Miniaturised Photonics Enabled Next Generation SAR

H2020-SPACE-2018-821943

D9.1

Dissemination and Communication Plan including Website

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ABSTRACT

The dissemination and communication plan as well as activities carried out until now, such as the website, social networks or attendance to conferences and workshops, is described in this deliverable.

TABLE OF CONTENTS

1. Introduction

The main goal of RETINA Project is the development of an advanced reconfigurable multi-beam photonic beamformer with centralised processing. In particular, a very innovative SAR approach based on photonic technologies whose main impact is to increase the EU competitiveness in payloads for advanced SAR missions by bringing to TRL5-6 previous developments in photonic enabled payloads for SAR applications, starting from the previous FP7 project GAIA, solving the limitations found in terms in power consumption and switching speed and incorporating new features such as centralised signal processing and a truly broadband frequency operation approach thanks to the multi-beam TTD reconfigurable beamforming architecture.

The exploitation and dissemination of the project results will be carried out within WP9, as described on DOW. One of the main goals of WP9 is to implement an efficient strategy to **disseminate the project results and communicate the project impacts and success stories** towards scientific communities, the industry (in particular SMEs) and to EU citizens. Therefore, a Dissemination and Communication Plan has been defined and will be executed during the project.

2. Dissemination and Communication plan

The dissemination and communication of the project results is an important objective to ensure that the innovations of the project will be properly transferred, and their benefits exploited industrially and academically by partners upon the project completion. In order to achieve this goal, the dissemination and communication objectives and procedures have been established.

2.1 Dissemination and communication objectives

The aim of dissemination and communication is to create the critical mass of interest necessary for the exploitation or use of the results of the project. Therefore, the dissemination and communication activity has the following objectives:

- To share the technical results of the project with the scientific community interested to the topics addressed by RETINA project, in order to promote the research and receive useful inputs from other scientists and International Communities.
- To improve the knowledge of RETINA results in the industrial community as a basis to create new opportunities for building quality products and services.
- To attract potential customers and generate expectation towards the project results, in order to prepare its exploitation.
- To identify additional potential application fields, customers and business opportunities based on the reactions to the dissemination activity.

2.2 Dissemination procedure

Depending on the nature of the information that must be disseminated outside the consortium, specific control and validation have been established. The main body in charge of validation procedures is the Project Steering Committee. The management of intellectual property and dissemination of knowledge has been established based on the “Consortium Agreement”.

Once the intellectual property protection has been evaluated, the publications of project results obtained will be carried out by the partners. The scientific and technical content of the publication has been under the responsibility of the authors and will not be assessed by the Steering Committee.

The following validation procedure, shown in Figure 1, has been defined:

- At least 45 days before deadline, the author sends a draft of publication to the Steering Committee.
- Within 30 days, the Steering Committee will:
  - Check if the information can be protected. If yes, the publication can be rejected. The invention will then be protected prior to any publication.
  - Decide (in cooperation with the WP leader concerned and the authors) if the publication must be accepted, corrected, delayed or rejected based on the following criteria:
    - IP issues
    - Co-authoring
  - Acknowledgment: the following sentence must be included in every publication "***This work was supported by EU-funded H2020 project RETINA under grant agreement n° 821943***".
  - Conflict with other dissemination activities.

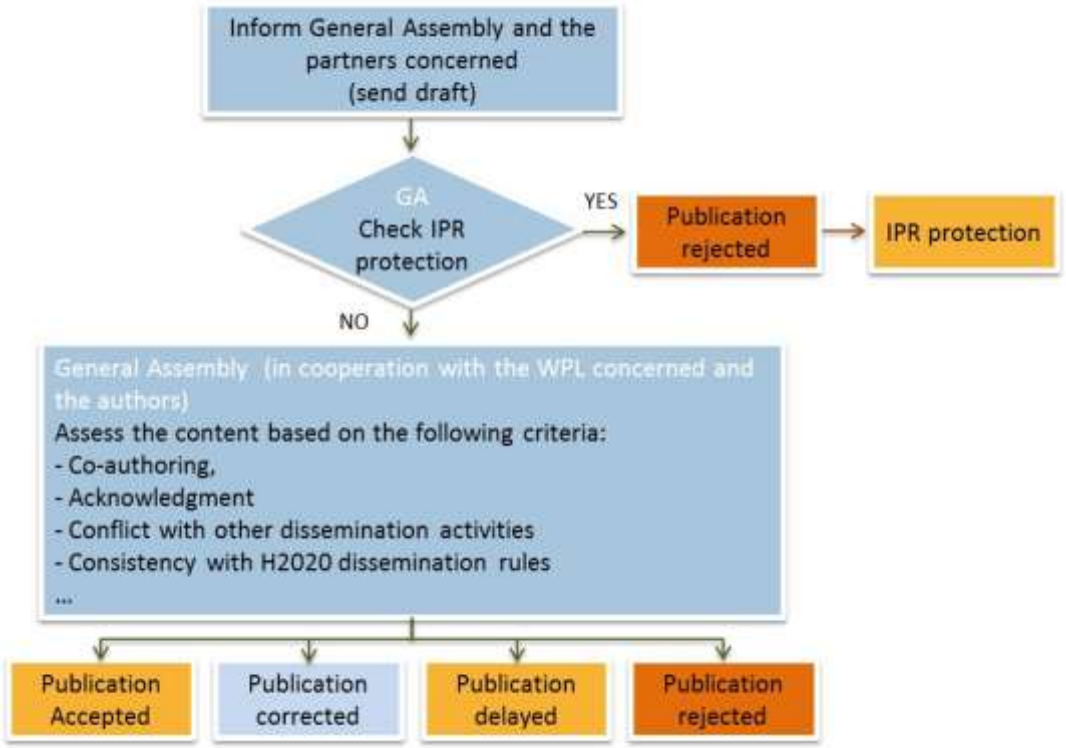

Figure 1. Publications procedure

On the other hand, general dissemination activities that are made on behalf of the whole consortium (eg. Press release, overall presentation of the project, public website) will also be validated by the Steering Committee.

The dissemination actions will be reported in each Interim and Review Report. The final Report will also include dissemination plans after the end of the Project.

3. Description of Dissemination and Communication Activities

As previously commented, the aim of dissemination and communication is to create the critical mass of interest necessary for the exploitation or use of the results of the project. Therefore, the scientific and technological research results obtained within RETINA will be mainly disseminated to the target audience in several ways:

- Preparation of general project "branded" communication material.
- Maintaining a project internet website and several social networks.
- Presentation of results to the scientific community and industrial community.
- Press releases about objectives and achievements within RETINA.

Initially, dissemination activities will be focused on the introduction at a high level of the project objectives and developed technologies. In this context, a website has been created and dissemination through several social networks channels have been established. Once the technology is developed, the dissemination will be focused on leading technical conferences and publications in the field.

3.1 Preparation of general project "branded" communication material

The logo of the project has been consolidated and is shown in Figure 2. The logo has been distributed among the partners. Templates have also been created for presentation and deliverables, which are also shown in Figure 2. All this material and any other additional material created will be available to any partner through the private intranet of the project.

Figure 2. Logo of the project and templates for presentations and deliverables.

3.2 Public website and social networks

A public website (www.retinah2020.eu) has been created to allow international dissemination and communication of the project goals as well the results and success stories that will arise during the project execution A responsive web design (RWD) or adaptive web design has been carried out to adapt the appearance of web pages to the device that is being used to visit them. Today web pages are seen in a multitude of devices such as tablets, smartphones, e-books, laptops, PCs, and so on. In addition, even within each type, each device has its specific characteristics: screen size, resolution, CPU power, operating system or memory capacity among others. This technology claims that with a single web design, everything looks properly on any device. A site designed with RWD adapts the layout to the viewing environment by using fluid, proportion-based grids, flexible images, and CSS3 media queries. The main advantages are

1. Avoid duplication of content.
2. Reduction of web maintenance costs.
3. Load the site faster.
4. Improve visibility in search engines.

A screenshot of the RETINA website is shown in Figure 3. The following sections have been defined:

- General description about de project.
- Fact sheet of project contract details.
- Consortium description.
- Technology: technical goals, project concept and highlights.
- Dissemination: public deliverables, publications and news.
- Contact and link to social networks.

Figure 3. Screenshot of RETINA website.

The highlights and dissemination parts will be completed during the project to ensure a dynamic environment. Furthermore, a private site has also been created to share documentation between partners.

The following communication channels have also been established to reach the widest audience possible and maximize the awareness of the project impacts:

- **Research Gate group (**https://www.researchgate.net/project/H2020-RETINA) targeting the technical and scientific community.
- **Linkedin group** (https://www.linkedin.com/groups/8770162/) to mainly reach industrial stakeholders.
- **Twitter account** (https://twitter.com/Retinah2020) for addressing the general public.

Figure 4 shows screenshots of the links to social networks and private web area in RETINA website and the access to the private area. Google Analytics will be used to obtain web statistics and so assessing the website visibility and impact.

Figure 4. Screenshots of the links to social networks and private web area in RETINA website (left) and the access to private web area (right).

3.3 Website statistics

The website has also a plugging to measure statistics and analyse the effective of its implementation. The web statistics till now (February 2020) is summarized in Figure 5. The number of visits in the last year has been 2.623. On the other hand, the plot in Figure 5 shows the number of hits in the last 20 days, where it can be seen that the website is regularly visited. On the other hand, in a Google search, the project website also appears in the first position, as also shown in Figure 5.

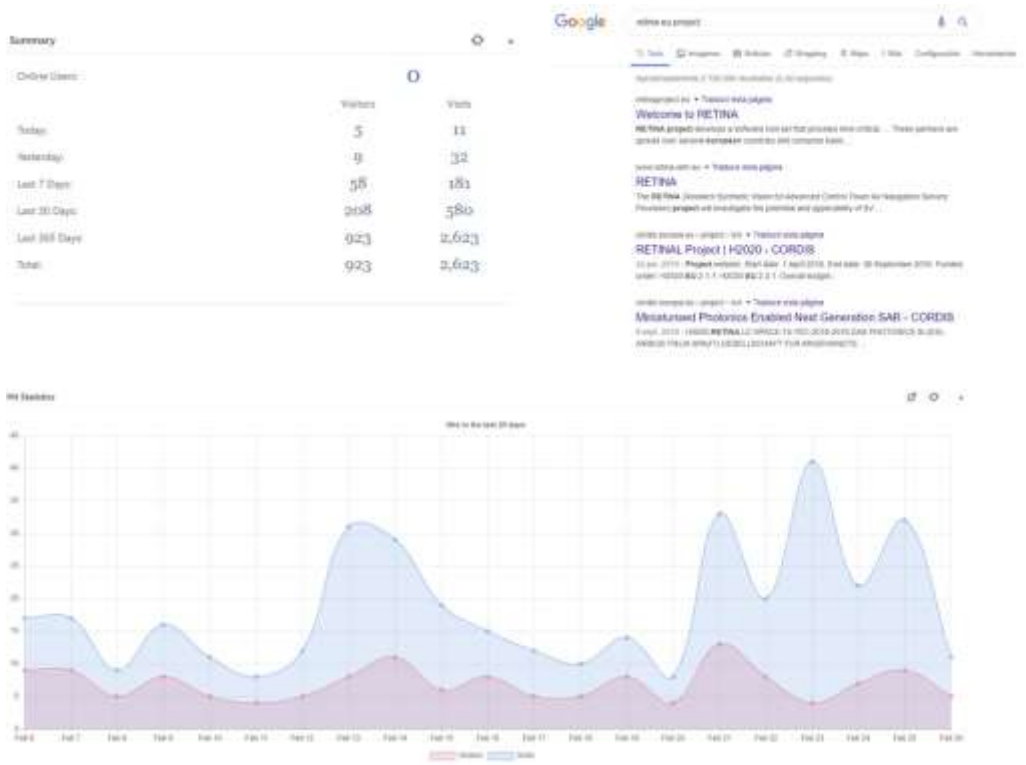

Figure 5. Web statistics and plot showing the number of hits in the last 20 days. In the upper right, browser image snapshot when we search for "retina eu project" on Google.

3.4 Publication and participation in main conferences, workshops and exhibitions.

Publication in scientific and commercial journals, participation in main conferences and exhibitions related to the involved sectors will be targeted during the lifetime of the project. Open Access for publications will be granted using relevant repositories, such as those listed in OpenAIRE, when there is no conflict with the IPR protection and following the dissemination procedure defined in section 2.2. RETINA target is to make at least 2 publications per year.

The following conferences and exhibitions have been identified:

Conference	Link	Date	Place
SATELLITE 2019	https://2019.satshow.com/	May 6-9 2019	Washington, USA
ARTES ScyLight Workshop	https://artes.esa.int/scylight	5-6 June 2019	Bucharest, Romania
Transducers / EUROSENSORS XXXIII	https://transducers-eurosensors2019.org/	June 23 – 27 2019	Berlin, Germany
Space Engineering and Technology Final Presentation Days	https://www.esa.int/Our_Activities/Space_Engineering_Technology/Shaping_the_Future/Space_Engineering_and_Technology_Final_Presentation_Days_SET-FPDs	02-04 July 2019	ESA-ESTEC, The Netherlands
46th International Conference on Micro & Nano Engineering (MNE)	https://kuleuvencongres.be/mne2020	Sept. 14 – 18 2020	Leuven, Belgium

Graphene Week	https://graphene-flagship.eu/grapheneweek/GrapheneWeek2019	Sept. 23 – 27 2019	Helsinki, Finland
25th Ka and Broadband Communications Conference	http://www.kaconf.org/	30 Sept. – 2 Oct. 2019	Sorrento, Italy
International Topical Meeting on Microwave Photonics (MWP)	http://www.site.uottawa.ca/~jpyao/MWP2019/	October 7 - 10 2019	Ottawa, Canada
Workshop on Innovative Technologies for Space Optics	https://atpi.eventsair.com/QuickEventWebsitePortal/workshop-on-innovative-technologies-for-space-optics-2019/witso	4 - 8 Nov. 2019	ESA-ESTEC, The Netherlands
European Conference on Synthetic Aperture Radar (EUSAR)	https://www.eusar.de/de	June 15 -18 2020	Leipzig, Germany
European conference on integrated optics (ECIO)	https://www.ecio-conference.org/	June 2020	Paris, France
The 45th European Conference on Optical Communication	https://www.ecocexhibition.com/about-ecoc/future-dates/	Sept. 2020	Brussels, Belgium
NIL industrial day	http://www.nil-industrialday.org/	2020	TBA
International Topical Meeting on Microwave Photonics (MWP)	TBA	2020	TBA
Conference on Lasers and Electro-Optics (CLEO) Europe	TBA	2021	TBA

Table 1. List of potential conferences and exhibitions.

The Consortium will also show the results of the project in the main international fairs and others related to RETINA activities, gathering feedback from the potential technology adopters. In particular, the Consortium will get in contact with SATCOM stakeholders, such are Airbus, to investigate the use of the results for the development of true-time delay multi-beam active antennas for HTS systems in the Telecom domain. On the other hand, the Consortium will also seek to participate in workshops in seminars related to the Project scope (EC, ESA, Photonics 21, etc), communicating the project achievements to the main stakeholders and gathering their feedback.

The following actions have been planned:

- SPENG as part of Airbus will present project results to the ENS Airbus divisions in order to promote the equipment for future missions. SPENG will show the results of the project at selected internal Airbus workshops on Photonic Payloads presenting the developed solution for new generation payloads to allow system architects to fully exploit the solution for enhanced onboard flexibility. The Consortium will also gather feedbacks on upgrades or new developments that will be suitable for future architectures.
- DAS Photonics is discussing future opportunities of RETINA related technologies with its clients in order to assess potential introduction in its product portfolio. Miniaturization is a key requirement for future generation of SATCOM and mega-constellation and the advances of PIC brought by RETINA has direct implication in DAS products continuous evolution.

- AMO plans a presentation of the new capabilities of their photonic foundry in the ZIM network "Miniaturisierte Single Use Sensorik & Messtechnik für die schnelle qualitative u. quantitative Vor-Ort-Analytik" (miniaturized single use sensors & measurement equipment for fast qualitative and quantitative on-site analysis) funded by the German BMWi (ministry for economy and energy).
- AMO and UPV are members of ePIXfab and will disseminate updates on their photonic foundry services enabled by RETINA technology via the ePIXfab newsletter and summer schools.
- DAS, AMO and UPV are members of relevant forums, such as Photonics 21, EPIC or TEDAE, and will disseminate RETINA results in corresponding workshops, if applicable, either in the form of oral communication, participation in round tables, posters or short announcements. One such planned event for AMO is the "EPIC meeting on Wafer Scale Optics at SUSS MicroOptics" in Neuchatel on November 7 – 8 2019. On the other hand, DAS included a short announcement, which is depicted in Figure 6, in the magazine Proespacio #41, pp. 24, released in January 2019.


DAS Photonics in new H2020 Projects

DAS participates in two H2020 Space Projects starting 1/11/2018. RETINA "Miniaturised Photonics Enabled Next Generation SAR", coordinated by DAS, will demonstrate a new photonic SAR instrument concept leveraging the outcomes of FP7 Project GAIA. The second project, SODaH "Software Defined Space Optical Data Highway", coordinated by SODERN (FR), aims to develop a novel photonic payload for optically interconnected satellite constellations.

In both projects, DAS Photonics is focused on the development and miniaturization of photonic equipment based on proprietary technology.

Figure 6. DAS short announcement in the magazine Proespacio #41 [1].

Finally, the following actions have also been carried out are:

- RETINA project goals have been presented at the 4th ESA Workshop on Advanced Flexible Telecom Payloads by DAS Photonics. The workshop took place 4 – 6 March 2019 at ESA-ESTEC in Noordwijk, The Netherlands.

- RETINA project goals have also been presented at the Workshop of Optical and Photonic Technologies for Space Applications by UPVLC. The workshop, organized by a SECPho cluster (http://www.secpho.org), took place 7 May 2019 at Madrid, Spain.

[1] http://pdfonline.tedae.org/proespacio_41_es/mobile/index.html