

5G DEPLOYMENT FOR SMART INDUSTRY USAGE

CALL: BREITBAND AUSTRIA 2030: GIGAAPP
THEME: DIGITIZATION & BROADBAND
PROJECT TYPE: COOPERATIVE R&D PROJECT
PROJECT START: 1 MAY 2023
PROJECT DURATION: 18 MONTHS

D6.1: DISSEMINATION, EXPLOITATION AND COMMUNICATION PLAN

















5GEARING project is funded under the research and technology development of gigabit applications as part of lighthouse projects Breitband Austria 2030: GigaApp financed by the Austrian Federal Ministry of Finance and by the Austrian Research Promotion Agency (FFG) under the grant agreement n. FO999899772. Breitband Austria 2030: GigaApp was initiated by the Austrian Federal Ministry of Agriculture, Regions, and Tourism.

Document Information	
Project acronym:	5Gearing
Project number:	FO999899772
Deliverable number:	D6.1
Deliverable full title:	Dissemination, Exploitation and Communication Plan
Deliverable short title:	DECP
Submission date:	27.02.2024
Status:	Issues 1.2
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1 Executive Summary

This deliverable presents the communication and dissemination strategy of the 5GEARING project. This includes a basic communication strategy, planning of events and activities, and a clear definition of the goals for each activity to achieve exploitation of the results, the target audience, addressed channels and media, involved partners and key messages.

5GEARING adopts a systematic communication and dissemination approach aimed at achieving a high impact of the project activities and results. In this context, 5GEARING results will be exploited at all relevant industrial, academic, and societal forums. The communication activities identified in this document aim at interacting with both technical and non-technical audiences with the overall aim of spreading awareness of the 5GEARING project and its results.

In terms of communication, dissemination, and exploitation, the following are the main areas identified in this document:

- Internal and external communication and dissemination strategy
- Target audience and communication channels
- Relevant scientific publication societies and venues of high impact journals and conferences
- Industrial and academic conferences and workshops
- Specific standardization and regulation synergies including planned contribution ideas
- Exploitation strategy for the project including key exploitable results
- Exploitation plans for individual partners

This document serves as a reference point at project start. It will be updated at project month 12 and 18 (D6.2 and D6.3), to report on the activities and results, and to reflect the most current technical achievements of the 5GEARING consortium.

2 Introduction

The objective of this document is to provide communication, dissemination, and exploitation strategies for the 5GEARING project to maximize the impact of the project. The 5GEARING project focuses on the deployment of 5G systems in the industrial domain, therefore identifying opportunities for adoption of 5G technology and commercialisation is of utterly importance.

The communication plan presented in this document aims at describing the planned efforts by the 5GEARING project to reach out to relevant stakeholders including industry, academia, society, and standardization bodies. The overall goal of the dissemination and impact plan is to outline a path to increase the visibility of the project, promote the exchange of knowledge regarding the project findings, and contribute towards standardization. In this way 5GEARING will help the Austrian and global industry in using wireless technologies for smart use.

Multiple activities and communication channels have been identified to be used for the promotion of the project and its results to relevant audiences. Moreover, internal, and external communication protocol as well as visual branding of the 5GEARING project in terms of project logo, templates for slides and deliverables have been prepared. The dissemination strategy outlined provides a clear plan on how knowledge and results obtained in 5GEARING are planned to be transferred to potential users, including, for instance, the scientific community, industrial partners, policymakers, and standardization bodies.

The exploitation plan of 5GEARING presented in this document provides the strategy on how the project results could be effectively used. Special emphasis is given to assuring a high impact of 5GEARING on standardization and regulatory bodies. Moreover, key exploitable results of the project have been identified that will be used for a contribution towards standardization as well as exploitation by individual partners. To ensure a coordinated approach to impact and dissemination by all partners of the consortium, 5GEARING has a dedicated work package (WP6) that deals with managing and coordinating dissemination and exploitation activities project-wide.

2.1 Objective of the document

The purpose of this document is to outline an effective communication, dissemination, and exploitation strategy for the 5GEARING project. All project partners can follow this plan for their communication and dissemination strategies to allow a consistent approach. This will result in an active promotion of the project through-

out the duration of the 5GEARING. This will not only ensure a successful impact and dissemination of the project but will also enhance the visibility of the project that is targeted toward relevant audiences. The industrial partners will approach their relevant academic and industry sectors.

3 Communication

During the project duration a communication plan will be created and maintained. It will include the ways how we want to communicate internally and externally, what we want to communicate and via which channels we want to communicate. The following sections outline the communication plan.

3.1 Project branding and visibility

The project is commonly identified by its name 5GEARING and its logo, presented in Figure 1.



Figure 1: Logo of the 5GEARING project.

The project logo is created for better recognition and visibility, as well as for its branding. Therefore, all dissemination tools and activities must refer to or include the name and logo of the project. In addition a reference to the FFG funding must be included:

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For the sake of project branding and visibility, templates for project slides, reports, and deliverables are also prepared. These templates should be used, wherever possible, for the representation and dissemination of the project activities.

3.2 Notice on the release of content for dissemination

During the course of the project, the dissemination of project activities or results by one or several project partners should be notified to the members of the consortia. A prior written notice of the final version of any planned publication shall be given

to other partners at least thirty (30) days before the planned publication submission date. Any objection to the planned publication shall be made in writing to all partners within fourteen (14) days after receipt of the written notice. If no objection is made within the time limit stated above, publication is permitted. Any and all objection(s) shall include, to the extent possible, a precise request for necessary modifications.

3.3 Open science practices

The consortium aims at providing benefits to the general academic-industrial community and promoting open science methods in this respect. Already today, several 5GEARING partners either engage in open-source software projects or in open access with respect to project deliverables and publications. For 5GEARING, it is planned to systematically increase the level of engagement in open science methods throughout the project. It is believed that by engaging in open science practices, on the one hand, feedback can be incorporated faster while, on the other hand, synergy effects can be created. The following approaches and tools will be leveraged in detail:

- Project planning and evolution will be made publicly available through the documentation on a project website, as well as documenting interactions with reference entities such as the scientific advisory board. Feedback mechanisms will be incorporated through publicly visible forum functions and openness toward official feedback.
- Open-source contributions are planned for the software packages around the evaluation framework, corresponding to publicly available software repositories that will be established/extended, and promoted through the project webpage and social media networks. This will also enable networking effects through community contributions and software reviews.
- Project data collections will be provided through our webpage, usually either in relation to deliverables or in relation to project publications.
- Project deliverables, standardization contributions and project publications will - to the extent possible - be published through open access outlets, together with underlying material (software) and data.

The open science approach has to be balanced with the interest of the project partners to keep certain aspects of their contributions confidential.

3.4 Project-internal Communications

Communication within the consortia is important to exchange information, develop knowledge together, and inform each other on the progress of proposed work package activities. Internal communication between the consortia members is also needed to enhance and optimize external communication and dissemination activities. Internal communication will be ensured through regular exchange of information via e-mails and meetings to discuss the progress of the project, upcoming activities, deadlines, and issues arising on achieving the milestones of the project. This section explains the communication and dissemination protocol within the consortia members.

Communication among the consortia members is performed via the exchange of emails and regular work package (WP) meetings. A list of all project members with their e-mail addresses is provided in the project folder. The WP leaders and task leaders will organize and invite to the project meetings.

A common project workspace in Microsoft Teams, hosted by SAL, is set up to share documents, related material, and videos. The common workspace is well organized forming it an easy access platform for all members of the consortia. The screenshot of the common project workspace taken on 2023-07-25 is shown in Figure 2.

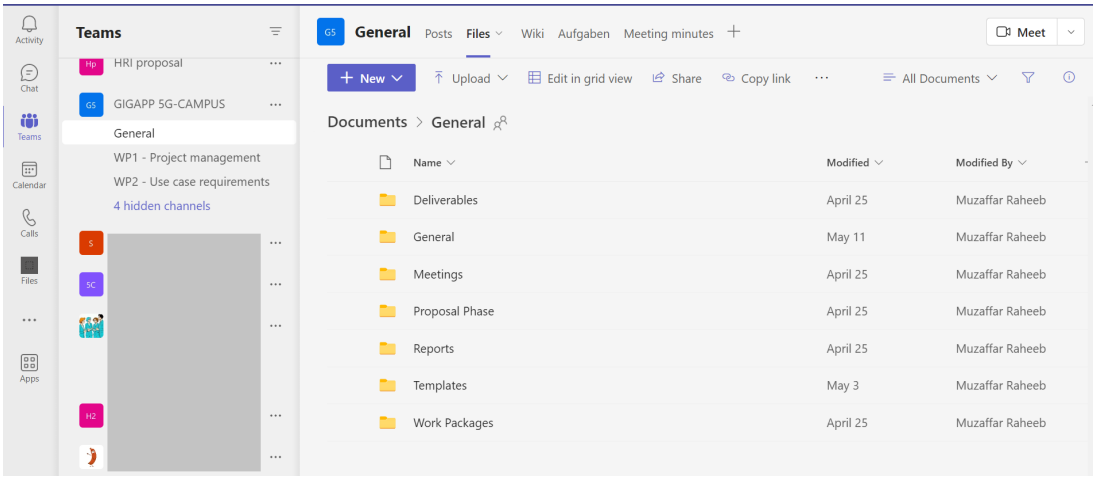


Figure 2: Screenshot of the 5GEARING Microsoft Teams channel.

Minutes of the meetings are recorded for each meeting where action items and discussion items are furnished to track the project progress. The minutes are recorded with OneNote in Teams. Meetings are held via Microsoft Teams or as face-to-face meetings. Locations for the face-to-face meetings will be agreed between the project partners. Standardized templates for documents, presentations and meetings are available on the project's Microsoft Teams channel.

3.5 External Communications

The external communication will be done via a website and social media.

It was agreed to use social media postings instead of a newsletter, for which we need to produce content regularly.

3.5.1 Project Website

The 5GEARING project website is the central point for all information about the project. It gives a project overview, lists the objectives of the project and the work plan, introduces the project partners and allows the download of all deliverables (as soon as they are released). In the future it is planned to also provide information about Private 5G systems and related use cases, and references to other relevant websites (e.g. 5G-ACIA). The project website serves as a central hub for dissemination activities. The website is accessible at `https://www.5GEARING.at`, see screenshot in Figure 3. The website will be managed by SAL, content can be provided by

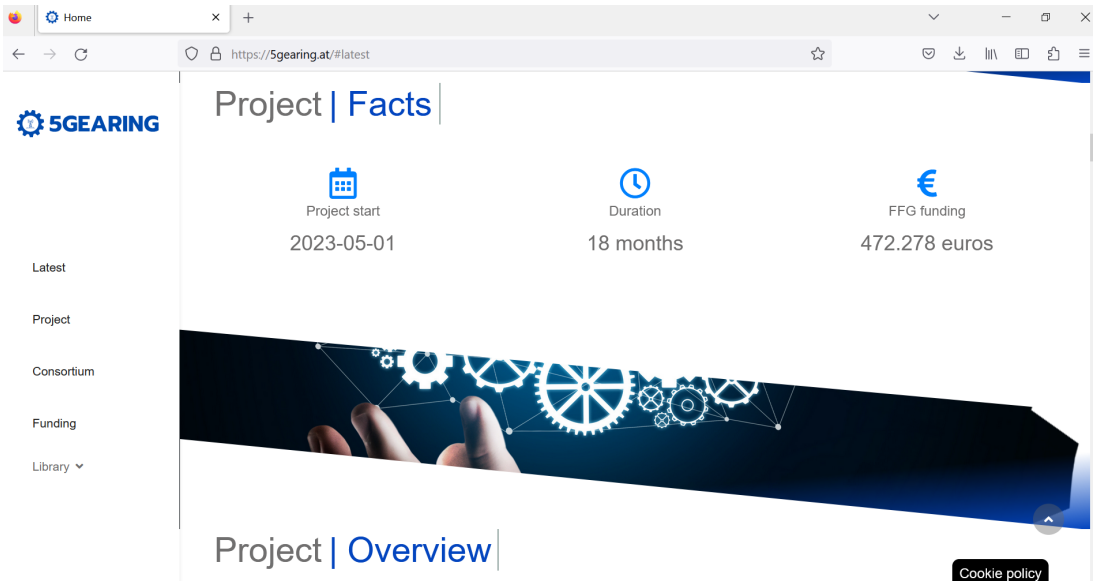


Figure 3: Screenshot of the 5GEARING webpage 2023-07-27.

all project partners. Care has to be taken with confidential information from project partners, which should not be put on the website.

3.5.2 Social Media

In this project we will focus on LinkedIn for social media postings. YouTube will be used as an option to share presentations and videos at a later stage. Other social media like Twitter, Instagram or TicToc are not seen as addressing the audience that we want to address with this project. The 5GEARING LinkedIn page can be found

under: https://www.linkedin.com/company/5gearing/. The LinkedIn account will be managed by SAL, content can be provided by all project partners. Care has to be taken with confidential information from project partners, which should not be put on social media.

Social media will be mainly used to direct people to the project website (see section 3.5.1).

3.5.3 Press Releases

Press releases will be issued after major achievements in the project. A draft of the press release will be circulated to the project members to allow them a cross-check with their press departments. Once the press release is approved by all partners, it will be distributed. All project partners can use their own distribution channels for the press release.

Press releases can be targeted also at local newspapers (e.g. Der Standard, Die Presse, Austria Press Agency APA-OTS).

FFG will be contacted regarding joint PR activities, possibly also including other GigaApp funding projects.

4 Dissemination

The project will target the scientific and industry communities for the dissemination of the project results.

The scientific dissemination will be led by SAL, the industry dissemination will be mainly done by Cancom and Magna International.

4.1 Scientific Publications

In the following, examples of journals, magazines and conferences, which are of particular importance for 5GEARING, are listed together with the corresponding target society. Target societies and examples of relevant journals and magazines are outlined in Table 1 and Table 2, respectively. The target conference societies with examples of international conferences are listed in Table 3.

Table 1: Target journal societies.

Target society	**Example venue**
Industrial Electronics	IEEE Transactions on Industrial Electronics IEEE Transactions on Industrial Informatics IEEE Open Journal of the Industrial Electronics Society
Communications	IEEE Transactions on Communications IEEE Wireless Communications IEEE Transactions on Wireless Communications IEEE Communications Surveys and Tutorials
Robotics & automation	IEEE Transactions on Robotics (Springer) Autonomous Robots
Vehicular	IEEE Transactions on Vehicular Technology
Mixed societies	IEEE Internet of Things Journal

Table 2: Target magazine societies

Target society	**Example venue**
Industrial Electronics	IEEE Industrial Electronics Magazine
Communications	IEEE Communications Magazine IEEE Communications Standards Magazine
Robotics & automation	IEEE Robotics and Automation Magazine

Table 3: Target societies and example of scientific conferences.

Target society	**Example venue**
Industrial Electronics	IEEE International Conference on Factory-Communication Systems (WFCS) IEEE International Conference on Industrial Informatics IEEE Industrial Electronics Conference (IECON) IEEE International Conference on Emerging-Technologies and Factory Automation (ETFA)
Communications	IEEE International Conference on Communications (ICC) IEEE Global Communications Conference IEEE International Symposium on Personal, Indoor-and Mobile Radio Communications (PIMRC) IEEE Wireless Communications and Networking-Conference (WCNC) International Symposium on Wireless-Communication Systems (ISWCS)
Robotics & automation	IEEE/RSJ International Conference on Intelligent-Robots and Systems (IROS) IEEE International Conference on Robotics-and Automation (ICRA)
Vehicular Technology	IEEE Vehicular Technology Conference (VTC)
Mixed societies	European Conference on Networks and-Communications (EuCNC) International Conference on Embedded Wireless Systems-and Networks (EWSN)

4.2 Industry Publications

One of the aims of the dissemination activities is to also target industry forums, exhibitions and trade fairs. Possible groups and media are:

- 5G-ACIA (5G Alliance for Connected Industries and Automation)
- ÖVE (Österreichischer Verband für Elektrotechnik)
- FEEI (Fachverband der Elektro- und Elektronikindustrie)
- 5G for Industry

We will need to produce a description of the scenario which we can then enhance with content for the specific target groups. A few pages with a general description of the project may help to answer general media interests.

Potential industry forums, exhibitions and trade fairs where we aim to present the 5GEARING project are outlined in Table 4.

Table 4: Target industry forums, exhibitions and trade fairs.

Target society	**Example venue**
Industrial	Connected Mobile Machines & Mobility (CMM) Europe's leading 5G ecosystem forum - 5Gtechritory (www.5gtechritory.com) ÖVE (Österreichischer Verband für Elektrotechnik) events Hannover Messe (https://www.hannovermesse.de/) PMRexpo traid fair (www.pmrexpo.de)

4.3 White Papers

Some topics for possible White Papers have been identified:

- Spectrum (Campus Licenses)
- Options for building 5G campus systems in Austria
- Higher level paper for the general public to understand the topic and its challenges

4.4 Video

Once results are available from the 5GEARING project we may produce a video to highlight project show-cases and major findings.

5 Exploitation

5GEARING project targets 5G technology transfer to the Austrian manufacturing industry. Several aspects including spectrum usage, network deployment, refined network configuration, and methods to satisfy industrial application requirements are considered. These aspects target to accelerate the process of digitization and automation in the manufacturing industry. Results of 5GEARING will allow participants to explore new market areas and enable the definition of a roadmap for future products and solutions.

Table 5: 5GEARING key exploitable results.

Key exploitable results	**Description of the results**	**Partners**
Characterization of industrial use-cases integrating 5G technology	Defintion of industrial use-cases, service requirements and description of target KPIs	All partners
5G system feasibility study	A study of 5G CORE and RAN system parameters addressing the potentials and possibilities of a portable 5G system for industrial applications.	SAL, Cancom
New feature to support localization/positioning in industrial environments with 5G	Development of an industrial application involving technologies that support localization and navigation, real-time communication and robot control in a factory environment.	SAL, Cancom
Set of enhancements ensuring 5G network deployment	Enhancements that will ensure commissioning of the 5G system and its integration with an industrial use case including reduction of network deployment complexity.	Cancom, SAL, Liwest
AI/ML based models	Enhancing precision capabilities of localization with 5G powered by AI algorithms.	SAL, Cancom
5G network deployment validation for industrial use cases	Validation and testing of the integrated network and analysing system performance and fine tune network parameters for further improvements	SAL, Cancom, Arico Technologies

5.1 Standardisation

One potential exploitation of the project is to feed the findings back into standardisation. Once the findings which have the potential for standardisation are identified, we can decide about the best standardization body to bring this in. Our inputs to standardisation have to fill gaps in the standards. These have to be identified as well.

5.2 Regulation

Another group of target bodies is the regulators. The 5GEARING project may reveal certain gaps in local or global regulations which we can identify and make the regulators aware of it.

This may include activities for assigning local spectrum licenses for industrial sites (campus licenses) or regulations for safety (e.g. the German Berufsgenossenschaft, which produces standards for safety).

5.3 Individual Exploitation Plans

In addition to the overall exploitation strategy, individual partners have specific exploitation plans that are summarized below. Any exploitation plan(s) will be reviewed and updated during the entire life cycle of the project, so it will accord with the project findings and overall exploitation strategy. The final version of the exploitation plan(s), which will detail all future exploitation activities at the consortium level, will be contained in the final impact and dissemination report (D6.3).

5.3.1 Silicon Austria Labs

SAL will exploit the research work carried out under the 5GEARING project to attract industry and academic partners and to create awareness on activities performed to maximize the impact and collaboration in research activities. SAL will also disseminate project results via its networks and platforms on European and International levels such as 5G-ACIA, and international standardization bodies like National Institute for Standards and Technology (NIST, USA). Moreover, the project results will be exploited on a European and international level in the form of peer-reviewed journal and conference publications.

5.3.2 Arico Technologies

Arico Technologies will exploit the results of the 5GEARING project to expand its consultancy and training services also in the industrial community. Experiences

from the project will be used to include more details on industrial use cases and campus systems into the training courses. Results will also be used to expand the customer base for consultancy services to industrial users.

5.3.3 MAGNA International

The major exploitation path forward topics for MAGNA International are listed hereunder:

- The results are taken as a basis for further research and development projects in the area of Industry 4.0, respectively Factory of the Future.
- In the mid-term perspective this project will support our transformation / digitization in the area of manufacturing in automotive industry.
- This program enables us to establish new collaborations from a technology perspective with new partners.
- New projects for other applications,
- and publications (journals, conferences and trade fairs).

5.3.4 Cancom

Cancom will exploit the research work to attract customers and partners from the industrial segment. The project shall be used to get in contact with partners in the area of Private 5G networks and industrial applications. One expected result of the project is to find a blueprint for the deployment of a Private 5G network which shall serve as basis for customer projects in industrial environments.

5.3.5 Liwest

Liwest will exploit the results of the 5GEARING project to better understand indoor coverage challenges (with 3,5GHz). Experience which 5G sensors are currently available with what accuracy (e.g. positioning sensor). The results will also be used to illustrate the advantage of 5G campus solutions over WiFi6 solutions.

6 Conclusion

The 5GEARING consortium puts considerable efforts into planning, setting up, executing, supporting and reporting dissemination and exploitation of project results. The coherent plan for dissemination, exploitation and communication aims to address a full range of stakeholders and utilizes research, commercial, investment, social, environmental, policy making, setting standard, skills and educational training.

In this document, an initial roadmap was given for activities planned in WP6 (Dissemination and Exploitation).