AMAZING-6G
Amazing Large-Scale Trials and Pilots for Verticals in 6G

Deliverable 8.1

Dissemination, Communication, Standardization, Exploitation Plan

Co-funded by the European Union

6GSNS

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Editor(s):	UC3M
Author(s):	Aruna Prem Bianzino (UC3M), Edoardo Ardizzone (LINKS), Carlos Romero Gonzalez (TID).
Reviewer(s):	Spyros Batistatos (P-NET), Eirini Tserga (ThPA S.A.), Christos Papadopoulos (ThPA S.A.), Haesik Kim (VTT), Andreas Georgakopoulos (WINGS)
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Executive Summary

The present deliverable outlines the strategic plan for communication, dissemination, standardization, and exploitation activities within the AMAZING-6G project. These activities are conducted in the framework of Work Package 8 (WP8) - Dissemination, Communication, Standards, Exploitation, and are crucial to maximize the visibility, uptake, and long-term impact of the project's innovations in the evolving 6G ecosystem.

The **communication** strategy focuses on ensuring that project outcomes are effectively shared with stakeholders across industry, academia, policy-makers, and the general public. Dedicated channels such as a project website, social media platforms, newsletters, and media engagement are being leveraged to reach target audiences, with specific KPIs set to monitor performance and guide improvements.

Dissemination efforts prioritize outreach to the scientific and research communities. This includes participation in conferences, publication of technical results, and collaborative engagement with other EU initiatives.

In parallel, the **standardization** plan sets the groundwork for influencing key bodies such as 3GPP and other SDOs, aligning the project's use cases with emerging international standards. Although still in its early stages, the project has established mechanisms for tracking contributions and preparing formal inputs to standardization efforts.

Finally, **exploitation** activities have begun with the identification of expected results and potential Key Exploitable Results (KERs). A preliminary survey among consortium members has yielded 45 results, 36 of which are considered KERs. These will serve as the foundation for future business modeling and IP management strategies to ensure sustainability and post-project impact.

Table of Contents

List of Figures

List of Tables

List of Acronyms and Abbreviations

TERM	DESCRIPTION
3GPP	Third Generation Partnership Project
AI	Artificial Intelligence
EC	European Commission
ETSI	European Telecommunications Standards Institute
EU	European Union
GA	Grant Agreement
IP	Intellectual Property
IPR	Intellectual Property Right
KER	Key Exploitable Result
KPI	Key Performance Indicator
O-RAN	Open Radio Access Network
NGO	Non-Governmental Organization
RAN	Radio Access Network
SDO	Standards Developing Organization
TRL	Technology Readiness Level
UC	Use Case
WP	Work Package

1 Introduction

The AMAZING-6G project aims to explore and demonstrate large-scale trials and pilot activities for vertical sectors in the context of future 6G networks. Within this vision, Work Package 8 (WP8) plays a critical role in ensuring that the technical innovations developed throughout the project translate into tangible, sustainable, and impactful outcomes beyond the research community.

Task 8.1 – Dissemination and Communication - focuses on increasing the project's visibility and transferring knowledge to external stakeholders through coordinated communication channels and targeted outreach. Tools include the project website, social media, participation in industrial events, and dissemination through scientific and technical forums.

Task 8.2 – Standardisation - defines and implements the project's standardisation strategy. It identifies relevant SDOs, aligns project outputs with standardisation efforts, and coordinates contributions from active consortium members already engaged in key standardisation groups.

Task 8.3 – Exploitation and Business Models - promotes the use of project outcomes in both industrial and academic contexts. It identifies exploitation opportunities, manages IPR, and develops business models and market strategies. This task also leads engagement with external fora such as 6G-IA and SNS-JU working groups.

This deliverable, D8.1, presents the initial strategy for the project's communication, dissemination, standardization, and exploitation activities. These four pillars are key enablers for engagement with relevant stakeholders, fostering adoption of results, contributing to the global evolution of 6G technologies, and ensuring that innovations are brought to market or further development pathways.

Each activity stream is supported by specific objectives, action plans, stakeholder mapping, and performance indicators. The deliverable also outlines the initial achievements during the first months of the project, and provides a framework for continuous refinement and adaptation of the strategies as the project progresses.

1.1 Structure of the document

The document is organized as follows:

Section 2 – Communication - outlines the project's communication strategy, which is aimed at increasing visibility, awareness, and engagement. It describes the communication objectives, target audiences, and channels used (e.g., website, social media, newsletters, media). It also defines KPIs for communication performance and presents the initial implementation results achieved in the first months of the project.

Section 4 – Dissemination - describes how the project shares its results with the scientific and research communities. It includes dissemination objectives, planned activities such as scientific publications and event participation, and a summary of early dissemination outcomes. Key performance indicators and stakeholder engagement strategies are also provided.

Section 5 – Standardisation - details the strategy to engage with standardisation bodies (e.g., 3GPP), outlines tracking mechanisms for relevant initiatives, and describes how the project intends to contribute to shaping 6G-related standards. It includes the identification of target working groups and the alignment of project outputs with standardisation opportunities.

Section 6 – Exploitation and Business Models - presents the preliminary exploitation strategy of the project. It includes an overview of IPR management principles, the initial collection of expected results and KERs, exploitation interests of partners, and classification of results by domain and TRL. It also discusses potential exploitation routes and the development of early business models.

Section 7 – Conclusions - summarizes the progress made in each activity area during the initial phase of the project. It reflects on key findings, alignment between strategy and results, and outlines the next steps for refining and implementing the plans in future phases.

2 Communication

Communication plays a central role in the AMAZING-6G project, serving as the primary channel through which research findings reach the individuals and organizations best positioned to apply them. Timely and effective communication is essential for translating research into meaningful social, regulatory, and economic outcomes. By highlighting results and enhancing their visibility, clarity, and accessibility, communication fosters greater stakeholder engagement and facilitates the integration of findings into real-world contexts.

This section outlines the communication strategy designed to ensure that AMAZING-6G's research generates maximum impact beyond the academic sphere.

2.1 Plan

A tailored communication strategy has been designed for the project and is being implemented since its beginning, in order to maximize the relevant ecosystem attention to the project's outcomes.

The strategy objectives are:

- Clearly communicate the project's objectives and key accomplishments.
- Expand awareness of the project's results among all relevant stakeholders.
- Promote the uptake and application of project outcomes to support the evolution of 6G in the market.
- Build a stakeholder community to facilitate knowledge exchange and raise awareness of ongoing 6G developments.
- Establish collaborations with other initiatives at both European and international levels, with particular focus on 5G PPP and SNS Horizon Europe projects.
- Convey the project's main findings through clear, targeted, and impactful messaging.
- Contribute to 6G standardization by actively engaging with leading Standards Developing Organizations (SDOs).

In order to reach these objectives, an heterogeneous ecosystem is targeted by the communication activities of the project, including:

- The general public – to highlight the value of European research and stimulate interest and innovation in 6G technologies.
- Standardization bodies – to share relevant insights and contribute to the work of SDOs in line with evolving roadmaps.
- 6G-IA and related European platforms – to foster collaboration with active groups and projects within the 5G PPP and upcoming SNS initiatives, including potential joint event organization.
- Policymakers – to provide evidence-based recommendations, share techno-economic perspectives, and support alignment with broader policy goals.
- Industry stakeholders – to showcase project results as drivers of innovation, encouraging uptake and collaboration among sectors set to benefit from 6G.
- Academic and research communities – to engage with scholars and institutions, support knowledge exchange, and disseminate research outcomes while staying attuned to emerging technological trends.

With this in mind, a specific set of communication activities has been designed (and its implementation has started since the very beginning of the project. For each activity, KPIs have been defined, to monitor the activity effectiveness and to evaluate eventual needed adjustments.

In particular, the following activities, and corresponding KPIs, have been defined:

- Organization of targeted industrial workshops (5 physical and 5 online)

- Participation in major industrial events (3)
- Demos and industrial exhibitions (15, with an audience of at least 50 people each, on average)
- A project website (live, at least, from M3 to M84, and with at least 3000 visits)
- Social media accounts (with a total of at least 1500 followers, 1500 impressions, and 3000 video views)
- Promotional material (at least 3 videos, and 1500 delivered leaflets)
- Non-scientific publications (5 blog posts, 30 news published, periodic newsletter reaching at least 1500 recipients)
- Media presence (at least 3 online/TV media talks)

This communication plan has commenced, and its current status is detailed in the following section.When publishing the project results, conflicts of interests among partners must be resolved. As such, a clear requires publication procedure should be in place. A project partner considering publishing results should take into account the following excerpt from consortium agreement.

Prior notice of any planned publication shall be given to the other Parties at least 45 calendar days before the publication. Any objection to the planned publication shall be made in accordance with the Grant Agreement by written notice to the Coordinator and to the Party or Parties proposing the dissemination within 30 calendar days after receipt of the notice. If no objection is made within the time limit stated above, the publication is permitted.

The various dissemination outcomes (e.g. journals, magazines, conference papers, a peer-reviewed publications, etc.) of the AMAZING-6G project need to contain the following sentence at the acknowledgement section:

"This work has been part of the AMAZING-6G project, which has received funding from the Smart Networks and Services Joint Undertaking (SNS JU) under the European Union's Horizon Europe research and innovation programme under Grant Agreement No 101192035."

2.2 Results

In this section, the different communication activities carried out at the time of writing (as well as their results) are reported.

Project Webpage – A webpage was set up for the project: https://amazing6g.eu/. The webpage is updated with news and events, results and project developments. The project website serves as the primary interface between AMAZING-6G and the general public. It provides essential information about the project's vision, objectives, consortium, and activities, as well as a dedicated contact point. The site also hosts public deliverables, scientific publications, news updates, etc. To evaluate the website's effectiveness as a communication tool, visitor statistics are monitored using Google Analytics. In particular, Figure 1 reports the number of active users over time, resulting in a total of 442 different users, with an average engagement time of about one minute. Figure 2 reports instead the geographical origin of the users (left side), with European Union and USA being the main source, but also with a relevant presence in Brasil, India and China, while the primary channel through which users reach the webpage, is mainly direct or through organic search. These elements help in determining where to direct eventual effort to improve the project visibility (origin of the users), and to verify if specific activities result in the expected increase in terms of webpage visits.

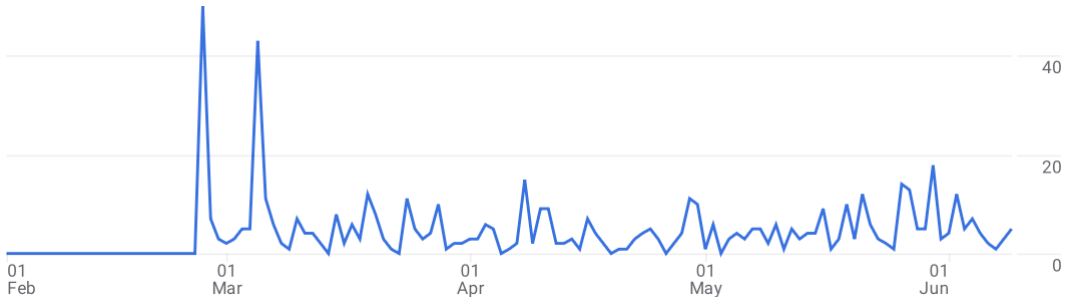

Figure 1. Active users over time, for the project webpage.

Figure 2. Active users by country (left) and by primary channel (right).

Social media - Official project accounts have been established on LinkedIn (https://www.linkedin.com/company/amazing-6g/), Twitter (https://x.com/Amazing6G), BlueSky (https://bsky.app/profile/amazing6g.bsky.social), Mastodon (https://mastodon.social/@amazing6g), and YouTube (https://www.youtube.com/@AMAZING-6G). They are regularly updated to share project outcomes with the wider public. These channels are used to disseminate news, event participation, demonstration videos, and other relevant content. As with the project website, engagement metrics are collected to evaluate the performance of social media outreach (see Figure 3, Figure 4, Figure 5, and Table 1) and to guide the optimization of communication strategies.

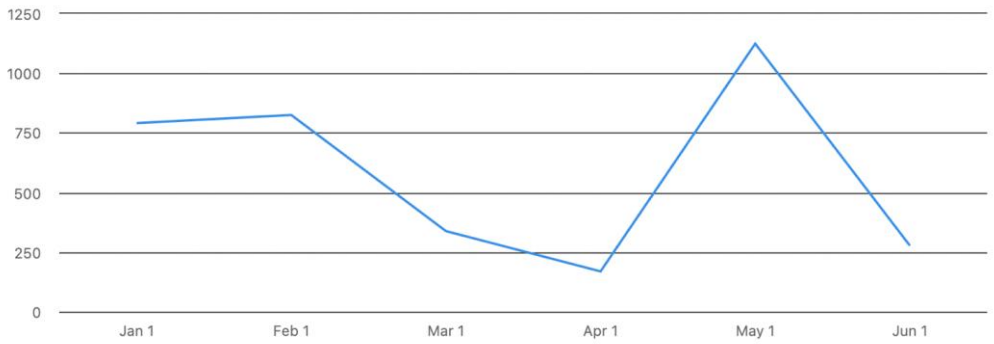

Figure 3. Organic Impressions on LinkedIn, 3524 in total.

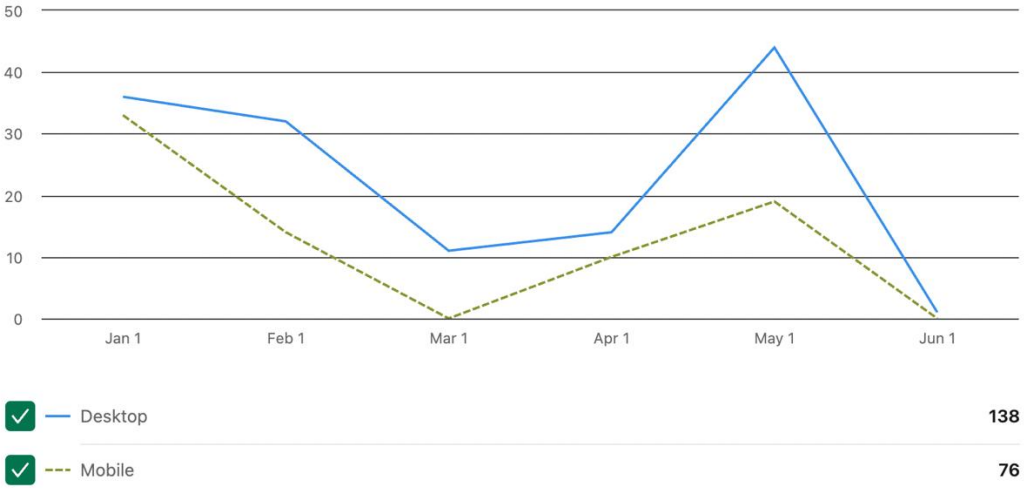

Figure 4. LinkedIn page visits, from mobile and desktop devices.

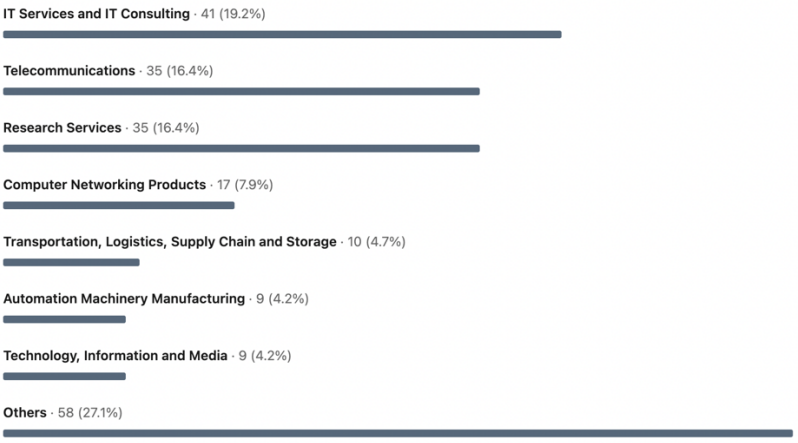

Figure 5. LinkedIn visitors demographic, by industrial sector.

Table 1. Followers and Impressions on the different social media.

Social media	Followers	Impressions
LinkedIn	125	4642
X	21	11
BlueSky	22	1
Mastodon	1	0
YouTube	0	0
Total	**142**	**3536**

The YouTube profile has been created, but no video has yet been produced by the project, so this is not a concern. As for the other social media, specific campaigns will be implemented to increase the number of followers, through QR codes at event participations, etc.

Newsletter - A biannual newsletter is planned to highlight the project's key achievements, promote events and initiatives, and share updates with the general public. The first issue covers activities from the first six months of the project (January to June 2025). It is distributed via the project's social media channels, partner networks, and institutional platforms, while available through Zenodo. A standardized template has been created to ensure consistency and will be reused for subsequent editions of the newsletter.

Other communication activities:

- Ports as Strategic Gateways for New Freight Corridors. This activity has been organized in the context of the Logistics & Transport Thessaloniki Expo, on April 11th 2025, and involved CERTH and ThPA.
- Posts on partners' sites. ThPA and STS have posted on their webpage references to the AMAZING-6G project in the areas of their webpage dedicated to EU Funded projects, respectively on March 19th and 13th

3 Dissemination

Dissemination of results represents a crucial first step in translating research into actionable knowledge and meaningful practice. Within AMAZING-6G, dissemination is not merely an ancillary task but an integral part of the project's mission - ensuring that insights and innovations reach researchers, professionals, policymakers, and communities who can benefit from them. By increasing the visibility of project outputs and encouraging public and institutional engagement, dissemination helps maximize the relevance and uptake of the project's findings.

The following sections present the key dissemination activities carried out to promote awareness, accessibility, and real-world application of AMAZING-6G's research outcomes.

3.1 Plan

In order to ensure the visibility, uptake, and long-term impact of the project's innovations, a plan has been designed for the project dissemination activities. This first phase of the dissemination plan focuses on establishing a structured, coordinated, and adaptable approach to reach relevant stakeholders - primarily within the research and academic communities - with the aim of promoting technical outcomes and fostering engagement.

During the initial months of the project, dissemination efforts will prioritize:

- Raising awareness of the project's vision, objectives, and early progress.
- Sharing insights into the emerging challenges and opportunities associated with 6G technologies, particularly in areas such as environmental sustainability, trustworthiness, digital inclusion, and network automation.
- Promoting early technical achievements, especially those related to innovative radio technologies, AI-based network management, and next-generation devices.

To achieve this, the following channels and actions are planned:

- **Scientific outreach**: Submission of papers and abstracts to relevant international conferences and workshops, with a focus on those aligned with 6G, IoT, and network innovation domains.
- **Academic engagement**: Engagement with universities and research networks through invited talks, guest lectures, and collaborative research events.
- **Stakeholder visibility**: Representation of the project at selected industry and policy-driven forums to raise awareness beyond academia.
- **Online presence**: Regular updates through the project's website and social media channels, ensuring consistent communication of project milestones and events.

Dissemination activities are monitored through both qualitative and quantitative indicators, including number and type of publications, audience reach, interaction metrics, and stakeholder feedback. In particular, the following KPIs have been established to measure the project dissemination activities, including the corresponding target values:

- Participation in joint workshops with other SNS initiatives (4)
- Organization of scientific workshops (2)
- Participation in scientific events (6)
- Scientific publication (30)

KPIs are constantly monitored and jointly reviewed by all the partner on periodic meeting (WP meetings and plenary meetings), to evaluate eventual needed action points.

This initial plan is continuously refined based on project progress and performance metrics, ensuring alignment with evolving objectives and communication needs. The dissemination strategy is coordinated by the task leader in charge and actively supported by all project partners.

The next section outlines the specific dissemination activities, targeted audiences, and KPIs that guide the execution and evaluation of the project's dissemination efforts in this first phase.

3.2 Results

The following dissemination activities have been carried out:

- Muhammad Asad Ullah, Antti Heikkinen, Mikko Uitto, Antti Anttonen, Konstantin Mikhaylov, "Impact of Weather on Satellite Communication: Evaluating Starlink Resilience", in IEEE VTC2025-Spring. The paper analyses satellite baseline performance measurements with the effect of weather. The paper will be presented on June 17th 2025, in Oslo, Norway.
- Poster booth at EuCNC 2025, Poznan, Poland. This activity aimed at showing the project activities, objectives, Use Cases, and organization, in a premier event for telecommunications research, bringing together leading experts and projects from around the globe. The activity was lead by VTT and WINGS, and carried out between June 3rd and 6th 2025. The poster was honored with **Best Booth Poster Award** at EuCNC & 6G Summit 2025.
- Special Session: AMAZING-6G: APIs and frameworks for verticals, organized at EuCNC 2025, Poznan, Poland. The activity was lead by NXW, and involved also WINGS, and carried out on June 5th 2025.

Figure 6. The AMAZING-6G team awarded with the best poster booth award at EuCNC 2025.

The dissemination activities are expected to evolve, especially regarding the number of scientific publications, during the second half of the project.

4 Standardization

Standardization is essential to ensure that the technological innovations developed within AMAZING-6G can have a meaningful and lasting impact beyond the project itself, shaping future 6G systems and their implementation across key verticals such as healthcare, energy, transport and public safety. During the first six months of the project, efforts have been concentrated on identifying the most relevant standardisation bodies and working groups. Although no formal contributions have been submitted yet, the groundwork has been established for active participation in standardization processes in the upcoming phases of the project.

4.1 Standardization tracking

To ensure continuous monitoring and coordination, the project must identify and follow the key standardization bodies active in its relevant domains, such as 3GPP (with member partners as TNO, TID, TIM, OQTEC and ORO participating in working groups such as SA1, SA2, RAN1...), ETSI (LINKS, OQTEC, WINGS, TID, TIM, UPAT...), 6G-IA, NetworldEurope (NXW, TIM, TID, TNO...) and the O-RAN Alliance. Leveraging the participation of project partners who are already members of these bodies presents a valuable opportunity to both stay aligned with ongoing developments and contribute directly to emerging standards as the project progresses.

In addition, a standardization tracking mechanism has been set up to document all activities, engagements, and contributions. Each WP8 project deliverable will include an updated version of the standardization tracking table, which will include the following fields:

Title	Standardization activity	Description	Standardization body	Involved partners
Pending update	*Pending update*	*Pending update*	*Pending update*	*Pending update*

This tool will allow the consortium to maintain visibility over ongoing contributions and to report progress in a structured way.

4.2 Standardization contributions

Although the project is still in its early phase, the team has actively started preparing for future engagements with standardization bodies and one contribution has been submitted to 3GPP TSG SA WP1 in August 2025.

In particular, the following exercise is performed as part of the preparation for contribution to 3GPP: a comparative analysis is currently being carried out between the use cases defined within AMAZING-6G and those outlined in the 3GPP Technical Report 22.870 (TSG SA – Study on 6G Use cases and Service Requirements). This activity aims to identify potential gaps or complementary areas where the project could provide meaningful contributions. With the next 3GPP meeting scheduled for the end of August 2025, the partners have evaluated the possibility of preparing a contribution.

As a result of this analysis, the health use case - the ultrasound cardiac-assessment patch with AI-based analysis on the edge to enable continuous, automated monitoring of heart patients - was identified as fulfilling the criteria for a new use case on medical applications in 6G, which requires energy-efficient, highly reliable and high bandwidth uplink connection. This use case was prepared as a contribution (S1-253073) and submitted for presentation in the 3GPP SA1 Meeting #111 in Goteborg, Sweden (25-29 August 2025).

As project results mature, the consortium will translate innovations into standardization inputs, ensuring alignment with ongoing industry discussions.

5 Exploitation and business model

AMAZING-6G exploitation and business modelling activities are divided into three periods, whose results are going to be respectively reported in the three related deliverables. While the definition of business models for project selected results refers to the final output of the activity, exploitation and IPR management-related works starts at the beginning of AMAZING-6G project and they conclude at its completion. Indeed, exploitation, IPR management and business modelling activities, although related, refer to different concepts. However, the three activities need to start from an initial definition of the list of results that are expected by project partners to be developed/achieved by the end of the project. Of course, what is reported in this first deliverable represents a preliminary output that is expected to be reviewed and modified (even substantially) before the end of the project, reflecting the evolution of development and testing activities as well as the exploitation interests of AMAZING-6G partners.

Exploitation, IPR management and business modelling activities despite being formally executed within WP8 and WP1, are clearly embedded in the overall project strategy due to its trials-based nature. In addition, IPR-related activities are shared with WP1 - Project and technical management which among multiple activities also deals with the creation and maintenance of an innovation database for IPR control. Such activity is essential to lay out the structure necessary for tracking, monitoring and safeguarding IPR both within and beyond the consortium, a critical element in a project that spans multiple domains of application: health, public safety, energy and transport.

This section on exploitation is structured as follows:

- chapter 5.1 provides a brief introduction to IPR management that will be further detailed in other reports.
- chapter 5.2 describes the process followed to collect information on the expected project results (and key exploitable results) and presents the output of the action.
- chapter 5.3 provides the conclusion and outlines the next step of the exploitation and business modelling activities.

5.1 IPR MANAGEMENT

In the context of AMAZING-6G project, IPR management pursues a set of key objectives:

- Establishment of shared principles to facilitate the successful implementation of the IPR strategy.
- Provide understanding in the consortium of IP access rights and conflicts prevention.
- Prompt identification of results being generated by the project.
- Identification of IP protection options for key exploitable results.

Two key definitions are reported hereafter since they represent the core concepts of IPR management:

- **Background** - any data, know-how or information, whatever its form or nature (tangible or intangible) including any rights such as IPR that: is held by the beneficiary before they acceded to the GA, and is needed to implement the action or exploit the results.
- **Foreground** - project results, i.e. knowledge subject to intellectual property produced during the project and other knowledge, as well as the intellectual property relating to the produced knowledge (patents, copyright, etc.).

Two key principles represent instead the foundation of IPR management in the project.

- Knowhow/background IP existing prior the AMAZING-6G project remains property of the partner providing that input and can be made available to the project only by the respective owner.

- Knowledge/foreground IP that is created by an individual partner in the context of the AMAZING-6G project will remain property of that partner, while in case of joint generation of foreground, joint property will be established.

The pursuit of the objectives stated above requires establishing clear and fair procedures that will be presented in another deliverable.

IPR management represents an essential element for the development of business models that are actionable and sustainable. Indeed, a correct management of IP generated during the project by consortium members, either individually or through a joint effort, prevents challenges arising from ownership issues and allows a suitable protection of results (where applicable). Regarding this latter aspect, a set of measures can apply to different project results, depending on their nature. The following table reports a list of the most relevant protection instruments.

Table 2: IP protection options

Protection	Brief description	Protectable results (relevant for the project)
Patent	It grants exclusive rights over a technical invention for a limited duration that is typically 20 years. It allows the patent holder to stop others from making, using, or selling the invention without permission. To qualify for patent protection, an invention must fulfil three key requirements: it must be novel, inventive, and capable of industrial application.	Invention, software
Utility Model	It is similar to a patent, but it is dedicated to the so-called "incremental innovations" that do not fully comply with the criteria required for patentability (indeed, it has less stringent requirements). It grants an exclusive right to the holder to prevent others from commercially using the protected invention, without permission. Its temporal extension is limited compared to that of a patent and it usually spans from 7 to 10 years without possibility of further extension or renewal.	Invention, software
Industrial Design	It safeguards the visual aspects of an item/creation and it thus applies to shape, configuration, surface pattern, colour, line or to a combination of them. It is generally exploited by designers to protect their work, and it is applicable to both two-dimensional and three-dimensional products. The holder gains the right to prevent others to make, sell, import products that bear a copy or a substantial copy of the design that are exploited for commercial purpose.	Design of a product
Copyright	It protects literary and artistic works, so non-technical intellectual creations. In the context of the project, it is relevant for computer programs, databases and technical drawings. Copyright protection is obtained	Scientific article, software, website

	automatically without the need for registration or formal procedures but the creation have to be sufficiently original and it extends only to expressions, so not to ideas, procedures, methods of operation or mathematical concepts. It provides the holder with the exclusive right to control the creation reproduction and adaptation. While AI models may fall under the scope of copyright protection, current legislation still appears unclear. The recent AI Act indicates that models employed for non-market related purposes, i.e. research, development and prototyping, can, under specific conditions, be excluded from implementing policies to demonstrate compliance with EU laws on copyright.	
Trademark	It safeguards the sign that distinguishes products or services of a company from those of the others. It provides the owner with the exclusive right of use and licensing. The protection lasts generally 10 years, but it can be renewed indefinitely.	Website

Confidential information is another form of protection that is based on secrecy and not on formal processes for registration. In this sense, it relies on the fact that the target creation/item is not publicly available. To preserve the protection, some measures generally employed are non-disclosure agreements and restrictions to access.

In a more advanced stage of the project, when selected results will be identified and thoroughly studied, if necessary and considered appropriate by partners (thus in line with exploitation interests), specific protection measures will be discussed.

5.2 EXPLOITATION

Exploitation activities represent the core element for a strategic utilization of projects results, and their valorisation by AMAZING-6G partners. Exploitation is thus a significant ingredient for ensuring that the project has a long-lasting impact, beyond its formal completion.

Exploitation focuses on project results that are developed individually or jointly by project partners. However, not all results have a significant exploitation potential, that is why, two distinct concepts need to be taken into account:

- **Result** - Any tangible or intangible output of the action, such as data, knowledge and information whatever their form or nature, whether or not they can be protected, which are generated in the action as well as any attached rights, including intellectual property rights.
- **Key Exploitable Result (KER)** - an identified main interesting result (as defined above) which has been selected and prioritised due to its high potential to be ‘exploited’ downstream the value chain of a product, process or solution, or act as an important input to policy, further research or education.

KERs are thus selected among the list of results due to the high prospective value, hence being reusable and exploitable (e.g. solutions, prototypes, services) as such, or elements (knowledge, technology, processes, networks, etc.) that have potential to contribute for further work on research, education and

policy. In this context, carrying out exploitation-related actions involve assessing how results can be used to create value following multiple available routes.

The results potential for exploitation can be classified into two major routes, as showed in the following image.

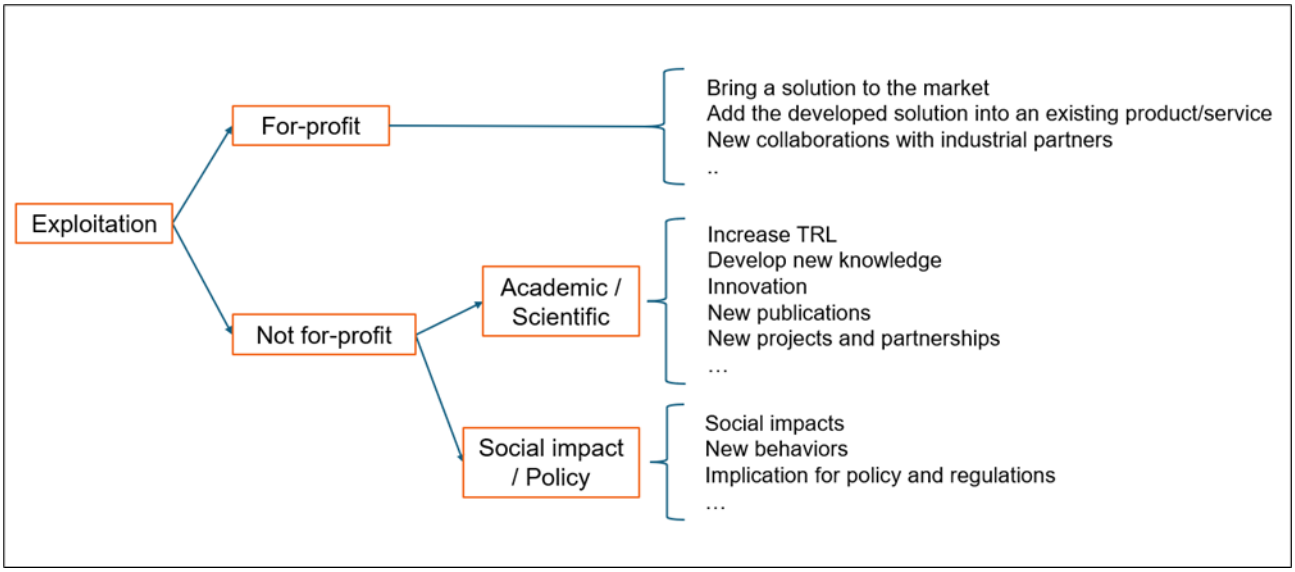

Figure 7: Exploitation routes

The two major routes are indeed identified by the commercial or non-commercial nature of the exploitation. For the purpose of AMAZING-6G project, KERs with "for-profit" exploitation potential will be prioritized as they lend themselves to additional analysis (market analysis and business modelling).

The exploitation routes that will eventually be pursued are not solely dependent on the result exploitation potential but also on the specific partner(s') interests.

5.2.1 EXPLOITATION INTERESTS

Exploitation interests of each AMAZING-6G partner have been preliminarily indicated in the GA. While it is too early to produce an updated version of exploitation interests, seeing that the project is still in its initial stages, it has been deemed useful to extract and summarize the GA content into a set of categories. The objective refers to providing an overview that can be compared with project results and KERs lists to assess consistency and eventual deviations. In this sense, the following table summarizes the exploitation interests of AMAZING-6G partners into eight categories. The categories refer to both commercial and non-commercial exploitation interests while a generic category indicated as "Other" collects non-classifiable interests such as those associated with the increase in usage of existing facilities.

Table 3: Exploitation interests summary and categorisation

Consortium member	Expand solutions portfolio	Increase know-how	Publication and conferences	Input for new collaborations and future projects	Education	Consultancy	Product validation	Other
WINGS	x							
UPAT		x			x			x
CERTH		x	x	x				x
ThPA	x		x					
PNET		x		x				x
TIM	x	x						
NXW	x	x				x		
LINKS		x		x				x
COTO		x						

BLA	x							
TNO		x				x		
OUS		x						
VTT		x				x		
FMI	x						x	
APT							x	
IMEC		x						
ISRD				x			x	x
ORO	x			x				
SIMTEL - CSOFT	x							
STS								x
TUC				x	x			x
SRCC								x
UoS					x			x
UC3M					x	x		x
CAPG	x							
ACRO	x							
TID TSA		x						
OQTEC	x							

Predictably “Increase know-how” and “Expand solutions portfolio” are, in this order, the most common categories.

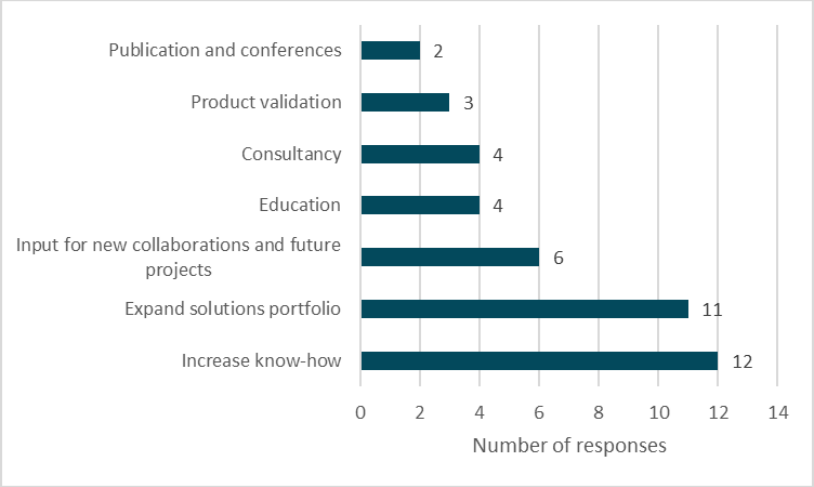

Figure 8: Exploitation interests distribution into categories

The categories of exploitation interests can also be classified into two wider sets: commercial and non-commercial exploitation. The following table shows the classification.

Table 4: Exploitation interest categories classification

Type of route	Exploitation category
Commercial	Expand solutions portfolio
	Consultancy
	Product validation
Non-commercial	Increase know-how
	Publication and conferences
	Input for new collaborations and future projects
	Education

The division into commercial and non-commercial (for-profit and non-for-profit exploitation) shows a preponderance of the latter interest (18 vs. 24). However, it is necessary to underline that this represents

the picture prior the project initiation and it may change during development and testing taking place in the AMAZING-6G use-cases.

5.2.2 PRELIMINARY EXPLOITATION FORM

The first step that involved the whole AMAZING-6G consortium in exploitation activities referred to collecting information through a form on expected results to be attained during the project execution and KERs. The form has been firstly presented during the project virtual plenary meeting of May 2025 following an introduction on the key concepts of exploitation. The form has been circulated within the consortium the following week with indications on how to complete it. In addition, it included a brief description of its purpose highlighting its nature of a preliminary survey whose outcomes are expected to evolve substantially during the project execution.

The form contains two sections to be filled out by each partner. The first section refers to the identification of the partner.

Partner	
Contact person (name, surname)	
email address	
Partner type [select from the options]	
Main role in the project [select from the options]	

Figure 9: First section of AMAZING-6G preliminary exploitation form

Information on partners is also collected via two close-ended questions: “partner type” and “main role in the project”, with the following selectable options.

Table 5: Selectable options for close-ended questions for the first section of the preliminary exploitation form

Required information	Options
Partner type	Academic - Research
	Business / Industry
	Consultancy
	Public Administration
	NGO
Main role in the project	Technology developer
	Communication / dissemination / exploitation
	Project management
	Pilot / use case manager
	End-user
	Policy advisory

The second section is instead focussed on “Results” and “KERs”. It starts with results identification (open-ended), brief description (open-ended), result category (close-ended), AMAZING-6G use-case reference, collaboration with other consortium members (open-ended and closed-ended) and relevance to data reusability purposes for further research and projects (close-ended).

Table 6: Selectable options for close-ended questions for the second section of the preliminary exploitation form focusing on the "results" part

Required information	Options
Category of result	Hardware
	Software
	Data/Database
	Knowhow
	Policy recommendation
	Other
Reference use-case	24-7 Heart function – wearable based ultrasound application [Health]
	Ubiquitous B5G/6G communication and slice deployment across operators for PPDR AR/VR assisted Control Centres [Public Safety]
	Mission critical services interoperability with other systems [Public Safety]
	Emergency private 5G/6G communication on-the-Move [Public Safety]
	Arctic Area Search and Rescue Operation [Public Safety]
	Renewable Energy Communities [Energy]
	Robotized offshore wind turbine blade inspection and maintenance [Energy]
	Solar energy monitoring, control and predictions using B5G/6G communications and edge-cloud [Energy]
	Protection of Vulnerable Road Users [Transport]
	Enhancing Urban Safety with AGVMonitoring [Transport]
	Wireless signalling on rail tracks [Transport]
	Teleoperation as a backup to autonomous driving [Transport]
	Port logistics and transport operations optimization and safety [Transport]

Once the list of expected results has been defined by each partner, the form requires to indicate, within the list, what are those project outcomes that can be considered KERs (according to the definition provided earlier). The selection obviously does not solely reflect the true potential of the result (that however arises from a preliminary evaluation) to be actually exploitable but also the consortium member interest in effectively exploiting it. In this sense, exploitation interest and exploitation potential analysis are complementary.

The form asks to indicate the potential KERs (closed-ended), the foreseen exploitation route (closed-ended) and the expected Technology Readiness Level (TRL) at the end of the project (closed-ended).

Table 7: Selectable options for close-ended questions for the second section of the preliminary exploitation form focusing on the "KERs" part

Required information	Options
Category of exploitation	Commercial exploitation
	Input to further research
	Input to education
	Input to policy
	Other
TRL	1
	2
	3
	4
	5
	6
	7
	8
	9

5.2.3 RESULTS

The circulation of the preliminary form for exploitation led to collect 66 entries for results. These inputs have been carefully reviewed by LINKS team to assess whether they could be considered actual project results (according to the definition of "result" reported earlier in this document). The assessment has been conducted to make sure that the selected results were clearly identifiable and eventually trackable during the project execution. Of course, in later steps of the project, consortium members will be presented with their preliminary entries that will be again reviewed, and the input that were not selected in this preliminary action, could be further detailed to be included in the list of results. For the list of prospective results further information will be required so as to increase the level of details.

The review conducted by LINKS team has led to the selection of 46 results. The list is reported in the annex to this report but some of the information have been kept confidential.

Here are presented a set of statistics to inform the AMAZING-6G consortium on the potential final output of the project (at this early stage).

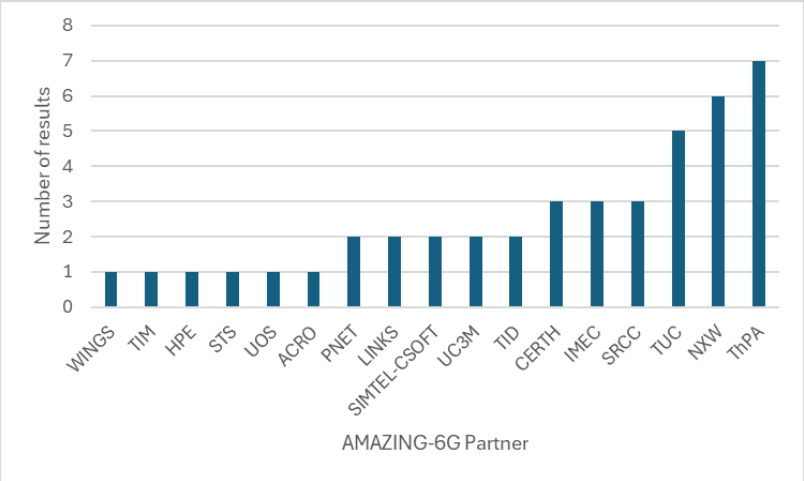

Figure 10: Distribution of results per consortium partner

Not all project partners indicated results at this stage. Instead, as already mentioned, some partners' input are not part of the current list but will be re-assessed with the respective consortium member in a later stage to eventually be included in the future updated list.

The majority of results are classified as "know-how", followed by "software", an outcome that is in line with the exploitation interests that were expressed before the project initiation (the two most relevant categories of interest were indeed "increase know-how" and "expand solutions portfolio" that however does not differentiate between hardware and software).

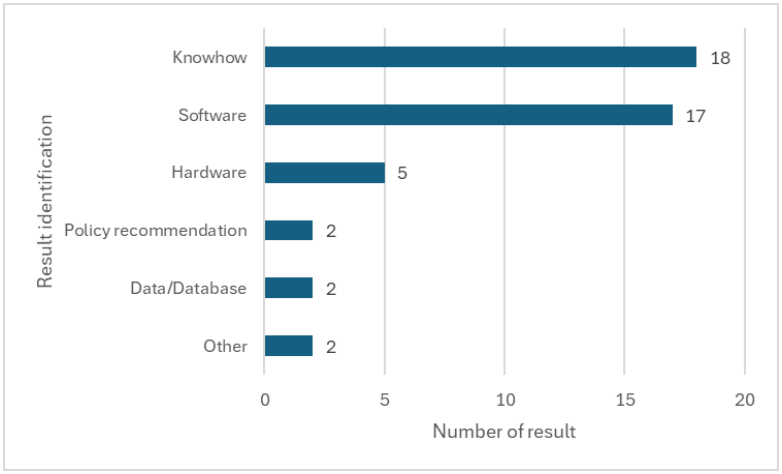

Figure 11: Distribution of results per category

The AMAZING-6G use cases with the highest number of associated results are:

- Teleoperation as a backup to autonomous driving [Transport]
- Port logistics and transport operations optimization and safety [Transport]
- Wireless signalling on rail tracks [Transport]

There is, at this stage, a prenominance of results in the transport domain. However, it is necessary to point out that some results refer to two use-cases (the form has foreseen the possibility to select either one or two reference use-case).

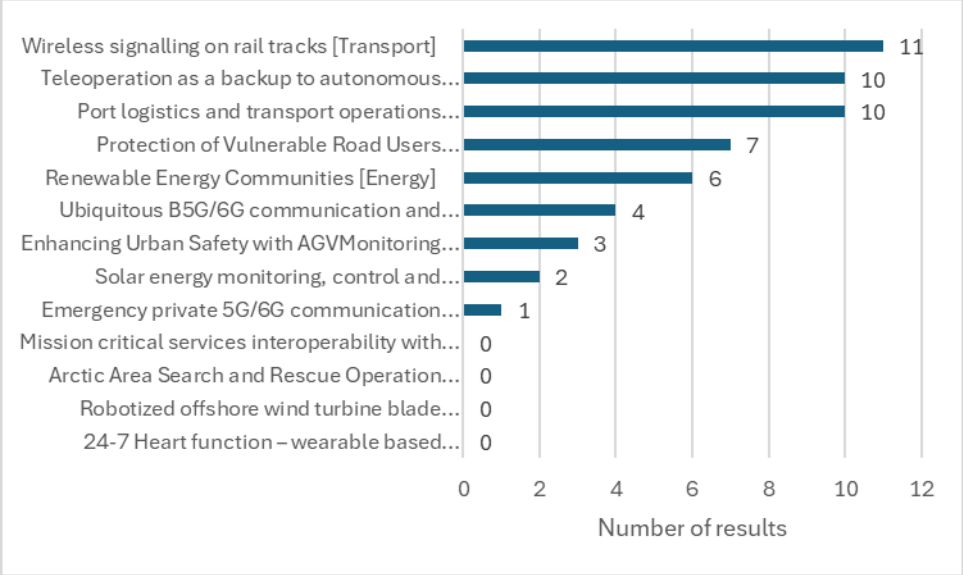

Figure 12: Distribution of results per use-case

Some of the use case have, for now, no associated results but this scenario is expected to change in later stages of the project.

The majority of confirmed results are expected to be achieved in collaboration with other partners of the project while only 14 are pursued individually by a consortium member.

Out of the 46 confirmed results, the majority, 38, were indicated as “relevant for a data reusability purpose for further research/projects”, while in one case the information is not available at this stage.

5.2.4 KEY EXPLOITABLE RESULTS

The majority of results, 37 out of 46, have been indicated as KERs. While regarding the foreseen exploitation route, only 18 KERs have a single exploitation route and they are divided between “Input to further research” and “Commercial exploitation”. The rest have a double exploitation route.

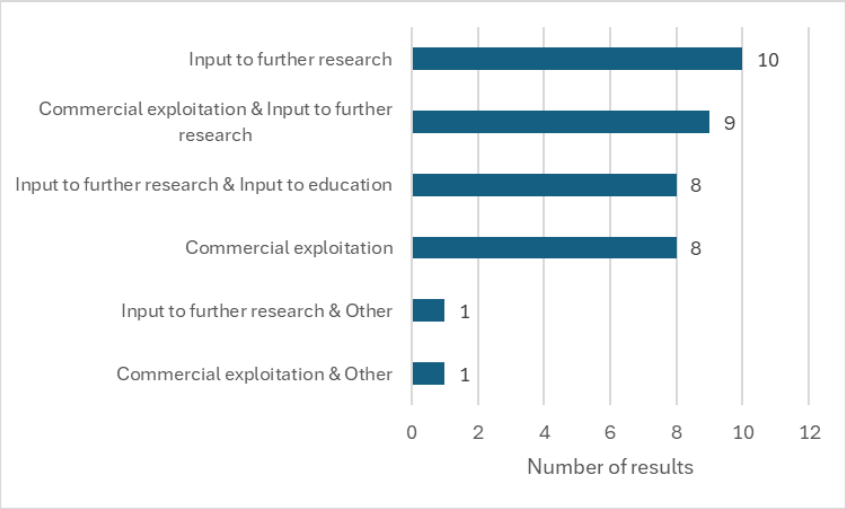

Figure 13: Distribution of KERs per exploitation route(s)

The last question of the form referred to TRL. However, TRL concept does not apply to all results and KERs. The following graph shows the distribution of KERs per TRL only for those to which it applies (considering the item description at this stage of AMAZING-6G project).

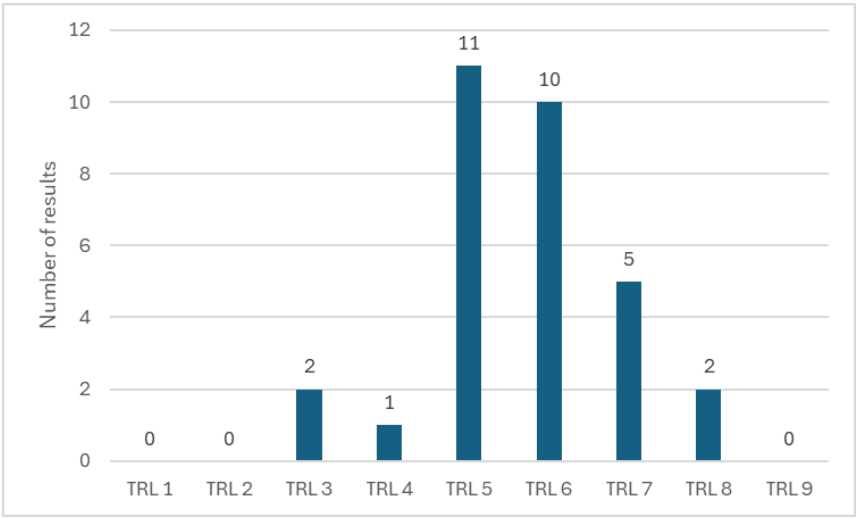

Figure 14: Distribution of KERs per TRL

It is clearly visible a preponderance of TRL 5 and TRL 6 which correspond respectively to “prototype tested in intended environment” and “prototype system tested in intended environment close to expected performance at a validation stage”.

5.3 CONCLUSIONS AND NEXT STEPS

The preliminary activities carried out for exploitation purposes have revealed a highly promising outlook for the potential of the AMAZING-6G project. A substantial number of expected results have been identified and initially characterized. However, some inputs have been temporarily excluded from the current analysis as they require further refinement, which will be undertaken and reported in the next deliverable. The analysis indicates a good level of alignment between exploitation interests and the project expected results. Nonetheless, four use-cases currently lack associated results. This issue will be addressed to ensure that each use-case yields at least one result.

Additionally, the number of KERs identified is significant. Upcoming exploitation activities will involve reviewing this list and elaborating further details to enhance the characterization of each KER. For selected KERs with a clear potential for commercial exploitation, business models will be developed in collaboration with the respective responsible partners.

6 Conclusions

This deliverable marks the initial step in the implementation of the project's outreach and valorisation strategy. Despite the early stage of the project, important progress has been made in setting up the communication and dissemination infrastructure, initiating engagement with standardization bodies, and collecting preliminary information for exploitation planning.

Communication activities are already showing measurable impact through online engagement and the setup of key dissemination channels. Dissemination has started with scientific participation and presence in high-level events such as EuCNC. Standardization efforts are being aligned with ongoing work in relevant SDOs, particularly 3GPP, to position the project for meaningful contributions in the next phases.

The exploitation section highlights the consortium’s commitment to identifying and developing Key Exploitable Results, supported by a structured data collection process and early engagement with partners. The initial set of KERs provides a strong basis for future business modeling and IP strategy.

Going forward, the strategies outlined in this deliverable will be continuously monitored and updated in line with project advancements, ensuring that AMAZING-6G’s innovations generate lasting value for industry, research, and society at large.

Annex A

Preliminary exploitation form entries (some columns content have been kept confidential).

Result	Which category of result is it?	To which Amazing-6G use case the result refers?	Specify here if the result refers to more than one use case and indicate other relevant use cases	Is the result relevant for a data reusability purpose for further research /projects?	Do you think that it could be a Key Exploitable Result (KER)?	What category of exploitation do you foresee for the KER?	Select another category if you foresee multple exploitation routes for the same KER	Specify if you selected "Other"	Expected Technology Readiness Level (TRL) at the end of the project?
Enabling technologies for mission-critical communications in the Public Safety vertical sector	Knowhow	Ubiquitous B5G/6G communication and slice deployment across operators for PPDR AR/VR assisted Control Centres [Public Safety]	The result refers to one use case. Other Health & Public Safety use cases might have similar functional components	No	Yes	Input to further research	Other	Increased experimental capabilities with 6G systems and verticals	6
Portfolio of mission-critical services and applications for a Public Protection Disaster Relief (PPDR) scenario	Software	Ubiquitous B5G/6G communication and slice deployment across operators for PPDR AR/VR assisted Control Centres [Public Safety]	The result refers to one use case. Other Health & Public Safety use cases might promote similar applications	No	Yes	Commercial exploitation	Other	Accelleration of collaborations & technology transfer to vertical partners	6
Operational expertise, requirements, know-how from transport use case development	Knowhow	Port logistics and transport operations optimization and safety [Transport]		Yes	Yes	Commercial exploitation			7
Research excellence (publications)	Knowhow	Port logistics and transport operations optimization and safety [Transport]		Yes	Yes	Input to further research			

Establishment of synergies in complementary domains to assist policy requirements identification	Policy reccomendation	Port logistics and transport operations optimization and safety [Transport]		Yes	No	Input to policy			
Verified use of 6G network in port operations	Knowhow	Port logistics and transport operations optimization and safety [Transport]		Yes	Yes	Input to further research			
SOPs (Standard Operating Procedures) for Remote STS Operation and DT use	Knowhow	Port logistics and transport operations optimization and safety [Transport]		Yes	Yes	Commercial exploitation			
Port service	Knowhow	Port logistics and transport operations optimization and safety [Transport]		Yes	Yes	Commercial exploitation			
Secure integration of digital twin, teleoperation, and network components	Knowhow	Port logistics and transport operations optimization and safety [Transport]		Yes	No	Input to further research			
Framework for compliance	Policy reccomendation	Port logistics and transport operations optimization and safety [Transport]		Yes	No	Input to policy			
Operational digital twin model	Data/Database	Port logistics and transport operations optimization and safety [Transport]		Yes	Yes	Input to further research	Input to education		7
Technology package for remote operations	Software	Teleoperation as a backup to autonomous driving [Transport]		Yes	No	Input to further research	Commercial exploitation		7
Evolution towards 6G	Knowhow	Protection of Vulnerable Road Users [Transport]	Enhancing Urban Safety with AGVMonitoring [Transport]	Yes	Yes	Input to further research	Commercial exploitation		7

6G Orchestration Stack	Software	Enhancing Urban Safety with AGVMonitoring [Transport]	Renewable Energy Communities [Energy]	Yes	Yes	Commercial exploitation	Input to further research		6
Smart Building IoT Platform	Software	Renewable Energy Communities [Energy]		Yes	Yes	Commercial exploitation	Input to further research		7
MLOps Platform	Software	Renewable Energy Communities [Energy]		Yes	Yes	Commercial exploitation	Input to further research		6
Network Exposure Gateway	Software	Protection of Vulnerable Road Users [Transport]	Enhancing Urban Safety with AGVMonitoring [Transport]	Yes	Yes	Commercial exploitation	Input to further research		5
Home Energy Management System	Software	Renewable Energy Communities [Energy]		Yes	Yes	Commercial exploitation	Input to further research		5
REC Optimization Engine	Software	Renewable Energy Communities [Energy]		Yes	Yes	Commercial exploitation	Input to further research		4
Operational expertise, requirements, knowhow from testing activities on the Italian testbed	Knowhow	Protection of Vulnerable Road Users [Transport]	The result applies also to "Enhancing Urban Safety with AGVMonitoring [Transport]"	Yes	No	Input to further research	Commercial exploitation		
Robotic platform	Other - Harware and Software	Enhancing Urban Safety with AGVMonitoring [Transport]		No	Yes	Input to further research			6
Energy-aware orchestration platform	Software	Protection of Vulnerable Road Users [Transport]		No	Yes	Input to further research			6
Intelligent Industrial Device	Hardware	Solar energy monitoring, control and predictions using			Yes	Commercial exploitation			8

		B5G/6G communications and edge-cloud [Energy]							
Solar energy management	Software	Solar energy monitoring, control and predictions using B5G/6G communications and edge-cloud [Energy]	Data transmitted to the cloud will also be used for "Renewable Energy Communities [Energy]"	Yes	Yes	Commercial exploitation			8
End-to-end (dynamic) network slicing	Software	Teleoperation as a backup to autonomous driving [Transport]	It is possible to use the technology across various use cases (horizontal technology), but in the context of Amazing-6G it will be used for T4	Yes	Yes	Input to further research			6
Network exposure middleware	Software	Teleoperation as a backup to autonomous driving [Transport]	It is possible to use the technology across various use cases (horizontal technology), but in the context of Amazing-6G it will be used for T4	Yes	Yes	Input to further research			6
Zero-touch network and Service Management (ZSM) framework	Software	Teleoperation as a backup to autonomous driving [Transport]	It is possible to use the technology across various use cases (horizontal technology), but in the context of Amazing-6G it will be used for T4	Yes	Yes	Input to further research			6
Incorporating 6G enablers into the Radio Access Network	Software	Wireless signalling on rail tracks [Transport]		Yes	Yes	Input to further research	Commercial exploitation		5
Creating economically viable product	Other - Product development	Wireless signalling on rail tracks [Transport]		No	Yes	Commercial exploitation			5

Use case specific deployment experience/knowhow	Knowhow	Wireless signalling on rail tracks [Transport]		No	No				
Validate the tactical bubble use case under relevant operational conditions	Knowhow	Emergency private 5G/6G communication on-the-move [Public Safety]		Yes	Yes	Input to further research	Input to further research		7
Execution of tests and extension of the existing rail test trial and train	Hardware	Wireless signalling on rail tracks [Transport]	Teleoperation as a backup to autonomous driving [Transport]	Yes	Yes	Input to further research	Input to education		5
Identification of further fields of application of 6G	Knowhow	Wireless signalling on rail tracks [Transport]	Teleoperation as a backup to autonomous driving [Transport]	Yes	Yes	Input to further research	Input to education		3
Publication of research results	Knowhow	Wireless signalling on rail tracks [Transport]	Teleoperation as a backup to autonomous driving [Transport]	Yes	Yes	Input to further research	Input to education		5
Implementation of Sidelink for Train-to-Train Communication	Hardware	Wireless signalling on rail tracks [Transport]		Yes	Yes	Input to further research	Input to education		5
Trackside sensing	Hardware	Wireless signalling on rail tracks [Transport]		Yes	Yes	Input to further research			5
Extension of the B5G/6G railway and V2X testbed	Hardware	Wireless signalling on rail tracks [Transport]	Teleoperation as a backup to autonomous driving [Transport]	Yes	Yes	Input to further research	Input to education		5
High-quality datasets from controlled trials that can support AI model training or simulation tools.	Data/Database	Teleoperation as a backup to autonomous driving [Transport]		Yes	Yes	Input to further research			5

Fusing of situational awareness and wide area notifications	Software	Teleoperation as a backup to autonomous driving [Transport]	Wireless signalling on rail tracks [Transport]	Yes	Yes	Input to further research	Input to education		5
Implementation and demonstration of ISAC capabilities, for validation of use-case T3 (wireless signalling on rail traacks)	Software	Wireless signalling on rail tracks [Transport]		Yes	Yes	Input to further research	Input to education		3
Development of at least 3 Master's theses or PhD theses.	Knowhow	Protection of Vulnerable Road Users [Transport]		Yes	No	Input to education	Input to further research		
Update of Master's programmes.	Knowhow	Protection of Vulnerable Road Users [Transport]		Yes	No	Input to education			
Provide a complete 5G private network.	Knowhow	Port logistics and transport operations optimization and safety [Transport]	1	No	No				8
PPDR multi-operator slice deployment and AR/XR-enabled situational awareness platform	Knowhow	Ubiquitous B5G/6G communication and slice deployment across operators for PPDR AR/VR assisted Control Centres		Yes	Yes	Commercial exploitation			7
Digital Twin for real-time energy-aware orchestration and safety monitoring in smart mobility	Knowhow	Protection of Vulnerable Road Users		Yes	Yes	Commercial exploitation	Input to further research		6
New AI features for usage in AMAZING-6G use cases e.g. P1 and T5	Software	Ubiquitous B5G/6G communication and slice deployment across operators for PPDR AR/VR assisted Control Centres [Public Safety]	The result can refer also to other use cases e.g. T5 in which WINGS is active.	Yes	Yes	Commercial exploitation			7