



s-Nebula : Novel Spin-Based Building Blocks for Advanced TeraHertz Applications

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Beneficiaries list

No	Name	Short name	Country
1	THALES SA	THALES	France
2	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS	CNRS	France
3	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Fraunhofer	Germany
4	JOHANNES GUTENBERG-UNIVERSITAT MAINZ	JGU	Germany
5	FREIE UNIVERSITAET BERLIN	FUB	Germany
6	VYSOKA SKOLA BANSKA - TECHNICKA UNIVERZITA OSTRAVA	VSB	Czech Republic
7	UPPSALA UNIVERSITET	UU	Sweden

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1. Scope

The s-Nebula Project website has been developed to promote the effective dissemination of results and findings within the project. The website has been structured in a way that is informative, easy to navigate through and can target all different types of stakeholders.

The website, and this related document, should be regarded as continuously evolving versions. The website will evolve throughout the duration of the project.

s-Nebula dissemination activities will be monitored throughout the project to compare outputs against the Dissemination Strategy (which will be highlighted in Deliverables D6.2, D6.3, & D6.5) as well as identifying early potential issues and to comply with European Commission reporting requirements.

The Website development has been prepared by Olivier d'Allivy Kelly & Romain Lebrun with the support of the Consortium Partners. Romain Lebrun will be responsible for the overall maintenance of the Project Website together with a webmaster for each partner. Any feedback on this document should be sent to the project coordinator: Romain Lebrun – romain.lebrun@thalesgroup.com.

2. Introduction

This document is aimed to provide a single point of reference that describes the associated aims and objectives with the Project Website and how they will be achieved throughout the lifetime of the project.

The Consortium recognises the importance of communication within a project and has reviewed in detail the Horizon 2020 guidelines on [‘Communicating EU research and innovation guidance for project participants’](#).

3. Project Website

3.1 Aim

The aim of the s-Nebula Project website is *‘to exchange information, disseminate project results’* towards various audiences including both researchers, stakeholders and general public.

3.2 Objectives

The Consortium intentions are to try achieve this overall goal by establishing several objectives throughout the life of the Project, including:

- Make available all Deliverable Reports that have a dissemination status as public.
- Disseminate Project Results on the Website (including: Publications, Conferences, Videos, and Press Releases).
- Regularly update the Project Website.
- Develop hyperlinks from Partners website to Project Website.

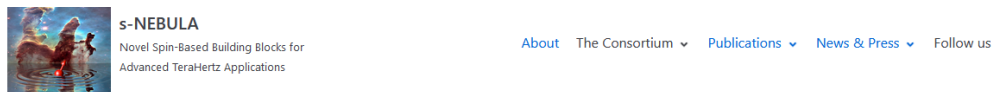


These primary objectives that have been established during the first two months of the project and will evolve during the duration of the project, and be discussed during the consortium meetings.

4. Website Development

4.1 Website Platform

Olivier d'Allivy Kelly worked on the website until December 2019. This helped the consortium to identify new ideas to have an effective website.



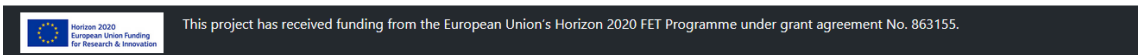
About

The **FET OPEN s-NEBULA** explores and develops a revolutionary approach to TeraHertz (THz) technology, both for generation and detection of THz radiation, initiating the new field of spin-based TeraHertz (s-THz) technology, a game changer for the future of THz field. The ambition of s-NEBULA is to provide a platform of room-temperature innovative spin-based THz building blocks, arising from novel combinations of magnetism and optics.

s-NEBULA will **provide cutting-edge solutions to solve bottleneck scientific issues in the THz field** motivated by clear needs in judiciously chosen target applications. These include variable-baseline broadband pulsed emitters and voltage-controlled compact detectors for non-destructive testing (NDT), intrinsically-modulated CW emitters for THz communication and polarization-programmable emitters for ellipsometry. More broadly, our ambition is to develop **a platform of spin-based THz building blocks** based on new physical mechanisms to be integrated in innovative systems, targeting different market applications.

We will thus aim at demonstrating **innovative schemes for THz emission** using spin-orbit interfaces targeting optically driven s-THz pulsed emitters with bandwidth > 20 THz, with enormous potential for NDT applications. For THz communication, data traffic densities of several Tbps/km² are predicted for 5G networks, but not a single THz data link beyond 2 THz s-NEBULA will develop high-power tunable CW emitters working beyond 5 THz. Besides, we will investigate a disruptive approach combining antiferromagnetic materials with direct voltage rectification effects, targeting a tunable & compact detector, key element for on-chip THz systems of tomorrow. Furthermore, **combining THz radiation with magnetism** enables an extra lever to control the emitted wave; intrinsic modulation/demodulation becomes possible, as well as polarization control for innovative schemes in ellipsometry.

All these approaches are not possible with existing THz technologies. The consortium gathers leading European expertise in significantly diverse areas (optics, magnetism, materials preparation, advanced theory, industrial integration, THz metrology) that will **enable multi-disciplinary work**.



Firstly, the 's-Nebula.eu' website is hosted by OVH, which has also secured its domain name. We chose to have an automatic early renewal. The website is currently running on WordPress. WordPress is a widely used and well supported publishing platform which will facilitate its usage by all the s-Nebula partners. The backend can be used to edit pages and menus.

4.2 Website Design

In general, the Website has been designed in an easy to navigate way that allows users to learn about the



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Project and any results, news, etc. The primary navigation of the website (see Figure in Section 4.1) will be via the menu located at the top. Links to the “About” page, the Consortium, the publications (including research articles and Public Reports), the news and press page. The “contact us” page can be found at the bottom of the page with the EU H2020 information. Each of these sections has seen its own functionalities:

- **About the Project ('About')**: This contains the abstract, aims and objectives of the project.
- **Project Partners ('Consortium')**: A list of all s-Nebula Partners and their information, including the Partner logo.
- **Publications**: A list of all the s-Nebula publications from the Consortium, Public Deliverables, and of the key contributions from the Consortium to Conferences. Publication Strategy, Press Releases and Video.
- **Project News & Events**: News, press releases, videos and any Events concerning the s-Nebula Project.
- **Follow us** : A link to the twitter account of the project.

One can also find useful information about H2020 (acknowledgment of European Union’s Horizon 2020 Research and Innovation Programme) at the bottom of the page, and a **Contact Us** link where users can contact the Project Coordinator.

5. Social Media

s-Nebula will open a twitter account @sNEBULA_2020 to disseminate its activities. It will be managed by Mathias VanWollegheem (CNRS-IEMN) together with the other members of the consortium.

6. Future development of the Project Website and Strategy

Discussions about potential modifications of the website will take place during the Consortium Meetings. It is acknowledged that successful implementation of the website aims and objectives also hinges on the combined efforts of all consortium members.

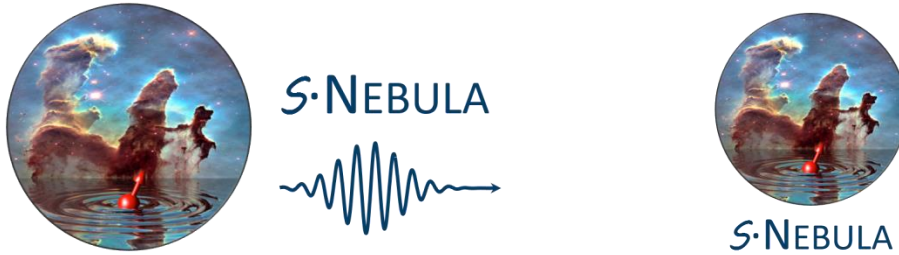
Partners are to add on the website, and to inform the project coordinator when disseminating any activities in regards to the Project, which might include:

- Deliverables and Milestones,
- Publications,
- Attendance of Conferences.



7. Logo

After discussions within the consortium, it is agreed that the logo of the s-Nebula project will have the following two declinations:



They will be used for communications during conferences and in any events organized by the consortium.

