D6.3

Updated plan and initial report on dissemination and communication activities

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Abstract	This report constitutes an updated plan and initial report on the partners` dissemination and communication activities of the first 12 months. It also includes an overview of the advancements in terms of spectrum harmonization that took place in different radio regulatory bodies (e.g. as the ITU), and a short forecast on how current advancements may shape 6G in terms of, e.g. overall requirements, allocated spectrum parts, etc.
Keywords	Dissemination, communication, infrastructure, website, homepage, internal communication, IPR, standardisation

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All partners

Disclaimer

Executive Summary

This deliverable aims to provide a clear update on the initial communication and dissemination plan, of the REINDEER project. Dissemination and communication activities that took place in the first twelve months of the project are explained and further plans are summarized. Updates on the dissemination report will be provided in the upcoming periodic reports as well as in D6.5 “Final report on dissemination and communication activities” in M42.

In Chapter 1 the three main phases of the project`s dissemination and communication plan are described. Chapter 2 illustrates the dissemination and communication strategy and defines the target audience of REINDEER.

Chapter 3 describes the dissemination and communication targets of REINDEER.

In Chapter 4 the past dissemination and communication activities of the first project year are described. This is divided into phase 1 and phase 2.

Within Chapter 5 there is an updated dissemination/communication plan for 2022, and in Chapter 6 there is a list of filed patents. Chapter 7, describes ongoing standardisation activities with an overview of the advancements in terms of spectrum harmonization that took place in different radio regulatory bodies (e.g. as the ITU), and a short forecast on how current advancements may shape 6G in terms of, e.g. overall requirements, allocated spectrum parts, etc.

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Chapter 1 Introduction

This deliverable provides an overview of the REINDEER communication and dissemination plan as well as a first report on communication and dissemination activities, which includes communication and dissemination material that are created and used within the project. As thoroughly described in our communication and dissemination plan (DoA – Section 2.2), our dissemination activities are clustered into three main phases, illustrated in Figure 1 (already detailed described in D6.1).

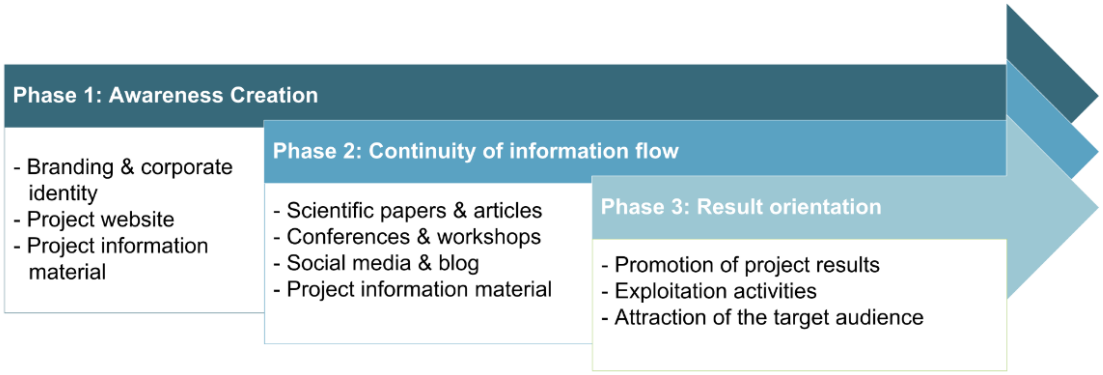

Figure 1: REINDEER Dissemination & Communication phases

The awareness creation phase took place during the first months of the project, in which the REINDEER consortium consolidated its branding and corporate identity. During this time, it also established project information material, as well as several communication tools, such as document templates and manuals; a shared platform through which all partners can exchange information; and a project website, on which the latest news and status of the project are made available to the public.

At the end of its first period, the project has now transitioned into the second phase of our communication and dissemination plan. During this phase, the project pursues to promote its results and further raise awareness among the industry and scientific community. Social media also plays an important role during this phase, increasing the interest of multiple audiences and allowing a more interactive communication with them.

As part of the activities planned for this phase, the project has already started to give presentations at different relevant conferences and workshops; and scientific publications are being written and submitted to journals and conferences too, as a result of the work done in the project. The contributions to academic and industry/standardization bodies facilitate lively discussions, as well as new insights and feedback on the project´s progress, which contributes to the project´s success and possibly also follow-up research activities.

Chapter 2 Dissemination and communication strategy and target groups

A clear communication and dissemination strategy is essential for the execution of a dissemination and communication plan. Therefore, the REINDEER project has set out a clear strategy for dissemination and communication (Figure 2). The strategy defines the audiences which the project aims to target, and why such audiences should be targeted and by which means.

While talking about communication, the goal is to highlight the benefits of the REINDEER project for society, e.g. by showing the public society and media the impact of our project on everyday lives. When it comes to dissemination, the goal is to transfer knowledge and make project results available to an audience that may take an interest.

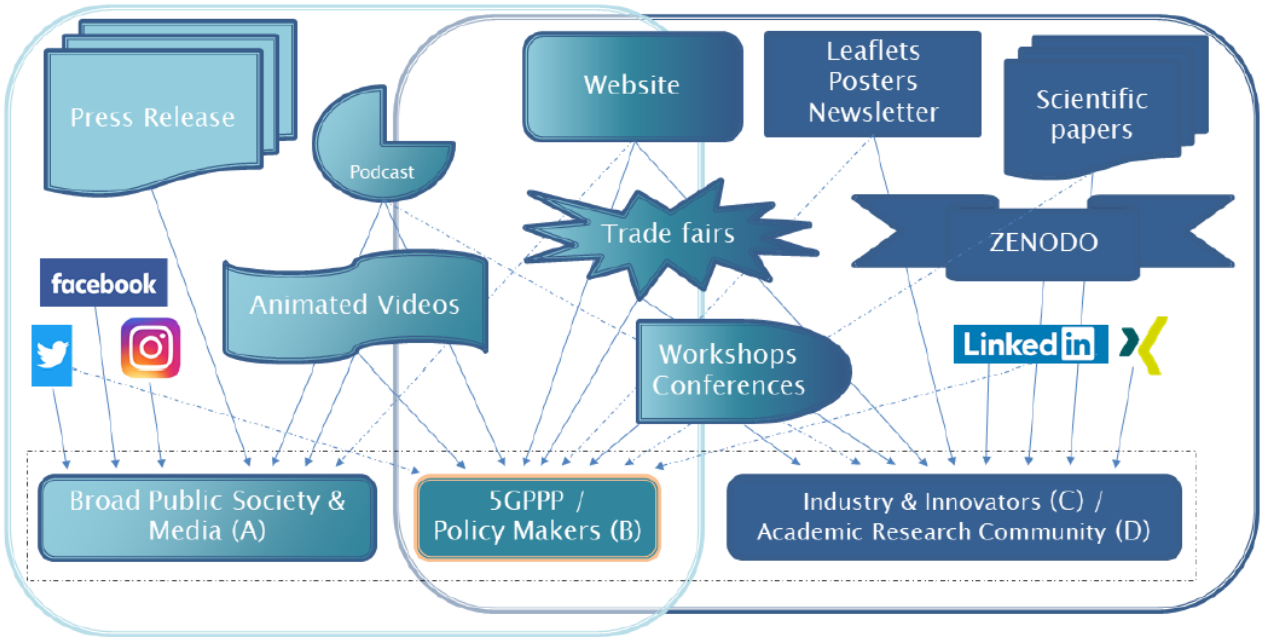

Figure 2: REINDEER Dissemination & Communication strategy

Within the REINDEER project, four main audience groups are defined:

For communication mainly:

- **Broad Public Society & Media** (A)**,**
- **Policy Makers incl. the 5G Public-Private Partnership (5GPPP)** (B),

For dissemination mainly:

- **Policy Makers incl. the 5G Public-Private Partnership (5GPPP)** (B),
- **Industry and Innovators** (C)**,** and
- **Academic Research Community** (D).

The project results can be used specifically to reach different audiences, by using various channels from Figure 2. The main four audience groups are described in the following.

2.1 Broad Public Society & Media

The Broad Public Society & Media (A) refer to the general public (Civic Society or Citizens), a wide array of organizations as well as to media. The EU considers Civil Society Organisations (CSOs) to include all non-State, not-for-profit structures, non-partisan and non-violent, through which people organise to pursue shared objectives and ideals, whether political, cultural, social or economic. Operating from the local to the national, regional and international levels, they comprise urban and rural, formal and informal organisations.

Within the REINDEER project, there are many communication means defined to reach the public. One is the project website, where you can find a compact, and foldable 6-pages leaflet. Further channels that are emerging are introductory video interviews or podcasts, which are all available on the project website. Also, the REINDEER Twitter account gives an insight into the EU funded R&I activities and their benefit for the broad public.

2.2 Policy Makers incl. the 5G Public-Private Partnership

It is important to share the research and its outcome with policymakers to foster collaboration and innovation. There are several benefits in presenting the work and the results of the REINDEER project to policymakers.

First, it increases the visibility of our research and enhances the project partner's reputation. Further, it helps to gain understanding and support, some of which financial. Additionally, we attract potential end-users of the project results and by outlining the broader socio-economic and policy context of our project. Future policymaking will be positively influenced. The scientific evidence produced by REINDEER additionally supports the grounds for European policymaking.

Policymakers (B) are members of a government department, legislature, or other organization who are responsible for making new rules, laws, or develop Public-Private Partnership relations. The 5G Public-Private Partnership (5G PPP) represents the world's biggest 5G research programme. It is a joint initiative between the European Commission (EC) and the 5G Infrastructure Association (5G IA) and aims to deliver 5G solutions, architectures, technologies and standards. REINDEER is an official member of 5GPPP and is participating in various activities (workshops, working group meetings, etc.). Several presentations have been given in 2021 to smaller and larger audiences in initiatives taken by the EC and in the 5G PPP context, and contributions to several workshops planned in the beginning of 2022 are in preparation.

2.3 Industry and Innovators

In order to fully capitalize on the innovation developed within the REINDEER project, it is essential to promote it and show its applicability to industry needs. Within the industry, a large potential group of stakeholders can be found which will eventually enhance the general exploitation of the innovation, thus also benefitting the global European economy.

Industry and Innovators (C) include companies and activities that are involved in the process of producing goods and services, as well as customers (e.g. handset makers and system integrators, responsibles in factories and hospitals for ICT and digitalization, and companies delivering ICT services). These companies follow for-profit strategies. One particular type of company is the SME (small and medium-sized enterprise). SMEs are the backbone of Europe's economy and represent 99% of all businesses in the entire EU. Within the industry, research is converted into improved goods, services, or processes for the market.

The REINDEER project foresees several ways to reach the industry. While the main channel is the attendance of trade fairs, the industry is also reached by attending conferences, workshops and further by publishing newsletters and keeping the website up to date. Furthermore, in the REINDEER Advisory Board two of its members work in the industry, namely representatives from Niko and SES-imagotag.

2.4 Academic Research Community

The Academic Research Community (D) includes universities, research facilities and platforms where knowledge is collected, gathered and shared. It is a structure that fosters creating, sharing and applying specific knowledge.

There are many channels through which the research community can be reached and results of the project can be made available. First of all, it is necessary to publish in open access. REINDEER provides open access to all published scientific papers on the ZENODO platform[1], and all publications are made accessible on the project website[2], where they are linked to their DOIs.

In order to connect with the scientific community, REINDEER aims to be active on social media (LinkedIn and Twitter). Partners are also encouraged to share the project results with their peers and followers. The regular project newsletter, with information on the project progress, is made available on the project website, as well as on social media too.

Moreover, the REINDEER consortium attends conferences, where project posters and scientific papers are presented and leaflets handed out. Our main target are conferences of European significance at least. However, lectures can be further disseminated at national levels in national languages for broader scope of impacts.

[1] https://zenodo.org/communities/reindeer-h2020/
[2] https://reindeer-project.eu/results-downloads/

Chapter 3 Dissemination and communication KPIs

During the proposal phase of REINDEER, a detailed communication and dissemination plan was created, defining different audiences, what the objective of reaching the audience would be and what the impact of reaching them will be. This plan is the basis for D6.3 and can be found in Section 2.2 of the DoA.

In order to assess the effect of the dissemination and communication activities on the target audience, a number of Key Performance Indicators (KPI) are selected, allowing to measure progress towards fixed goals for dissemination activities. These KPIs are repeatedly referenced in the document. The following table shows the selected KPIs:

Dissemination activity/ channel	KPI
REINDEER website	• Number of visitors • Average session duration
Social Media	• Number of postings • Number of followers • Number of impressions • Engagement rate
Scientific peer reviewed publications	• Number of publications per year • Number of views and downloads per publication (e.g. on Zenodo)
Participation in conferences, workshops	• Number of events • Number of attendees (e.g. during a REINDEER presentation or workshop; best estimates of persons who heard about REINDEER)
Organization of presentations, workshops	• Number of events • Number of attendees
Videos, podcasts	• Number of views/downloads (Vimeo, Omny) • Number of impressions

Table 1: Key performance indicators for dissemination and communication activities

Chapter 4 Dissemination and communication activities in Year 1

During the proposal preparation, the consortium identified a first plan on dissemination and communication activities, and divided it into three main phases (awareness creation, continuity of information flow, and result orientation). See also Figure 1.

4.1 Phase 1 “Awareness creation”

The goal of the “awareness creation” phase was to build up the REINDEER branding and corporate identity, as well as to establish the website and other useful information material. The REINDEER consortium successfully finished this first phase.

4.1.1 Past Dissemination & Communication activities – Phase 1

Within the first six months of the project, the following dissemination/communication activities were performed within the "awareness creation phase".

Table 2: Part Dissemination & Communication activities – Phase 1

					DATE			Type & size of Audience[3]						
No	Type of activities	Main Leader	Other partners involved	Title	Start	End	Place	A	B	C	D	TOTAL/ KPI	Type and goal of the event / website	Countries addressed
1	Website	TECH-NIKON		REINDEER Project website	01/02/2021		online	x	x	x	x	1.796[4]	Official project website online: www.reindeer-project.eu	International
2	Social Media	TECH-NIKON		REINDEER Twitter Account	01/01/2021	01/01/2021	online	x		x		57[5]	https://twitter.com/H2020Reindeer	International
3	Social Media	TECH-NIKON		REINDEER LinkedIn Account	01/01/2021	01/01/2021	online	x		x		108[6]	https://www.linkedin.com/company/reindeer-h2020/	International
4	Video/ Film	TECH-NIKON		REINDEER project teaser	08/01/2021	08/01/2021	online	x	x	x	x	282[7]	https://reindeer-project.eu/reindeer-quick-overview/ https://vimeo.com/497188798	International
5	Website	TECH-NIKON		Today in a talk with Erik G. Larsson (LiU)	20/01/2021	20/01/2021	online	x				N/A	https://reindeer-project.eu/today-in-a-talk-with-erik-g-larsson-from-linkoping-university-liu/	International
6	Website	TECH-NIKON		Solutions for tomorrow's high speed wireless	20/01/2021	20/01/2021	online					N/A	https://reindeer-project.eu/solutions-for-tomorrows-high-speed-wireless/	International

[3] A = Broad Public Society & Media, B = Policy Makers incl. 5GPPP, C = Industry and Innovators, D = Academic Research Community
[4] Total amount of visitors from M01-M09
[5] Total number of followers on Twitter (23rd December 2021)
[6] Total number of followers on LinkedIn (23rd December 2021)
[7] Total impressions via Vimeo (14th December 2021)

					DATE			Type & size of Audience[3]						
No	Type of activities	Main Leader	Other partners involved	Title	Start	End	Place	A	B	C	D	TOTAL/ KPI	Type and goal of the event / website	Countries addressed
7	Press release	EAB		Press release	25/01/2021	25/01/2021	online	x	x	x	x	N/A	https://www.ericsson.com/en/news/2021/1/ericsson-in-eu-6g-drive	International
8	Other	EAB		Article at "The Voice of 5G & LTE for the Americas"	25/01/2021	25/01/2021	online	x	x	x	x	N/A	https://www.5gamericas.org/ericsson-a-key-player-in-eu-drive-to-develop-6g-multi-antenna-technologies/	International
9	Flyer	TECHNIKON		Project Leaflet	26/01/2021	26/01/2021	online	x	x	x	x	N/A	https://reindeer-project.eu/wp-content/uploads/2021/01/REINDEER_Leaflet_Web.pdf	International
10	Other	EAB		Ericsson embarks on 6G journey with REINDEER	26/01/2021	26/01/2021	online	x	x	x	x	N/A	https://www.mobileworldlive.com/featured-content/top-three/ericsson-embarks-on-6g-journey-with-reindeer	International
11	Press release	TECHNIKON		REINDEER Announcement Letter	27/01/2021	27/01/2021	online	x	x	x	x	N/A	https://reindeer-project.eu/wp-content/uploads/2021/01/REINDEER_Announcement_Letter-Technikon.pdf	International
12	Other	EAB		How Ericsson is Powering Innovation in 6G Multi-Antenna Technologies	27/01/2021	27/01/2021	online	x	x	x	x	N/A	https://telecomdrive.com/how-ericsson-is-powering-innovation-in-6g-multi-antenna-technologies/	International
13	Organisation of a Workshop	KU Leuven	LIU	WIC Midwintermeeting 2021: 5G networks – and beyond: technologies for a new application era	28/01/2021	28/01/2021	online	x		x	x	116[8]	http://www.w-i-c.org/events.html	International

[8] Number of people subscribed before the event, workshop was online, more people may have consulted partial recording afterwards.

					DATE			Type & size of Audience[3]						
No	Type of activities	Main Leader	Other partners involved	Title	Start	End	Place	A	B	C	D	TOTAL/ KPI	Type and goal of the event / website	Countries addressed
14	Website	TECH-NIKON		Today in a talk with Juan Francisco (TID)	09/02/2021	09/02/2021	online	x				N/A	https://reindeer-project.eu/today-in-a-talk-with-juan-francisco/	International
15	Other	KU Leuven		Technologiecampus Gent neemt voortouw in de race naar 6G (page 34-35)	15/02/2021	15/02/2021	online, print	x		x	x	3000[9]	https://iiw.kuleuven.be/nieuws-en-agenda/connecting	National
16	Website	TECH-NIKON		Today in a talk with Ulrich Muehlmann (NXP)	16/02/2021	16/02/2021	online					N/A	https://reindeer-project.eu/today-in-a-talk-with-ulrich-muehlmann/	International
17	Website	TECH-NIKON		Today in a talk with KU Leuven Team	22/02/2021	22/02/2021	online					N/A	https://reindeer-project.eu/today-in-a-talk-with-ku-leuven-team/	International
18	Participation to other events	EAB		1st IEEE International Online Symposium on Joint Communications & Sensing	23/02/2021	24/02/2021	online	x		x	x	N/A	https://jcns-symposium.org/	International
19	Presentation	KU Leuven		REINDEER's 6G vision, technical enablers and envisioned challenges	16/03/2021	16/03/2021	online	x	x	x	x	>100	https://digital-strategy.ec.europa.eu/en/events/5g-ppp-webinar-europe-accelerates-towards-6g	International
20	Website	TECH-NIKON		Today in a talk with Joao Vieira (Ericsson)	16/03/2021	16/03/2021	online	x				N/A	https://reindeer-project.eu/today-in-a-talk-with-joao-vieira-ericsson/	International
21	Other	TECH-NIKON		Technikon' s financial webinar for H2020 projects	24/03/2021	24/03/2021	online	x				804[10]	https://vimeo.com/528387638	International
22	Website	TECH-NIKON		Today in a talk with Technikon Team	13/04/2021	13/04/2021	online	x				N/A	https://reindeer-project.eu/today-in-a-talk-with-technikon-team/	Inter International national

[9] Number of magazines distributed
[10] Total number of impressions via Vimeo (14th December 2021)

					DATE			Type & size of Audience[3]						
No	Type of activities	Main Leader	Other partners involved	Title	Start	End	Place	A	B	C	D	TOTAL/ KPI	Type and goal of the event / website	Countries addressed
23	Presentation	KU Leuven		Technologies exploiting new spatial and spectral dimensions for new applications in 5G, and beyond	16/04/2021	16/04/2021	online	x				~20	https://etn-peter.eu/wp-content/uploads/2021/04/PETER_NWE2_Online-Event_April-12-16-2021_Detailed_Agenda_zonder-links.pdf	International
24	Press release	TU Graz	NXP, TECHNIKON	6G technology: Domestic Trio Working on Tomorrow's Mobile Communications	20/04/2021	20/04/2021	online	x	x	x	x	N/A	https://www.tugraz.at/en/tu-graz/services/news-stories/media-service/singleview/article/6g-technologie-heimisches-trio-arbeitet-am-mobilfunk-von-morgen0/	National
25	Participation in activities organized jointly with other H2020 projects	EAB		The 5G Infrastructure Association (5G IA) elects its Governing Board and broadens its membership in view of the new 'Smart Networks and Services' European Partnership	23/04/2021	23/04/2021	online	x	x	x	x	N/A	https://5g-ia.eu/single_post/?slug=the-5g-infrastructure-association-5g-ia-elects-its-governing-board-and-broadens-its-membership-in-view-of-the-new-smart-networks-and-services-european-partnership	International
26	Other	TECHNIKON		5GPPP Annual Journal	02/06/2021	02/06/2021	online	x		x		N/A	https://5g-ppp.eu/annual-journal/	International
27	Participation to a Workshop	KU Leuven		Smart Networks and Services Info Session	11/06/2021	11/06/2021	online	x	x	x	x	N/A	https://5g-ppp.eu/smart-networks-and-services-info-session-eucnc-6g-summit/	International
28	Other	TECHNIKON		5GPPP Brochure	15/06/2021	15/06/2021	online	x		x		N/A	https://5g-ppp.eu/flayer-brochure/	International

4.1.2 Highlights of Phase 1

As listed in the table above within the first phase of the project, several communication activities were carried out. First, the project was announced by an official announcement letter, which was published on the coordinator's (TEC) website at first, and then later on the project website. It was made available for all project partners, in order to encourage partners to make their own internal announcements. Further, the **project logo and a colour scheme** were agreed upon, which are used for all communication and dissemination activities in order to ensure a recognisable visual identity. Also, a project leaflet was created and the project website launched. The latter is constantly updated.

Some of these communication and dissemination activities are already described in detail in D6.1 "Internal and external IT communication infrastructure and project website". Therefore, here we just briefly list these actions. For further details, please refer to D6.1.

4.1.2.1 Project Website

The REINDEER project website is available on the following link: https://reindeer-project.eu/

On each subpage of the REINDEER website the disclaimer, the legal notice, the privacy policy and the feedback form are accessible (located at the bottom).

The website provides an overview of the project, including information about the project's vision, motivation, mission & objectives, the technical approach (work packages), past and upcoming events, blog & news, as well as results.

The website is kept up to date with latest information on past and upcoming events. Regular blog entries are also posted on the website, allowing to report on work performed by the different project partners. In addition to that submitted public RTD deliverables are made available, as well as publications related to the project.

To summarize, and according to Webserver Apache AWStats, the REINDEER website was looked in approximately 72k times (number of visits) from its launch in January 2021 until end of December 2021 by approximately 28k unique visitors. We always refer back to the website (e.g. in social media and in dissemination material) and hope to boost it more in the upcoming months. A good opportunity for this is the upcoming workshop, which we announce also on the website.

4.1.2.2 Podcast

In October 2021 Technikon recorded a podcast with technical leader, Liesbet Van der Perre from KU Leuven. This first episode presents the scope of REINDEER, as well as an insight into use cases and challenges. The episode is now available on all major podcast platforms such as Spotify, Apple and Google, as well as on the project website[11]. In December 2021, Technikon recorded the second podcast with Erik G. Larsson from LIU[12].

[11] https://reindeer-project.eu/new-podcast/

[12] https://reindeer-project.eu/reindeer-podcast-2/

4.2 Phase 2 “Continuity of information flow”

The goal of the Continuity of information flow phase, which started approximately in M07, is to raise further awareness among our different target groups.

4.2.1 Past Dissemination & Communication activities – Phase 2

The goal towards the Broad Public Society & Media (A) is to communicate the benefits of REINDEER for the society, for example by explaining the impact of our project on everyday lives.

Towards the Policy Makers incl. the 5G Public-Private Partnership (B) and Industry and Innovators (C) we aim to discuss novel ideas and research results and to foster cooperation with other actors and related projects.

Furthermore, we disseminate knowledge and results among the Academic Research Community (D), Policy Makers incl. the 5G Public-Private Partnership (B) and among the Industry and Innovators (C). Therefore, scientific papers and articles are written and submitted to conferences and journals, presentations at workshops and conferences are given. Project partners attended several conferences and workshops to spread information about the REINDEER project in the first project year. Several publications and one public deliverable were published on the project website and on Zenodo. In addition to that, frequent posts on social media channels (LinkedIn and Twitter) have been an important dissemination tool to keep the information flow upright.

Table 3: Past Dissemination & Communication activities – Phase 2

					DATE			Type & size of Audience[13]						
No	Type of activities	Main Leader	Other partners involved	Title	Start	End	Place	A	B	C	D	TOTAL/ KPI	Type and goal of the event / website	Countries addressed
29	Tutorial lecture	TU Graz		Array Signal Processing	20/05/2021	27/10/2021	Graz, online	x				6	https://online.tugraz.at/tug_online/pl/ui/$ctx/wbLv.wbShowLVDetail?pStpSpNr=261643	National
30	Participation to a Conference	LIU		6GWFF 2021 - Radio-Weaves Technology for the sub-6 GHz 6G Physical Layer	01/07/2021	01/07/2021	Eurecom, France	x	x	x	x	600+ registered participants	Invited Talk: https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.6gwff.org%2F&data=04%7C01%7Csarvendranath.rimalapudi%40liu.se%7C148143f8ba9d41819ea408d945d16399%7C913f18ec7f264c5fa816784fe9a58edd%7C0%7C0%7C637617587897895242%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=y1%2F1OXJALIk4u6Slmx4x8RLgv5wEkPucz7XaAyS1PrA%3D&reserved=0	International
31	Video/ Film	TECH-NIKON	KU Leuven	Project Audiogram with Liesbet Van der Perre	16/08: 2021	16/08: 2021	online	x		x	x	~280[14]	https://vimeo.com/technikon/reindeer-message	International

[13] A = Broad Public Society & Media, B = Policy Makers incl. 5GPPP, C = Industry and Innovators, D = Academic Research Community
[14] Total number of impressions (23rd December 2021)

					DATE			Type & size of Audience[13]						
No	Type of activities	Main Leader	Other partners involved	Title	Start	End	Place	A	B	C	D	TOTAL/ KPI	Type and goal of the event / website	Countries addressed
32	Social Media	NXP		An IoT Without Batteries or Cords?	01/08/2021	01/08/2021	online	x		x	x	1500	https://www.nxp.com/company/blog/an-iot-without-batteries-or-cords:BL-IOT-WITHOUT-BATTERIES-OR-CORDS	International
33	Video/ Film	TECH-NIKON		REINDEER Project Video	01/09/2021	01/09/2021	online	x	x	x	x	~480[15]	https://vimeo.com/technikon/reindeer-s	International
34	Participation to a Conference	EAB	LIU	Reciprocity calibration of Distributed Massive MIMO Access Points for Coherent Operation	13/09/2021	16/09/2021	online	x				N/A	The paper was presented at PIMRC 2021. The 2021 IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (IEEE PIMRC 2021) will bring together global experts to the esteemed scientific and technical forum dedicated to diverse facets of wireless communications. https://pimrc2021.ieee-pimrc.org/	International
35	Flyer	TECH-NIKON		1st Newsletter	04/10/2021	04/10/2021	online	x	x	x	x	N/A	https://reindeer-project.eu/first-newsletter-now-available/	International
36	Other	TECH-NIKON	KU Leuven	1st Podcast with Liesbet Van der Perre	04/10/2021	04/10/2021	online	x	x	x	x	~210[16]	https://reindeer-project.eu/new-podcast/	International
37	Panel debate	LIU	KU Leuven	Erik G. Larsson participated and debated in a panel organized by NYU Wireless, Liesbet Van der Perre was co-organizer of the event	28/10/2021	28/10/2021	online	x	x	x	x	approx. 75	N/A	International

[15] Total number of impressions (23rd December 2021)
[16] Total number of downloads (23rd December 2021)

					DATE			Type & size of Audience[13]						
No	Type of activities	Main Leader	Other partners involved	Title	Start	End	Place	A	B	C	D	TOTAL/ KPI	Type and goal of the event / website	Countries addressed
38	Conference	KU Leuven		A Multi-band Solution for Interacting with Energy-Neutral Devices	30/10/2021	03/11/2021	online	x				+300 registered	https://www.asilomarsscconf.org/	International
39	Participation to a Conference	LIU		Carrier Synchronization in Distributed RadioWeaves	10/11/2021	12/11/2021	online	x				est. 25	http://www.wsa2021.org/	International
40	Podcast	LIU	KUL	Liesbet Van der Perre guest on the Wireless Future podcast show	10/11/2021	10/11/2021	YouTube, Spotify, Apple, ...	x	x	x	x	~1000	https://www.youtube.com/watch?v=jq-r3XO9zKw&list=PLTv48TzNRhaKqYJl-NucvpaN6Mr8Slkk8Z&index=20	International
41	Tutorial lecture	LIU	ULUND	Tutorial on distributed MIMO to students in H2020-MINTS, delivered by Erik G. Larsson in Lund (some industry people also attended)	12/11/2021	12/11/2021	Lund	x		x	x	est. 20	Tutorial lecture	International
42	Participation to other events	KU Leuven	TECHNIKON	Present progress of REINDEER in 5GPP context	26/11/2021	26/11/2021	online		x		x	~30	5GPPP Architecture WG (Project presentations of MARSAL, REINDEER, Hexa-X)	International
43	Podcast	LIU	TECHNIKON	2nd Podcast with Erik Larsson	23/12/2021	23/12/2021	online	x	x	x	x	NA[17]	https://reindeer-project.eu/reindeer-podcast-2/	International

2

[17] Published on 23rd December 2021 – no statistics yet available

4.2.2 Highlights of Phase 2

Social media is a very powerful tool to communicate and disseminate information and to let people know about the activities we carry out in our REINDEER project. That's why we created in January 2021 a REINDEER Twitter and a LinkedIn account. Both accounts are updated on a regular basis. To schedule the postings and tweets we have created a posting plan, which helps us to plan and organize upcoming content. In addition to that, there is also the blog on the project website.

4.2.2.1 Twitter

Twitter is an online social networking and micro blogging service that enables its users to send and read text-based messages of up to 280 characters, known as "tweets". The REINDEER project is available on https://twitter.com/H2020Reindeer.

Since the beginning of the project, REINDEER published 45 tweets and has been mainly used for the announcement of the project website, press releases, newsletter, publications and different meetings. The account has currently 57 followers (as of 23rd December 2021).

4.2.2.2 LinkedIn

LinkedIn is a social networking site for people in professional occupations or simply a social network for businesses. The REINDEER project has a public account, which can be accessed via: https://www.linkedin.com/company/71394608/. Until end of December 2021, the REINDEER team has established a good network on the social media platform and gathered 108 interesting and professional contacts. Information (publications, deliverables, conferences, workshops) about the project is posted on a regular basis. We can report that the engagement through reactions and comments is satisfying, and that our followers are interested in the posted content. At the moment we are satisfied with the number of contacts. However, our goal is to triple the number of contacts by the end of the project and build a strong and sustainable network interested in the results of REINDEER.

4.2.2.3 Scientific peer-reviewed publications

As soon as a scientific paper submitted to a conferene or a journal is published, the Consortium is committed to provide open access *via* the EU compliant repository Zenodo (https://zenodo.org/), where a REINDEER community has been established. Zenodo is convenient to access and easy to use. It allows to easily share research results in a wide variety of formats including text, spreadsheets, audio, video, and images across all fields of science. Further, each uploaded publication and dataset receives a persistent identifier (DOI), which ensures long term preservation. If relevant, also underlying research data is made publicly available and linked to the specific publication.

The REINDEER project published one conference paper, one journal article and one project deliverables during the first project year.

Table 4: Scientific Publications with open access

No	Title	Authors	Journal/ Conference	Journal/ Conference	DOI
1	Physical layer latency management mechanisms: A study for millimeter-Wave Wi-Fi	Alexander Marinšek, Daan Delabie, Lieven De Strycker and Liesbet Van der Perre	Journal article	MDPI: Advances in Low-Latency Communications: Protocols, Applications, Challenges, and Opportunities	10.3390/electronics10131599 https://zenodo.org/record/5175753

No	Title	Authors	Journal/ Conference	Journal/ Conference	DOI
2	A Primer on Techtile: An R&D Testbed for Distributed Communication, Sensing and Positioning	Gilles Callebaut, Jarne Van Mulder, Geoffrey Ottoy and Liesbet Van der Perre	Conference paper	SITB 2021	arXiv:2105.06740v1 https://doi.org/10.5281/zenodo.5175833
3	Use case-driven specifications and technical requirements and initial channel model	All project partners	Project deliverable	Project website, Zenodo	https://doi.org/10.5281/zenodo.5561844
4	Reciprocity calibration of Distributed Massive MIMO Access Points for Coherent Operation	Joao Vieira, Erik G. Larsson	Conference Paper	IEEE PIMRC 2021	https://doi.org/10.1109/PIMRC50174.2021.9569495 Green open access: http://liu.diva-portal.org/smash/record.jsf?pid=diva2%3A1619691&dswid=-4242
5	Partial Interference Suppression in Massive MIMO Systems: Taxonomy and Experimental Analysis	Andrea P. Guevara, Cheng-Ming Chen, Allessandro Chiumento, Sofie Pollin	Journal Article	IEEE ACCESS	Gold open access: https://doi.org/10.1109/ACCESS.2021.3113167
6	A Multi-band Solution for Interacting with Energy-Neutral Devices	Chesney Buyle, Bert Cox, Liesbet Van der Perre and Lieven De Strycker	Conference Paper	IEEE Asilomar 2021	*Will be published soon – currently checking some copyright questions.*

4.2.2.4 Submitted scientific publications

The following scientific peer reviewed publications were submitted and the final acceptance is pending.

Table 5: Submitted scientific publications

No	Title	Authors	Journal/ Conference	Date (submission, or conference date)
1	BeamSync: Over-The-Air Carrier Synchronization in Distributed RadioWeaves	U. K. Ganesan, R. Sarvendranath and E. G. Larsson	WSA 2021	12/11/2021
2	Interactive Applications in Need of 6G: Technical Requirements Facilitated by Sub-10 GHz Radio-Weaves	Emma Fitzgerald, William Tarneberg, Fredrik Tufvesson, Ove Edfors, Liesbet Van der Perre, Daan Delabie, Rimalapudi Sarvendranath, Erik G. Larsson, Klaus Witrisal, Benjamin J. B. Deutschmann, Andres Reial, Ulrich Muehlmann, Martina Truskaller, Juan Francisco Esteban Rivas	IEEE Wireless Communications Magazine / Mobile Communications and Networks Series	Original: 11/09/2021 Resubmission: 16th December 2021

No	Title	Authors	Journal/ Conference	Date (submission, or conference date)
3	Uplink D-MIMO with Decentralized Subset Combining	Ke Wang Helmersson, Pal Frenger, Anders Helmersson	IEEE International Conference on Communications (ICC) 2022	16-20 May, 2022
4	Optimal Uplink D-MIMO Processing Using Kalman Filtering	Ke Wang Helmersson, Pal Frenger, Anders Helmersson	IEEE International Conference on Communications (ICC) 2022	16-20 May, 2022
5	Grant-Free Random Access in Massive MIMO for Static Low-Power IoT Nodes	Gilles Callebaut, Liesbet Van der Perre and François Rottenberg	IEEE International Conference on Communications (ICC) 2022	16-20 May, 2022
6	Energy-Efficient Power Allocation for an Underlay Spectrum Sharing Cell-Free Massive MIMO Network	Zakir Hussain Shaik, Rimalapudi Sarvendranath and Erik G. Larsson	IEEE International Conference on Communications (ICC) 2022	16-20 May, 2022

Chapter 5 Dissemination and communication plans

In order to get a better overview of upcoming events, where participation is envisaged by one or more partners, the consortium established a dissemination/communication plan for 2022 (Year 2), focusing on phase 2 “Continuity of information flow”. This plan is updated on a quarterly basis by the consortium. We added in this table also the plans from the initial plan and added planned activities for Phase 3 “Result orientation” as well. This plan is going to be updated on a quarterly basis.

Of course there will be weekly social media activities, blog posts and website updates. In addition the consortium is following the 5GPPP activities and is participating in the various meetings (e.g. 5G-PP TB and WG 5G architectures monthly meetings). These planned activities are done on a recurring basis and are not part of the list below.

Table 6: Planned Dissemination & Communication activities – Phase 2 and Phase 3

				DATE				
No	**Type of activities**	**Partners involved**	**Title**	**Start**	**End**	**Place**	**Type and goal of the event / website**	**Countries addressed**
Phase 2: Continuity of information flow								
1	Non-scientific and non-peer reviewed publications	EAB	White paper for 5GPPP TMV workgroup	01/12/2021	-	-	https://5g-ppp.eu/5g-ppp-tmv-wp-validating-5g-technlogy-performance-assessing-5g-architecture-and-application-scenarios/	International
2	Participation to a Workshop	KU Leuven, TECHNIKON	Present progress of REINDEER at ICT-52 Workshop on 6G	03/02/2021	04/02/2021	Online	ICT-52 workshop on 6G; Objectives are: a. Present state of the art in 6G as basis for next wave of SNS projects b. Show leadership of Europe c. Exchange useful views among EU projects to strengthen the joint work d. Learn on targeted topics from other presentations outside of Europe	International
3	Input to COST action	TU Graz, ULUND	Elements of Channel Models for RadioWeaves	08/02/2022	11/02/2022	1st INTERACT meeting, Bologna	https://www.cost.eu/actions/CA20120/	International
4	Participation to a Workshop	TU Graz, LIU	Location-based Initial Access for Wireless Power Transfer	15/05/2022	20/05/2022	ICC 2022, Seoul South-Korea	https://icc2022.ieee-icc.org/program/workshops#ws-8	International
5	Organisation of a Workshop	ULUND, KU	IEEE International Confer-	16/05/2022	20/05/2022	ICC 2022, Seoul	IEEE ICC 2022 - IEEE International	International

				DATE				
No	Type of activities	Partners involved	Title	Start	End	Place	Type and goal of the event / website	Countries addressed
		Leuven	ence on Communications - Synergies of sensing, communication, and localization towards 6G			South-Korea	Conference on Communications | 16-20 May 2022 // Seoul, South Korea // Hybrid: In-Person and Virtual Conference (https://icc2022.ieee-icc.org/)	
6	Participation to a Conference	KU Leuven	Grant-Free Random Access in Massive MIMO for Static Low-Power IoT Nodes	16/05/2022	20/05/2022	ICC 2022, Seoul South-Korea	Presentation of scientific paper at IEEE ICC 2022; https://icc2022.ieee-icc.org/	International
7	Participation to a Conference	EAB, LIU	Uplink D-MIMO with Decentralized Subset Combining	16/05/2022	20/05/2022	ICC 2022, Seoul South-Korea	Presentation of scientific paper at IEEE ICC 2022; https://icc2022.ieee-icc.org/	International
8	Participation to a Conference	EAB, LIU	Optimal Uplink D-MIMO Processing Using Kalman Filtering	16/05/2022	20/05/2022	ICC 2022, Seoul South-Korea	Presentation of scientific paper at IEEE ICC 2022; https://icc2022.ieee-icc.org/	International
9	Participation to a Conference	LIU	Energy-Efficient Power Allocation for an Underlay Spectrum Sharing Cell-Free Massive MIMO Network	16/05/2022	20/05/2022	ICC 2022, Seoul South-Korea	Presentation of scientific paper at IEEE ICC 2022; https://icc2022.ieee-icc.org/	International
10	Participation to a Conference	KU Leuven	Techtile testbed (TBD)	07/06/2022	10/06/2022	Grenoble, France	EUCNC / 6G Summit 2022 Call for papers: submission deadline 28th January 2022; www.eucnc.eu	International
11	Social Media	NXP	Blog Article	01/10/2022			https://www.nxp.com/company/about-nxp/smarter-world-blog:BLOGS#/	International l
12	Participation to a Conference	KU Leuven, LIU	Manuscript Grant-Free Random Access	-	-	-	Conference or Journal	International
13	Participation to a Conference	KU Leuven, ULUND	Sync for scalable 6G Networks	-		-	Conference	International
14	Participation to a Conference	KU Leuven, ULUND	Federation Orchestration	-	-	-	Conference	International

				DATE				
No	Type of activities	Partners involved	Title	Start	End	Place	Type and goal of the event / website	Countries addressed
15	Participation to a Conference	KU Leuven	New concepts/ terminology RadioWeaves	-	-	-	Conference/letter/…	International
16	Participation to a Conference	KU Leuven	Exploratory results (e.g. on WP4)	-	-	-	Local conference (IEEE SITB/WIC)	International
17	Summer school	LiU	Summer school on 6G	2022	2022	Linköping	Summer school	International
18	Journal papers	LiU	journal paper on synchronization, and on energy efficiency	2022	2022	paper	Journal papers	International
19	Podcast recordings	LiU	Episode on Wireless Future podcast that deals with aspects of distributed MIMO and RadioWeaves	2022	2022	Youtube, Spotify, Apple, Google, ...	Podcast with video	International
20	(pre-) Standardization and initiatives for regulation and harmonization	EAB, TSA, NXP	Input to standardization-related forums to enable successful implementation of project results in future releases;	2022	2024		Documents/ talks/ references presented in standardization-related forums (e.g., pre-6G meetings/ seminars) where REINDEER insights, results and established directions are taken into account	International
21	Harmonization at European level (5GPPP)	ALL	5GPPP activities/ workshops / working group meetings	2022	2024		Presentations of project results, involvement in peer-discussions and alignment.	International
22	Input to COST actions	ULUND, TU Graz, KU Leuven	Tbd	2022	2024		Further activities	International
Phase 3: Result orientation See also activities planned throughout the project duration								
23	Organisation of a workshop	ALL	Final project workshop (co-located with big conference)	2024	2024	Tbd	The RadioWeaves concept will be explained in layman terms in an overview paper, to attract more researchers to the topic.	International

				DATE				
No	Type of activities	Partners involved	Title	Start	End	Place	Type and goal of the event / website	Countries addressed
24	Exhibition	NXP	Roadshows, exhibitions: An overview of the project results will be provided.	2023	2024	Tbd	Distinguished speakers working on related topics will be invited	International
25	Press Release	Technikon, KU Leuven	Final press release	2024	2024	Online	Give an overview of the project results and their impact on European society.	International
26	Video / Film	Technikon	Final animated / real video	2024	2024	Online	Catchy material to inform the public about the project results and their impact on European society in an easy and understandable way.	International

Chapter 6 Intellectual Property Rights – Patents

Within Task 6.3 “Exploitation and Intellectual Property Rights”, one main activity is patent filing to protect obtained insights, which allows industrial partners to establish a strong patent portfolio to be prepared to capitalize on future standard and market developments.

An important issue for all participants is the clear identification and fair allocation of intellectual rights and patent contributions. The Consortium Agreement established rules for the use of foreground, sideground and background knowledge and its distribution within the project as well as rules for handling confidential information.

These activities can be seen in Phase 2, as well as already in Phase 3 “Result orientation”. The table below shows already seven filed patents within the REINDEER project.

Table 7: List of patents

Type of IP rights	Application reference(s) (e.g. EP123456)	Date of the application	Official title of the application	Applicant(s)	Confidential?	Embargo end date
Patent	PCT/EP2021/061830	05/05/2021	PHASE-ALIGNMENT IN A DISTRIBUTED MIMO COMMUNICATION SYSTEM	Telefonaktiebolaget LM Ericsson[18]	Yes	11/2022
Patent	PCT/EP2021/067634	28/06/2021	AP-BASED ACTION TRIGGERING IN A DISTRIBUTED MASSIVE MIMO SYSTEM	Telefonaktiebolaget LM Ericsson	Yes	01/2023
Patent	PCT/EP2021/067433	24/06/2021	SIGNAL DETECTION OF A BACKSCATTERING DEVICE	Telefonaktiebolaget LM Ericsson	Yes	01/2023
Patent	PCT/EP2021/084293	03/12/2021	SELECTING ACCESS POINTS FOR SERVING A USER EQUIPMENT	Telefonaktiebolaget LM Ericsson	Yes	06/2023
Patent	PCT/TR2021/051351	03/12/2021	CALCULATING INTERFERENCE SUPPRESSION WEIGHTS AND PROCESSING SIGNALS	Telefonaktiebolaget LM Ericsson	Yes	06/2023
Patent	PCT/TR2021/051352	03/12/2021	PROCESSING SIGNALS, SELECTING AN ACCESS POINT FOR PROCESSING INFORMATION, AND SENDING INFORMATION TO AN ACCESS POINT	Telefonaktiebolaget LM Ericsson	Yes	06/2023

[18] Its EAB’s parent company Telefonaktiebolaget LM Ericsson who owns the patents.

Type of IP rights	Application reference(s) (e.g. EP123456)	Date of the application	Official title of the application	Applicant(s)	Confidential?	Embargo end date
Patent	PCT/EP2021/084115	03/12/2021	COMMUNICATION WITH PASSIVE WIRELESS BACKSCATTERING DEVICES	Telefonaktiebolaget LM Ericsson	Yes	06/2023
Patent	PCT/EP2021/085331	11/12/2021	TRANSMITTING A SIGNAL	Telefonaktiebolaget LM Ericsson	Yes	06/2023
Patent	PCT/EP2021/085332	11/12/2021	CALIBRATING A WIRELESS COMMUNICATION DEVICE	Telefonaktiebolaget LM Ericsson	Yes	06/2023
Patent	PCT/EP2021/085333	11/12/2021	CALIBRATING A WIRELESS COMMUNICATION DEVICE HAVING A PLURALITY OF ANTENNAS	Telefonaktiebolaget LM Ericsson	Yes	06/2023

Chapter 7 Standardisation activities

Standardisation-related activities are crucial to make broad impact of project results possible; they constitute a prerequisite for practically impacting markets. REINDEER will develop a novel type of smart connectivity technology, where the technological aspects will be aligned with ongoing and future standardization trends putting REINDEER in a unique position to influence standards. This is done within Task 6.4 “Standardisation”, which is led by partner Ericsson.

Please find below an overview of the advancements in terms of spectrum harmonization that took place in different radio regulatory bodies, and a short forecast on how current advancements may shape 6G in terms of, e.g. overall requirements, allocated spectrum parts, etc.

7.1 WRC-19 status and outcomes

The World Radiocommunication Conference (WRC) in 2019 decided to identify new spectrum ranges for International Mobile Telecommunications (IMT) following intense studies in the special task group TG5/1. The current frequency ranges identified for IMT are outlined in the table below with the new bands identified at WRC-19 highlighted.

Note that three quite large bands were allocated in the mmWave ranges, but there was no new bands opened up in the 6-24 GHz range.

7.2 WRC-23 agenda items related to 6G

One of the tasks of a world radio conference is to decide on the agenda for the next one. The reason is that studies can be carried out prior to the conference that can form a basis for the decisions on the conference. The advantage is of course that planning becomes easier, but the drawback is that the process for handling spectrum becomes quite lengthy since spectrum cannot be allocated without an agenda item which must be decided four years prior.

The agenda for WRC-23 can be found in Resolution 811. The agenda items related to IMT allocation are:

- AI 1.2 “consider identification of the frequency bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz, 7 025-7 125 MHz and 10.0-10.5 GHz for International Mobile Telecommunications (IMT),”
- AI 1.4 “consider, in accordance with Resolution 247 (WRC-19), the use of high-altitude platform stations as IMT base stations (HIBS) in the mobile service in certain frequency bands below 2.7 GHz already identified for IMT”

We can note that there are only a few new bands that may be allocated to IMT. It is also important to note that a band will not necessarily be allocated just because there is an agenda item. Whether a band will be actually allocated depends on the outcome of the studies.

7.3 Shaping the future

It can be noted that high-altitude platform stations as IMT base stations (HIBS) will be studied during the next few years. It seems there is an increasing interest in stations that either fly or orbit the earth. This trend is of course driven by the recent advances in drone technology and the lowered cost of launching satellites combined with the miniaturization of the satellites and consequently the lower cost of the satellites.

Currently there are several bands allocated for IMT use in the mmWave ranges between 24-71 GHz. Interestingly, there is a lot of bandwidth available for enabling new services. The drawback is that,

with the current state of the art, the propagation conditions make it difficult to use these bands efficiently considering the mobile industry's current approach of building networks. In these bands, it is very difficult to efficiently cover indoor areas from a network deployed outside.

The remedies to this problem consist of solutions which can be loosely grouped in two. One group focus on making it feasible to deploy networks more tightly than what is done today. The solutions may be aspects such as more efficient backhaul solutions, making equipment less obtrusive, technologies that simplify deployment, simpler rules for deploying networks, etc. The other group of solutions focuses on overcoming the propagation conditions and in this group, we find novel antenna technologies, coding and modulation improvements, etc.

Table 8: Frequency bands identified for IMT in the 2020 edition of the radio regulations.

Frequency range	Footnote	Region / country
450-470 MHz	5.286AA	Global
470-608 MHz	5.295	Bahamas, Barbados, Canada, the United States and Mexico
470-698 MHz	5.296A	Micronesia, the Solomon Islands, Tuvalu and Vanuatu
610-698 MHz	5.296A	Bangladesh, Maldives and New Zealand
614-698 MHz	5.308A	Bahamas, Barbados, Belize, Canada, Colombia, the United States, Guatemala and Mexico
698-790 MHz	5.313A	Australia, Bangladesh, Brunei, Darussalam, Cambodia, China, Korea (Rep. of), Fiji, India, Indonesia, Japan, Kiribati, Lao P.D.R., Malaysia, Myanmar (Union of), New Zealand, Pakistan, Papua New Guinea, the Philippines, the Dem. People's Rep. of Korea, Solomon Islands, Samoa, Singapore, Thailand, Tonga, Tuvalu, Vanuatu and Viet Nam
698-960 MHz	5.317A	Region 2
694-790 MHz	5.317A	Region 1
790-960 MHz	5.317A	Region 1 and 3
1 427-1 452 MHz	5.341A	Region 1 and 3
1 492-1 518 MHz	5.341A	Region 1 and 3
1 427-1 518 MHz	5.341A	Region 2
1 452-1 492 MHz	5.346	Algeria, Angola, Saudi Arabia, Bahrain, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Congo (Rep. of the), Côte d'Ivoire, Djibouti, Egypt, United Arab Emirates, Eswatini, Gabon, Gambia, Ghana, Guinea, Iraq, Jordan, Kenya, Kuwait, Lesotho, Lebanon, Liberia, Madagascar, Malawi, Mali, Morocco, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Uganda, Palestine, Qatar, Dem. Rep. of the Congo, Rwanda, Senegal, Seychelles, Sudan, South Sudan, South Africa, Tanzania, Chad, Togo, Tunisia, Zambia, and Zimbabwe
1 452-1 492 MHz	5.346A	Region 3
1 710-1 885 MHz	5.384A	Global
2 300-2 400 MHz	5.384A	Global
2 500-2 690 MHz	5.384A	Global
1 885-2 025 MHz	5.388	Global
2 110-2 200 MHz	5.388	Global

Frequency range	Footnote	Region / country
1 885-1 980 MHz	5.388A	Global
2 010-2 025 MHz	5.388A	Region 1 and 3
2 110-2 170 MHz	5.388A	Region 1 and 3
2 110-2 160 MHz	5.388A	Region 2
3 300-3 400 MHz	5.429B	Region 1 south of 30° parallel north: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Congo (Rep. of the), Côte d'Ivoire, Egypt, Eswatini, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Malawi, Mauritania, Mozambique, Namibia, Niger, Nigeria, Uganda, the Dem. Rep. of the Congo, Rwanda, Sudan, South Sudan, South Africa, Tanzania, Chad, Togo, Zambia and Zimbabwe
3 300-3 400 MHz	5.429D	Argentina, Belize, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, El Salvador, Ecuador, Guatemala, Mexico, Paraguay and Uruguay
3 300-3 400 MHz	5.429F	Cambodia, India, Indonesia, Lao P.D.R., Pakistan, the Philippines and Viet Nam
3 400-3 600 MHz	5.430A	Region 1
3 400-3 600 MHz	5.431B	Region 2
3 400-3 500 MHz	5.432A	Korea (Rep. of), Japan, Pakistan and the Dem. People's Rep. of Korea
3 400-3 500 MHz	5.432B	Australia, Bangladesh, Brunei Darussalam, China, French overseas communities of Region 3, India, Indonesia, Iran (Islamic Republic of), Malaysia, New Zealand, the Philippines, Singapore and Thailand
3 500-3 600 MHz	5.433A	Australia, Bangladesh, Brunei Darussalam, China, French overseas communities of Region 3, Korea (Rep. of), India, Indonesia, Iran (Islamic Republic of), Japan, New Zealand, Pakistan, the Philippines and the Dem. People's Rep. of Korea
3 600-3 700 MHz	5.434	Canada, Chile, Colombia, Costa Rica, El Salvador, the United States and Paraguay
4 800-4 900 MHz	5.441A	Brazil, Paraguay and Uruguay
4 800-4 990 MHz	5.441B	Angola, Armenia, Azerbaijan, Benin, Botswana, Brazil, Burkina Faso, Burundi, Cambodia, Cameroon, China, Côte d'Ivoire, Djibouti, Eswatini, Russian Federation, Gambia, Guinea, Iran (Islamic Republic of), Kazakhstan, Kenya, Lao P.D.R., Lesotho, Liberia, Malawi, Mauritius, Mongolia, Mozambique, Nigeria, Uganda, Uzbekistan, the Dem. Rep. of the Congo, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, South Africa, Tanzania, Togo, Viet Nam, Zambia and Zimbabwe
24.25-27.5 GHz	5.532AB	Global
37-43.5 GHz	5.550B	Global

Frequency range	Footnote	Region / country
45.5-47 GHz	5.553A	Algeria, Angola, Bahrain, Belarus, Benin, Botswana, Brazil, Burkina Faso, Cabo Verde, Korea (Rep. of), Côte d'Ivoire, Croatia, United Arab Emirates, Estonia, Eswatini, Gabon, Gambia, Ghana, Greece, Guinea, Guinea-Bissau, Hungary, Iran (Islamic Republic of), Iraq, Jordan, Kuwait, Lesotho, Latvia, Liberia, Lithuania, Madagascar, Malawi, Mali, Morocco, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Qatar, Senegal, Seychelles, Sierra Leone, Slovenia, Sudan, South Africa, Sweden, Tanzania, Togo, Tunisia, Zambia and Zimbabwe
47.2-48.2 GHz	5.553B	Algeria, Angola, Saudi Arabia, Australia, Bahrain, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Rep., Comoros, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Djibouti, Egypt, United Arab Emirates, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Equatorial Guinea, India, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kenya, Kuwait, Lesotho, Liberia, Libya, Lithuania, Madagascar, Malaysia, Malawi, Mali, Morocco, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Uganda, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Singapore, Slovenia, Somalia, Sudan, South Sudan, South Africa, Sweden, Tanzania, Chad, Togo, Tunisia, Zambia and Zimbabwe
66-71 GHz	5.559AA	Global

Chapter 8 Summary and Conclusion

This document describes the current status of the REINDEER communication and dissemination activities and upcoming plans. Therefore, this report presents a collective overview of the dissemination activities of the consortium, which took place during the first year of the project.

First, the dissemination and communication strategy and target groups were discussed in Chapter 2. Chapter 3 and Chapter 4 described the KPIs and activities since the start of the project (Phase 1 and Phase 2), and presented also some highlights. The project team already provided open access to 6 scientific peer-reviewed publications.

Another highlight are the activities on Intellectual Property Rights. 10 patents have been filed by EAB within the first project year.

In Chapter 7 there is an overview of the standardisation activities, about the advancements in terms of spectrum harmonization that took place in different radio regulatory bodies, as well as a forecast on how current advancements may shape 6G.

The next update on communication and dissemination will be provided in the upcoming periodic reports as well as in D6.5 “Final report on dissemination and communication activities” in M42.