Sunlight Production
of Chemical Fuels

SPOTLIGHT

Grant No. No.101015960

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Duration: 36 months
Project Coordinator: Meulendijks, N.M.M. - TNO

D7.1 Project Communication Toolkit

WP7 – Dissemination of project results

WP LEADER	RINA Consulting
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INTRODUCTION

The present document represents the deliverable D7.1 of the SPOTLIGHT project “Project Communication Toolkit”.

The toolkit is intended to be a set of files useful to create the project identity and to start supporting partners in the communication and dissemination activities.

In coordination with the Consortium and in particular with the partners working in the on-going activities from Task 7.1 – *Dissemination and communication activities coordination*, it has been decided that the toolkit should include:

- The project logo;
- The templates for project’s documents (deliverables, agendas, presentations);
- The initial press release;
- A communication flyer;

The toolkit will be a “living” repository of documents, in order to allow frequent updates of contents and integration with more specific means of communication (e.g. videos, teasers, posts etc.) as the project advances and results emerge.

An official review of the toolkit is planned during the mid-term review of the project and a final review at M30. However minor but more frequent updates will be done.

The documents from the toolkit will be stored in the official website as soon as it will be launched (M6) and shared among partners to start immediately the dissemination.

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THE PROJECT LOGO

In order to define a project logo, an internal survey was launched. The survey collected the preferences of partners in terms of colors to be used, keywords to remind, feelings and meanings that the logo should immediately communicate and transfer. This survey main objective was, on the one hand, to build the right briefing for the visual agency. On the other hand, to connect and involve all partners in the decision. With a view to create the most suitable visual identity for our project.

The survey was divided by the following blocks of information:

1. Short description of the project
2. What is the overall message you want to convey through the logo?
3. Cite 5 words to be suggested by the LOGO +IMAGOTYPE, in order of importance
4. Any reference logo or iconic element you would associate the project with

The most recurrent answers were:

Short description of the project

- The conversion of solar energy into chemical energy through an engineered solar reactor
- Develop & validate a photonic device & chemical process concept that uses sunlight to convert greenhouse gas carbon dioxide to methane.
- Development of an industrial-scale process for the production of artificial fuels, by capturing CO_2 from other industrial processes and combining it with hydrogen thanks to solar energy
- We develop a technology concept that will enable sunlight to be used directly as a 'fuel' for sustainable chemical processes and the production of chemical fuels. The project addresses two major challenges – to switch from fossil fuels to sunlight as a sustainable source of energy, and to reduce CO_2 emissions by using the CO_2 as a starting material.

What is the overall message you want to convey through the logo?

- Sustainability, solar energy, science, engineering, CO_2 utilization
- That the Spotlight Project is an innovative professional Project which is green and better for the environment using light.
- The artificial fuels produced by the sustainable innovative SPOTLIGHT process will contribute to CO_2 reduction

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Cite 5 words to be suggested by the LOGO +IMAGOTYPE, in order of importance

- Solar, chemistry, Green, Photonic device, CO_2 reduction

Cite 3 colors to which you would associate the project, in order of importance

- Yellow, green, red, white, orange and grey.

Any reference logo or iconic element you would associate the project with?

- The sun, chemical molecules
- Photon symbol
- Fuel and solar energy

During the initial discussion on the logo, the possibility of protecting it immediately emerged, as part of the project IP foreground. For the moment no action is foreseen, as there is no commercial use of the logo. However, when the project will be more advanced, partners will decide about the possibility of securing the logo and use it as part of the future commercial strategy.

According to the collected inputs, two alternative logos have been designed (see below in Figure 1). In order, to track partners preferences and to select the winner one, an interactive survey through the Typeform platform has been performed.

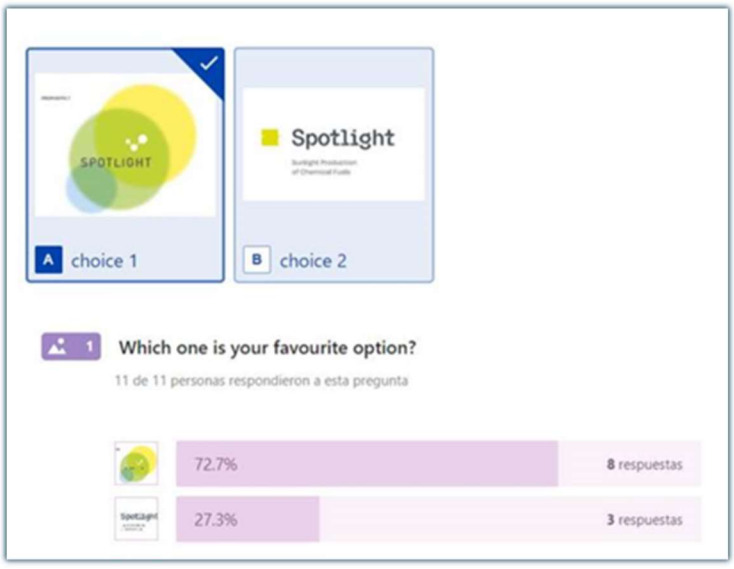

FIGURE 1 - SPOTLIGHT LOGO SURVEY RESULTS

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The logo finally selected by the Consortium is here reported:

SPOTLIGHT logo


Other versions and formats of the logo have been developed

SPOTLIGHT logo in blue background

SPOTLIGHT Light logo with motto


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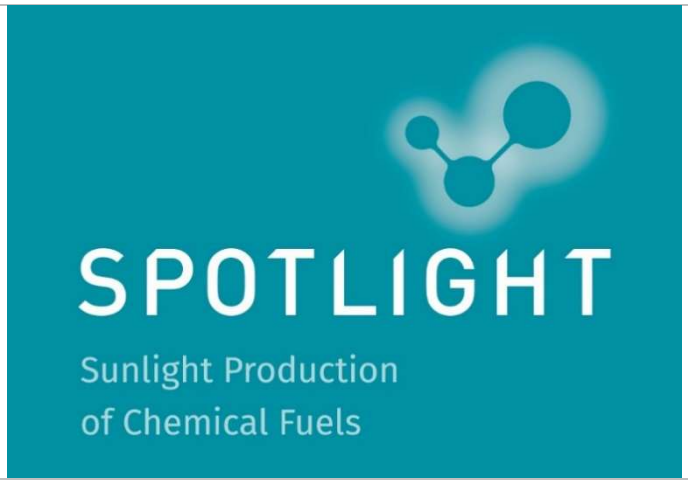
SPOTLIGHT logo in blue background with motto


FIGURE 2. DIFFERENT VERSIONS OF THE SPOTLIGHT LOGO

THE PRESS RELEASE

A press release has been prepared to start communicating the launch of the new project SPOTLIGHT. The official version is shown below. Partners will be encouraged to use this standard text and version for posts on their websites and social media.

"SPOTLIGHT solar fuels": a disruptive photonic technology to create carbon neutral fuels.

A new H2020 project that will develop innovative photonic devices for highly efficient, sunlight-fueled chemical processes started 1st January 2021. SPOTLIGHT received funding amounting to 5.604.958,75 €

The sun is a valuable source of energy. Solar energy can be converted to electricity, but it can also be stored in complex chemical molecules: feedstocks such as carbon dioxide (CO_2) and water are directly converted into clean alternative fuels by solar energy. These fuels are equivalent to fossil fuels in terms of functionality. Hence, they can easily be adopted by the current users through the existing infrastructure. The important difference is that solar fuels provide a large reduction in greenhouse gas emissions (in particular CO_2), more so than for instance biofuels.

Within SPOTLIGHT, Universities, RTOs and Companies join forces to develop a photonic device which facilitates efficient sunlight-powered conversion of CO_2 and green H_2 to the chemical fuel methane (CH_4, Sabatier process) and secondly to use carbon monoxide (CO, "reverse water gas shift process", rWGS) as starting material for production of the chemical fuel methanol (CH_3OH).

Whilst the technology for creating solar fuels is well known in the scientific community, many challenges remain to bring this to an industrial level for large scale production. Currently, these are the key technical challenges:

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- Efficiency: the larger the fraction of sunlight that can be used to create chemicals, the less materials and feedstock would be necessary;
- Durability: materials degrade because of their exposure to sunlight and this has an impact on the efficiency and cost of the process(es);
- Costs: the costs of the process should be lowered as much as possible to make them comparable with the typical costs of fossil fuels;
- Industrial synergy: one of the key conditions to make the process sustainable is the industrial synergy between the solar fuel producers and industry that can provide feedstock (e.g. as by-products).

Accordingly, the current research scenario on solar fuels mainly focuses on three macro themes: the chemical reactor, the solar optics and the catalysts.

In this context, the key objective of SPOTLIGHT is to develop and validate a photonic device and chemical process concept for the sunlight-powered conversion of the undesired greenhouse gas CO_2 and green H_2 to the chemical fuel CH_4, and to use CO as starting material for production of the chemical fuel CH_3OH. This will enable EU companies in the photonics and chemical industry to take the lead in creating a multi-billion industry involved in sunlight-powered chemical processes and enables the EU to reduce its dependence on non-EU countries and regions for its energy supply.

SPOTLIGHT will guarantee a disruptive advancement on these themes, thanks to the development of:

- A transparent flow reactor tailored for sunlight-powered Sabatier process with gaseous starting materials and products, and packed-bed solid plasmonic catalysts capable of coping with high pressures and temperatures;
- Secondary solar optics for sunlight-powered chemical processes at solar concentration factor ≤ 20 .
- Energy efficient LED light source as solution to ensure continuous operation of sunlight-powered plasmon catalytic reactions;
- LED light source with tunable medium to high light intensity (between 1 and 20 kW·m-2) with a spectrum emission matching the plasmonic catalytic fuel cell and optimized for a high electrical-to-radiation energy efficiency.
- Newly developed plasmonic nanocatalysts with tailored optical and catalytic properties and for high space-time-yield.

SPOTLIGHT's new process for solar fuel production will be preliminarily tested in TNO's facilities – the project coordinator – and then moved to DLR's facilities for extensive use and validation. More than this, a further study will be done, in order to verify the conditions for replicating the process in other environments and in synergy with different industrial contexts.

The SPOTLIGHT project consortium consists of 12 international partners; TNO (the Netherlands), coordinator role, RINA-C (Italy), Hasselt University (Belgium), IMEC (Belgium), ETHZ (Switzerland), CHEMTRIX (the Netherlands), Signify (the Netherlands). DLR (Germany), EPFL (Switzerland), FRAUNHOFER ISC (Germany), ACEA (Italy) and Aragon Hydrogen Foundation (Spain).

FIGURE 3 - SPOTLIGHT PRESS RELEASE

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THE PROJECT BROCHURE

The flyer aims to create project awareness. The purpose of our flyer is to get our prospective target to know more about the project. Our intention is to help our target audience to recognize how SPOTLIGHT RESULTS will have an impact. For this reason, we have designed the following structure according to our visual guidelines:

- Brief presentation about the objectives
- Results expected
- Who we are? Coordinator and Partners
- Photonics 21 mention

This document will be 100% alive, ready to be updated according to the different stages of the project.

PHOTONICS 21
PHOTONICS PUBLIC PRIVATE PARTNERSHIP

www.photonics21.org

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FIGURE 4. PROJECT BROCHURE

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THE FIRST SOCIAL MEDIA POST

The official project website, as well as the other social media of the project, will be available starting from M6. However, in the meanwhile a first post has been created, so that partners could have the possibility of sharing it through their already established channels.

FIGURE 5. PROJECT SOCIAL MEDIA POSTS

PHOTONICS PUBLIC PRIVATE PARTNERSHIP

www.photonics21.org

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CONCLUSIONS

The activities performed and described in the present deliverable belong to the Work Package 7, which started at M1 and will last until the end of the project.

The communication toolkit should be seen as a “living” repository of documents, that will be updated in line with project advancements. As per the original project plan, there are at least two official review/updates of the package, at mid-term and by the end of the project, to include emerging results.

At least one video will be created in the mid-term review of the communication toolkit.

The project has received funding under the Photonics Public Private Partnership (PPP) since the project is funded by one of the calls under PPP. All communication activities related to the project will acknowledge the context of the Photonics PPP. Specifically, for workshops, press releases, presentations etc., the EU emblem and Photonics21 logo is displayed prominently together with the text “Photonics Public Private Partnership”. When communicating on Twitter or other social media about project activities, #Photonics will be included together with @Photonics21 and @PhotonicsEU.

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ATTACHMENTS

This document is sent with the following pieces:

- Project logo
- Project press release
- Project brouchure

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