Project**: SEAWave**

Plan for dissemination and exploitation with communication activities, DEMP (and updates)

Work Package:	WP11
Deliverable:	D11.3
Deliverable No.:	D41

Abstract

Deliverable 11.3 is related to the plan of the actions for the dissemination and future exploitation of the SEAWave results. It is a shared strategy of making the SEAWave outcomes easily adopted by the research community, the public authorities and the public.

The SEAWave project dissemination plan includes multiple initiatives targeting the specialized scientific audience along with the broader community. The scheduled activities include the communication of scientific results in technical conferences and journals, the organization of multi-disciplinary seminars and researcher training workshops, press releases, and extensive utilization of social media.

The key objective of the SEAWave exploitation plan is to describe the advance planning beyond the project's end. A structured approach to the exploitation of short and mid-term results of the project results by the SEAWave partners will be provided describing some of the possible exploitation options and strategies.

A great number of activities have been completed until this stage of the project and this report briefly summarizes their progress. Future activities that will take place starting from year 2 are illustrated in the following sections of the plan.

Project Details

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Scientific coordinator	Prof. T. Samaras, Aristotle University of Thessaloniki (AUTH)

Deliverable Details

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Contents

1 Introduction

According to Work Package 11, the Dissemination Manager has to work closely with the Project Management Committee to deliver a Dissemination and Exploitation Management Plan (DEMP). The dissemination and exploitation activities touch the core of SEAWave. Throughout the lifetime of the project a great number of open science actions are expected to take place. In this report, the dissemination and exploitation actions which have been already performed and the ones which are anticipated to materialize, are presented. The DEMP is a "living document", i.e., it will be updated regularly following the developments within the project and the obtained research results.

2 Plan for dissemination of results

Initially, the plan for the results dissemination is described.

2.1 Conferences and technical workshops

SEAWave began with a kick-off meeting which was organized in Thessaloniki, Greece July 12th, 2022. This meeting addressed several organizational issues of the project. On the same day, the consortium hosted an Open Research Co-Design Workshop. Fifty people attended the workshop either physically or online, from various countries. During the workshop the SEAWave R&I activities were explained, including data collection/generation methods and protocols for the biological experiments. A preliminary literature review on radiofrequency fields and skin cancer (which is the main endpoint examined in SEAWave) was also presented. Meeting participants were able to interact directly with the consortium partners and provided their feedback on the proposed research. Of particular interest to the audience was the use of Artificial Intelligence algorithms for exposure assessment and the health endpoint (skin cancer) selected. The workshop was publicized through the news channels of the coordinator (AUTH) and the SEAWave partners. This workshop's objectives, agenda, summary and presentations are described in D42, which was granted public access via the project's website and social media channels.

The SEAWave project was also cited in the presentations of Theodoros Samaras and Athanasios Manassas delivered at the 1st Panhellenic Congress of Medical Physics, held on September 23rd - 25th, 2022 in Athens. Prof. Samaras gave an invited talk about the myths surrounding 5G with respect to health effects, during which he mentioned the knowledge gaps that SEAWave is expected to close. Mr. Manassas presented initial results on long-term evolution of the electromagnetic environment in Greece, research work which pertains to WP1 of SEAWave and will be submitted for publication to a peer-reviewed journal.

2.2 Publication strategy

Within the first three months of the project launch, a website was designed and made operational, according to the Grant Agreement. Apart from the public access to the project description and the background of participants, there is also an exclusive webpage dedicated to the dissemination of the results either by allowing access to the public deliverables of the project or/and by showing the publications of the consortium partners, related to SEAWave. The website is continuously updated based on partners' feedback and, therefore, supports a Twitter and Facebook news feed.

The PMO has already issued a press release in coordination and collaboration with EU services after the successful launch of the project to inform the public about the aims and objectives and other important aspects of SEAWave. This first press release has been translated into the official languages of all participating partners.

Partners are encouraged to publish and disseminate their own results according to the procedure defined and agreed in the Consortium Agreement. Since some publishers (e.g., IEEE) support a Green route to Open Access of journals, special issues and conference proceedings, a post-print version of the publications will be deposited on Zenodo (which is a multidisciplinary repository, https://zenodo.org), usually as the author's final draft, accepted author manuscript (AAM) or the author's final peer-reviewed manuscript. In the case of a journal without a Green route, the Gold route will be taken, with the expenses to be charged to the project; in such a case it is not necessary to upload any copy of the article on Zenodo, since a link to the article is included in the publications page (https://seawave-project.eu/seawave-dissemination/seawave-publications/) of the website.

Until now one peer-reviewed paper has been published:

Iakovidis, S.; Apostolidis, C.; Manassas, A.; Samaras, T. Electromagnetic Fields Exposure Assessment in Europe Utilizing Publicly Available Data. Sensors 2022, 22, 8481. https://doi.org/10.3390/s22218481

2.3 Social media

To maximize public awareness and interaction, a SEAWave Twitter account (@seawave5g2022) and a Facebook page (https://www.facebook.com/profile.php?id=100083582040120) have already been created and are updated regularly. A ResearchGate project page (https://www.researchgate.net/project/SEAWave) has also been set up for the scientific community to follow. Open access publications are already shared, following the terms and conditions applicable to each publication. Finally, a LinkedIn company page has been created (https://www.linkedin.com/company/seawave-project/). It should be mentioned that the impact of the project's social media accounts is amplified by mutual resharing of posts on the social media accounts of the consortium partners.

For example, IT'IS, SPEAG and IARC have achieved wide dissemination on the project activities through the presence of SEAWave news in their own dissemination channels:

- News item: https://itis.swiss/news-events/news/other-news/2022/seawave-kick-off-meeting/
- Z43 news quarter (released on Oct 4, 2022): https://itis.swiss/assets/Downloads/Newsquarters/2210_newsletter_z43_no21.pdf
- News item: https://itis.swiss/news-events/news/other-news/2023/second-seawave-consortium-meeting/
- LinkedIn post: https://www.linkedin.com/feed/update/urn:li:activity:7025790457515233280
- LinkedIn post: https://www.linkedin.com/feed/update/urn:li:activity:7026865122060984320
- LinkedIn post: https://www.linkedin.com/feed/update/urn:li:activity:7026866450187329536
- LinkedIn post: https://www.linkedin.com/feed/update/urn:li:activity:7026866450187329536
- News item: https://www.iarc.who.int/news-events/iarc-to-coordinate-production-of-a-risk-assessment-on-5g-exposures-as-part-of-the-eu-funded-seawave-project/
- Tweet: https://mobile.twitter.com/IARCWHO/status/1547859178458214401

To reach the widest possible audience, selected videos have already started to be uploaded to a dedicated YouTube channel (https://www.youtube.com/@seawave3081) during the lifetime of the project. Links to these videos are also available on the website and the other social media accounts.

A short video about the project (social needs, context, objectives, results) aimed at the general public is under development and will cover the following topics: (i) social needs/context for the project; (ii) technological approach to assess exposure to the electromagnetic radiation of existing and emerging telecommunication networks; (iii) biological experiments to determine the impact of radiofrequency and millimetre wave radiation on skin cancer development/promotion; (iv) evidence-based risk assessment for skin cancer; (v) risk communication tools for public authorities and citizens.

2.4 Public Authorities and Citizen Involvement

SEAWave results will be presented to national, regional, and local authorities in Europe, whenever requested by the EC services or national public authorities. The WHO and WHO/EURO are informed through IARC, which is a consortium partner. The effects of communicating precaution in different and novel ways will be assessed in WP10 and disseminated to health

agencies which are communicating precaution. Moreover, EEAE (Greek Atomic Energy Commission) will develop an interactive website mainly targeted towards public health authorities and will organise an online workshop for health authorities in the EU to inform about the results of WP10 and work on within-country dissemination strategies. The development of the serious game for risk communication within WP10 will be supported by a citizen advisory board (CAB). This board will participate in a co-creation workshop at the beginning of the development process and bring in a citizen perspective throughout the whole process.

2.5 Standardisation bodies

AUTH, IMEC, TP-IPP, BfS, ANFR, SPEAG, and IT'IS are all active members of the joint working groups of IEC/IEEE (JWG-IEC/IEEE), which are developing standards. SEAWave results will be directly fed to the technical subcommittees preparing these documents, so that CENELEC will be able to harmonise to the Radio Equipment Directive (RED) the standards for 5G infrastructure and devices. Specific tasks for creating early input to the corresponding standardisation working group and to the active regulators FCC and ISED have been added to WP1 and WP4 to guarantee early input and worldwide adoption of the developed technologies in the framework of standardisation. The standardised measurement procedures and materials resulting from WP3 and WP4 will be disseminated to the IEC and IEEE international standardisation bodies. Until now, some important results of WP4 have been presented (concerning the compliance evaluation of mobile devices) and are under consideration within the respective technical committees of the above bodies.

3 Plan for exploitation of results

3.1 Project outcomes and exploitation strategy

At the end of SEAWave, the following novel and robust methodologies including models, will be available to regulators, industry, and the scientific community for assessing exposure and health effects:

WP1 will create one model (based on Artificial Intelligence, AI) to predict exposure to environmental EMF from different cellular networks and one new device to predict user exposure. The datasets and algorithms will be made available to public authorities and other interested parties (citizens' groups) to evaluate 'living' maps of exposure. However, no commercial exploitation of either (AI model or the DEVIN device) is planned, as both will continue to be used mainly for research purposes.

WP2 will result in a validated model for calculating the exposure of workers in Industry 4.0 environments. The model will be available as a free-to-use online tool at the website of the project (near the end of the project) for both workers and employers, therefore no commercial exploitation is foreseen for it either.

WP10 will introduce a serious game to public authorities and the scientific community as a novel, interactive, risk communication tool. WP10 will also provide public authorities with new tools to engage citizens and inform them on EMF exposure and health effects. Neither the game not the communication tools will be exploited commercially.

3.2 Actors for exploitation

Main actors for exploiting SEAWave results are individual partners which can operate individually or in joint ventures. Exploitation options cannot renounce to involve partners outside the SEAWave consortium. Currently no SEAWave outcomes are foreseen to be exploited commercially outside the consortium.

4 Conclusion

The first phase of the Dissemination and Exploitation Management Plan (DEMP) is fulfilled with the construction of the project website and the social media accounts. All dissemination media are going to be updated on a regular basis, communicating the project activities. For the second phase, which will begin upon assessing and processing the data from the various WPs, the publication of the projects' results will take place. The final step of this DEMP will be the setting of the various models and tools to be freely exploited by the public.