With these additions, M³ enables local reasoning about application execution.
- 3) **Towards Modular Trusted Execution Environments:** this work proposes a modular TEE design that is independent of the instruction set architecture, is not deeply integrated into complex processor cores, and is not tied to a specific execution model. We apply this modular design to the M³ hardware/software co-design platform and demonstrate how TEE support can be made a first-class feature at the system-architecture level.
- 4) **Sub-THz modelling and PoC:** in this work, partners build-up an experimental setup with Matlab over the air to characterise D-band wireless communication systems (T6.1). This is particularly important to investigate to which extent the RF hardware impairments can be calibrated and compensated towards reliable and secure D-band communication. The experimental setup builds-up on (i) the sub-THz link level simulator that includes amongst others different beamforming architectures together sub-THz RF non-idealities developed in T5.1, and (ii) a D-band transceiver module developed and characterised outside the project scope.

These innovations provide important advancements to trustworthy microelectronics and are studied in detail in technical work packages of the project.

In addition to the innovations, developing a business model focused on trustworthiness in microelectronics involves creating value propositions that address the needs and concerns of stakeholders such as consumers, manufacturers and other key stakeholders.

Here's a conceptual outline for such a business model:

Key Partners <ul style="list-style-type: none"> End-user equipment suppliers Chipset manufacturers Technology and R&D providers 	Key Activities <ul style="list-style-type: none"> Research and Development: Invest in research and development initiatives to continuously innovate and enhance technologies. Testing and Certification: Establish robust testing and certification processes to validate the trustworthiness and quality of microelectronics components. Collaboration and Partnerships: Forge strategic partnerships with key stakeholders 	Value Proposition <ul style="list-style-type: none"> Assurance of Product Authenticity: Offer products with embedded features or technologies (e.g., blockchain-based authentication) that guarantee their authenticity, mitigating the risk of counterfeit products in the market. Enhanced Security and Privacy: Provide microelectronics solutions equipped with robust security features to safeguard sensitive data and protect against cyber threats, ensuring the trustworthiness of digital transactions and communications. Reliability and Quality Assurance: Deliver high-quality microelectronics components and devices that undergo rigorous testing and certification processes to ensure reliability, performance, and longevity, thus building trust among customers. 	Customer Relationships <ul style="list-style-type: none"> Provision of trustworthy services to end-users 	Customer Segments <ul style="list-style-type: none"> Enterprises: Target businesses and organizations that require trustworthy microelectronics solutions for critical applications such as Automotive, Smart Cities and other verticals. Consumers: Address the growing demand for trustworthy consumer electronics products, including smartphones, wearables, and smart home devices, by offering secure and reliable alternatives to existing offerings. Government and Regulatory Bodies: Collaborate with governmental agencies and regulatory bodies to ensure compliance with industry standards and regulations related to microelectronics trustworthiness.
Cost Structure <ul style="list-style-type: none"> Research and Development Costs: Allocate resources for research, design, and development activities aimed at innovating and improving trustworthy microelectronics solutions. Manufacturing and Production Costs: Cover expenses related to manufacturing, assembly, and testing of microelectronics components and devices, ensuring adherence to requirements. Marketing and Sales Expenses: Invest in marketing campaigns, advertising, and sales initiatives to promote trustworthy microelectronics products and services and acquire new customers. 		Revenue Streams <ul style="list-style-type: none"> Product Sales: Generate revenue through the sale of trustworthy microelectronics components, devices, and solutions to enterprise and consumer markets. Subscription Services: Offer subscription-based services for ongoing security updates, maintenance, and support, providing customers with continuous assurance of trustworthiness. Licensing and Royalties: Generate revenue by licensing proprietary technologies, patents, and intellectual property related to trustworthy microelectronics. 		

Figure 27 COREnext conceptual business model - Business Model Canvas

By implementing this canvas, we can start drafting a business model to explore how key stakeholders can be established as a trusted partner in the field of microelectronics, providing customers with secure, reliable, and high-quality solutions that meet their evolving needs and expectations.

7 COREnext IPR management update

COREnext's **IPR management** remains the same as reported in previous D8.1. Specifically, COREnext considers three main elements of an effective system to protect and exploit Intellectual Property (IP). Firstly, a system that enables the protection of IP (e.g., patents, copyrights, brand, industrial design) that includes clarity about the ownership and use of IP rights, the rights and freedom of parties to transfer (assign) IP, and the freedom to publish. Secondly, a technology transfer framework, preferably with the support of specialised knowledge transfer offices with professional staff, such as the European IPR Helpdesk. Thirdly, a fair law enforcement system in each partner's country caters to dispute settlement and can award penalties and sanctions where appropriate. The above framework ensures the ownership and use of IPs of partners.

8 Standardisation activities

Standardisation activities refer to the processes and efforts involved in establishing and implementing technical standards, which are agreed-upon guidelines or specifications for products, services, and processes. These activities ensure consistency, compatibility, safety, and quality across different industries and sectors. Standardisation is pivotal for facilitating trade, ensuring interoperability, and enhancing consumer trust.

The following table summarises the standardisation activities related to the project up to now.

Research item	Target SDO	Target SDO WG	Target Study Item/Work Item	Meeting Name	Meeting Date	Contribution ID & Title	Type Of Contribution	Short Description and Achieved Impact
Definition of device class and access control protocol for cellular IoT	3GPP	RAN2	eRedCap Rel.18	RAN2#121bis-e	17th – 26th April, 2023	R2-2304171 Considerations on Further reduced UE complexity for eRedcap	<i>Technology/ Solution</i>	<p>Rel-18 Enhanced support of reduced capability NR devices work item includes the objectives of UE bandwidth and peak data rate reduction, with an aim to define at most one Rel-18 RedCap UE type.</p> <p>eRedCap UE design will most probably be considered (at least) as a baseline of future early 6G UE solutions to address cellular IoT for broadband (above LPWA) applications.</p> <p>In this contribution we addressed some aspects of further reduced UE complexity topic, including possible RAN2 impacts related to RAN decision on including a standalone eRedCap UE flavour with only peak data rate reduction. We made proposals on how to define an eRedCap UE and on access control with focus to ensure network can flexibly and securely give access to UEs it wants.</p> <p>Concepts were not decided at this meeting.</p>



Definition of device class and access control protocol for cellular IoT	3GPP	RAN2	eRedCap Rel.18	RAN2#122	22nd – 26th May 2023	R2-2305932 Considerations on Further reduced UE complexity for eRedcap	<i>Technology/ Solution</i>	Revised submission of R2-2304171 Concepts were not decided at this meeting.
Definition of device class and access control protocol for cellular IoT	3GPP	RAN2	eRedCap Rel.18	RAN2#123	21st – 25th August 2023	R2-2308673 Considerations on Further reduced UE complexity for eRedcap	<i>Technology/ Solution</i>	Revised submission of R2-2305932 Our proposal for barring eRadCap similarly to legacy was the line kept finally by 3GPP RAN2. This ensured more flexibility to network for providing secure access to UEs it wants.

Table 7 COREnext Standardisation activities

9 Conclusion

This report underscores the critical role of well-crafted communication and dissemination plans in maximising the impact and success of the COREnext project. The synergy between communication activities and dissemination goals aims to extend the project's influence beyond its immediate scope. By integrating these efforts, we optimise the reach and effectiveness of our outcomes, ensuring they are widely accessible and impactful.

An effective communication strategy is key for engaging stakeholders, managing information, enhancing visibility, and ultimately maximising COREnext's success. Equally essential is effective dissemination, which aims to share project results with potential users, research peers, and a broad community encompassing industry, academia, and digital stakeholders. To achieve this, COREnext has developed comprehensive and flexible communication and dissemination plans aimed at increasing awareness, fostering understanding, and prompting action among key audiences. Implementation of these plans facilitates the adoption of project outcomes, best practices, and research insights, thereby enhancing overall impact.

Continuous improvement in communication and dissemination strategies is critical to remain relevant and effectively engage stakeholders. Regular assessment and refinement of strategies are essential to meet evolving project needs and audience expectations. Key components of COREnext's continuous improvement strategy include audience segmentation and targeting for tailored messaging, selection of effective communication tools based on engagement analytics, leveraging partner resources to amplify reach, and showcasing partner achievements through dissemination efforts.

Key indicators of our communication and dissemination efforts include substantial traffic to the COREnext website, which has received over 4,800 views from more than 1,500 visitors. Moreover, COREnext has published 748 social media posts, reaching over 1,270 followers. The website features 21 awareness publications, 1 white paper, 7 deliverables, and 11 scientific publications, all of which are crucial for maximizing the project's impact.

Stakeholder engagement is strategically prioritised to optimise communication and dissemination efforts. COREnext aims to leverage stakeholder influence and interest to enhance project outcomes and foster synergies. An iterative methodology of scouting, interaction, and learning ensures continuous refinement of engagement processes based on valuable insights gained.

Identified stakeholders include the B5G/6G ecosystem, microelectronics sectors, policymakers, and the general public. Engagement strategies encompass collaborative research workshops, policy advocacy, and public outreach campaigns. The January 2023 impact survey highlighted COREnext's potential influence on 6G implementation, societal and industrial innovation, and policy development, establishing baselines for effective impact measurement.

The establishment of a Communication Task Force in the second half of the project represents a proactive approach to strategic communication. Composed of experts from related projects, this task force aims to develop and implement a comprehensive communication strategy using tailored channels and innovative engagement approaches.

Efforts to engage end-users through organisations like CiberVoluntarios and TrustAware aim to increase awareness and trust in 6G technology, empowering users with a deeper understanding of its capabilities and implications.

COREnext systematically measures audience engagement and interaction through various metrics, leveraging tools like Google Analytics and platform-specific analytics (LinkedIn, X) to identify industry engagement. Moving forward, COREnext is committed to refining strategies to deepen engagement and expand project visibility and impact.

The COREnext Exploitation Plan outlines key exploitable results (KERs) with significant potential for practical application and commercialisation, contributing to economic, social, and environmental benefits. These include Trustworthy Disaggregated Computing Architecture, Trustworthy Digital and Analog Components, and Trustworthy IoT and Vertical Services and Applications. The plan demonstrates how these results will be leveraged to develop new products, services, and processes, ensuring lasting positive impacts on technology and society.

Innovation management plays a very important role in COREnext's success by aligning with market needs, optimising resources through collaboration, and fostering a culture of continuous improvement. Innovative solutions like disaggregation-native data streaming and modular trusted execution environments exemplify COREnext's commitment to pushing boundaries in microelectronics and trustworthiness.

COREnext upholds a robust IPR management system, safeguarding interests through clear ownership rights, technology transfer frameworks, and legal enforcement mechanisms, fostering a secure environment for innovation and collaboration.

Standardisation efforts within COREnext focus on defining device classes and access control protocols for cellular IoT through active participation in 3GPP RAN2 meetings. These efforts are critical for establishing technical standards that ensure interoperability, reliability, and security across industries, shaping future standards that support secure access for next-generation EU solutions.

In summary, COREnext's integrated strategies in communication and dissemination, exploitation, innovation management, and standardisation are established to significantly enhance project impact, visibility, and success through targeted and adaptive approaches. Moving forward, COREnext remains committed to continuous improvement, aiming to deepen engagement, broaden influence, and effectively communicate its mission to foster active participation.