Sunlight Production
of Chemical Fuels

SPOTLIGHT

## Grant No. 101015960

**Start date:** 01.02.2021
**Duration:** 42 months
**Project Coordinator**: Meulendijks, N.M.M. – TNO

# D7.5 Final Dissemination and Communication report

# WP7 – Dissemination of project results

| | |
|---|---|
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| STATUS | F (D: Draft, FD: Final Draft, **F: Final**) |
| DISSEMINATION LEVEL | P (C: Confidential / **P: Public**) |

*This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101015960.*

## DOCUMENT CHANGE CONTROL

| VERSION NUMBER | DATE OF ISSUE | AUTHOR(S) | BRIEF DESCRIPTION OF CHANGES |
|---|---|---|---|
| 1 | 17/06/2024 | Marisa Martínez | First draft |
| 2 | 20/06/2024 | Marisa Martínez | Second draft |
| 3 | 26/06/2024 | Marisa Martínez | Final version for submission |

# CONTENTS

DOCUMENT CHANGE CONTROL ..... 3
CONTENTS ..... 4
LIST OF FIGURES ..... 5
LIST OF tables ..... 6
Introduction ..... 7
STRATEGY ..... 8
1.1 Methodology ..... 8
1.2 Digital communication ..... 8
Website ..... 9
social networks ..... 12
NEWSLETTER ..... 13
presentation At international conferences ..... 15
publication in scientific journals ..... 21
publication in specialized non-scientific magazines ..... 21
contact to companies and non commercial stakeholders. Lead by rina. ..... 22
final kpi´s overview ..... 23



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# LIST OF FIGURES

Figure 1 - SPOTLIGHT Communication Strategy .....
Figure 2 The Greener Manufacturing Show ..... 18
Figure 3 ACHEMA STAND ..... 20



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# LIST OF TABLES

Table 1 - Website news published ..... 11
Table 2 KPI´S TRAFFIC WEBSITE..... 12
Table 3 2021-2022 list of events ..... 15
Table 4 2023-2024 list of events ..... 16
Table 5 Final Kpi´s Overview ..... 23



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# INTRODUCTION

The following document represents D7.5 – Final Dissemination and Communication Report

The aim of this report is to:

- Give an overview of the communication and dissemination (C&D) strategy followed during the whole project.
- Share the final figures regarding the KPIs established to keep track of the effectiveness of the communication and dissemination strategy.
- Present the activities performed along the whole project.



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# STRATEGY

## 1.1 Methodology

Throughout the entire project lifecycle, SPOTLIGHT has focused on communication and information dissemination to engage both the general public and stakeholders. By creating valuable content, the project has aimed not only to attract the attention of key audiences, but also to sustain their interest over time. This approach is crucial to build relationships and ensure continuous support and involvement in project activities.

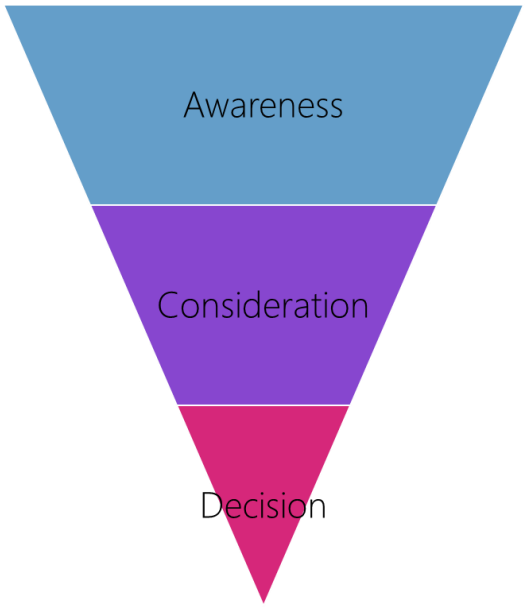


**Figure 1 - SPOTLIGHT Communication Strategy**

SPOTLIGHT communication strategy has been divided into 3 phases:

1. **Awareness (M1-M12):** SPOTLIGHT project aimed to attract potential stakeholders primarily
2. **Consideration (M12-M24)**: the objective was to produce **valuable dissemination contents** that can be interesting for the SPOTLIGHT community (scientific/technical magazines and oral/poster presentations at conferences, seminars, workshops, etc.).
3. **Decision (M24-M42):** the objective was to retain stakeholders through valuable contents, such as a **digital project publication** with all collected results and organization of final event

## 1.2 Digital communication

From the beginning of the project, we saw the possibilities of key digital channels to reach our community at minimal cost. Our goal has been to expand the network of our Spotlight audience and establish effective communication with them through different channels. This includes marketing materials, websites, digital news and social media.

360-degree communication in the marketplace increases the chances of reaching our audience effectively. It also allows us to keep up with the latest trends and technologies in communication, ensuring a high-quality user experience.

For Spotlight project, we strive to maintain a strong presence on social media, as we understand its importance in today's digital world. Therefore, we make sure to maintain an active and constant presence on our platforms, providing relevant content and developing a close relationship with our community.



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Our objective is to uphold formal and efficient communication with our community. Through our various communication platforms, we are dedicated to delivering precise and current information regarding our products and services, while also attentively considering your feedback and suggestions for ongoing enhancement.


FIGURE 2 – 360º COMMUNICATION STRATEGY

## WEBSITE

Our website https://spotlight-project.eu/ was launched at the beginning of 2021. Aragon Hydrogen Foundation led the creation of the website, as well as its design and architecture. Thanks to the collaboration of all the partners and their visual contribution, the website has a very innovative and surprising aesthetic that represents the project very well.



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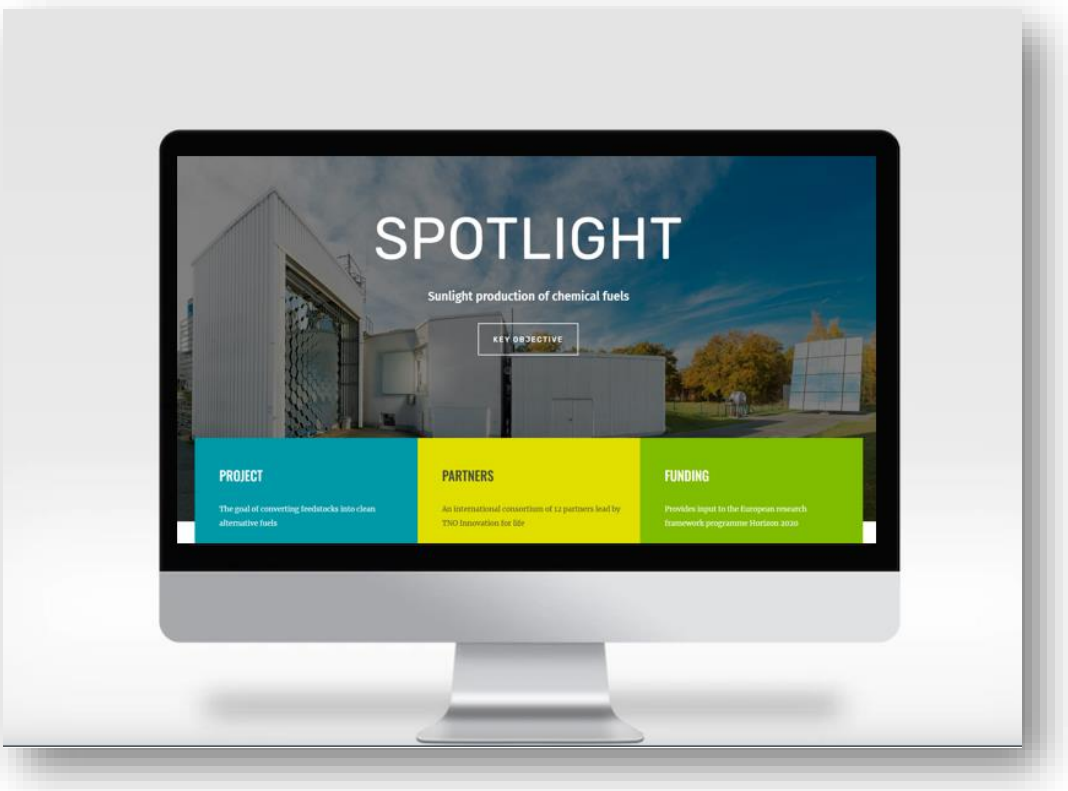


FIGURE 3. WEBSITE HOME PAGE

The news section of the website features a collection of articles and updates that have been carefully curated and published for the audience. These posts cover a wide range of topics, from current events to industry trends, providing readers with valuable information and insights. Each post is crafted with precision and accuracy to ensure that readers receive the latest and most relevant news in a clear and concise manner.

By browsing through the news section of the website, users can stay informed about the latest developments in our project. Whether it's breaking news, in-depth analysis, or informative pieces, the posts in this section aim to keep readers engaged and educated. With a diverse range of topics and perspectives, the news section serves as a valuable resource for those seeking to stay updated and well-informed about SPOTLIGHT results.



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| | | |
|---|---|---|
| **1** | May 2024 | https://spotlight-project.eu/2024/05/spotlight-shines-light-on-sun-powered-chemistry/ |
| **2** | March 2024 | https://spotlight-project.eu/2024/04/towards-the-use-of-renewable-syngas-for-the-decarbonization-of-industry/ |
| **3** | March 2024 | https://spotlight-project.eu/2024/03/science-advances-research-article-non-steady-state-thermometry-with-optical-diffraction-tomography/ |
| **4** | Nov 2023 | https://spotlight-project.eu/2023/11/we-participated-in-greener-manufacturing-expo-2023/ |
| **5** | Oct 2023 | https://spotlight-project.eu/2023/10/discover-fraunhofer-role-at-the-project-upscaling-of-the-synthesis-of-catalyst-particles/ |
| **6** | Sept 2023 | https://spotlight-project.eu/2023/09/acea-is-the-biogenic-co2-supplier-at-spotlight-project/ |
| **7** | Sept 2023 | https://spotlight-project.eu/2023/09/epfl-supports-reactor-design-operation-and-performance-optimization-at-spotlight/ |
| **8** | August 2023 | https://spotlight-project.eu/2023/08/discover-the-development-of-the-flow-guide-that-illuminates-the-reactor-homogeneously-with-sunlight/ |
| **9** | June 2023 | https://spotlight-project.eu/2023/06/life-cycle-assessment-of-innovative-solar-based-methane-carbon-monoxide-production-process/ |
| **10** | June 2023 | https://spotlight-project.eu/2023/06/spotlight-at-gastech-conference/ |
| **11** | June 2022 | https://spotlight-project.eu/2022/06/lab-exchange-transfer-of-lab-scale-syntheses-to-a-larger-scale/ |
| **12** | May 2022 | https://spotlight-project.eu/2022/05/a-reactor-equipped-with-a-plasmonic-catalyst-to-produce-either-methane-or-carbon-monoxide-is-being-developed-for-operation-under-concentrated-sunlight/ |
| **13** | Abril 2022 | https://spotlight-project.eu/2022/04/using-fiber-bragg-grating-sensors-to-quantify-temperature-non-uniformities-in-plasmonic-catalyst-beds-under-illumination/ |
| **14** | March 2022 | https://spotlight-project.eu/2022/03/special-issue-catalytic-co2-methanation-reactors-and-processes/ |
| **15** | Nov 2021 | https://spotlight-project.eu/2021/11/the-project-encourages-the-collaboration-of-external-stakeholders-belonging-to-the-solar-fuels-value-of-chain/ |
| **16** | Nov 2021 | https://spotlight-project.eu/2021/11/spotlight-represents-for-acea-the-possibility-to-give-value-to-the-co2-produced-by-the-biomethane-plant/ |
| **17** | Oct 2021 | https://spotlight-project.eu/2021/10/working-together-on-the-basic-components-of-the-photonic-device-to-reach-the-overall-goals/ |
| **18** | July 2021 | https://spotlight-project.eu/2021/07/spotlight-new-number-two/ |
| **19** | July 2021 | https://spotlight-project.eu/2021/07/new-study-global-energy-system-based-on-100-renewable-energy/ |
| **20** | May 2021 | https://spotlight-project.eu/2021/07/new-study-global-energy-system-based-on-100-renewable-energy/ |
| **21** | March 2021 | https://spotlight-project.eu/2021/03/spotlight-new-number-three/ |
| **22** | March 2021 | https://spotlight-project.eu/2021/03/spotlight-new-number-one/ |
| **23** | Jan 2021 | https://spotlight-project.eu/2021/01/sunlight-fueled-low-temperature-ru-catalyzed-conversion-of-co2-and-h2-to-ch4-with-a-high-photon-to-methane-efficiency/ |
| | | |

**Table 1 - Website news published**



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Our high level of activity on the website has had a significantly positive impact, particularly in meeting the anticipated Key Performance Indicators (KPIs) for website visits. The original goal was to reach 3,000 visits, and we have surpassed this target by more than double.

Our consistent engagement and involvement on the website have played a crucial role in exceeding our expectations and achieving remarkable results in terms of website traffic. This increased level of activity has not only met but also surpassed the set KPIs, showcasing the effectiveness of our efforts and the value you bring to our online presence.

| | |
|---|---|
| **NEWS POSTED** | 24 posts |
| **SESSIONS** | 8371 |
| **USERS** | 7.186 |
| **AVERAGE SESSION DURATION** | 20 secs |
| **PAGE VIEWS** | 7.353 |

**Table 2 KPI´S TRAFFIC WEBSITE**

| | Country | Users | New users | Engaged sessions | Engagement rate | Engaged sessions per user | Average engagement time | Event count All events |
|---|---|---|---|---|---|---|---|---|
| | | 7,186 100% of total | 7,111 100% of total | 3,198 100% of total | 38.2% Avg 0% | 0.45 Avg 0% | 23s Avg 0% | 36,625 100% of total |
| 1 | India | 1,571 | 1,567 | 414 | 25.24% | 0.26 | 8s | 6,333 |
| 2 | Netherlands | 652 | 648 | 375 | 45.73% | 0.58 | 25s | 3,741 |
| 3 | Italy | 398 | 396 | 278 | 50.73% | 0.70 | 44s | 2,634 |
| 4 | United States | 389 | 385 | 129 | 29.59% | 0.33 | 25s | 1,939 |
| 5 | Spain | 350 | 346 | 202 | 40.48% | 0.58 | 35s | 2,652 |
| 6 | Germany | 279 | 276 | 167 | 47.99% | 0.60 | 42s | 1,796 |
| 7 | Pakistan | 273 | 273 | 104 | 36.24% | 0.38 | 8s | 1,154 |
| 8 | United Kingdom | 251 | 251 | 130 | 46.43% | 0.52 | 29s | 1,216 |
| 9 | China | 220 | 162 | 42 | 18.26% | 0.19 | 11s | 694 |
| 10 | France | 213 | 212 | 77 | 33.77% | 0.36 | 18s | 960 |

FIGURE 5. DEMOGRAPHIC STATISTICS WEBSITE, ORGANISED BY COUNTRIES

## SOCIAL NETWORKS

Engagement is the action of generating an ‘emotional’ link between a brand/company/project and its community on social networks. Through this link, followers are encouraged to interact with the brand by commenting on a post, sharing content or liking a company's post.



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For the SPOTLIGHT project we have been present on the social networks LinkedIn and Twitter.

| | POST | FOLLOWERS | REACH |
|---|---|---|---|
| TWITTER | 34 | 13 | 1.384 |
| | | | |
| LINKEDIN | 39 | 130 | 21.687 |

TABLE 2. ABOUT THE SOCIAL NEWORKS PERFORMANCE

LinkedIn has proven to be a valuable platform for the project, as it provides better results and allows for a deeper analysis of our potential customers and their positioning in the industry. To further improve our presence, we increased the frequency of our postings to ensure a monthly presence. Our potential on LinkedIn has been clear: our target audience is there, and our reach has been successful. However, on Twitter, despite following a similar strategy, the results have been low. This is justified, as this is not a professional network.

## NEWSLETTER

A newsletter is **a tool used to communicate regularly with your subscribers**, delivering the information you want in your email boxes, these messages can contain simple text, or a structure composed of images and formatted text. In this project we sent the first one in November when we had 15 subscribers. Currently, we have reached the number of 46 subscribers.

For the creation of the newsletter, we have used the Mailchimp platform. Mailchimp is an all-in-one marketing platform that **helps to manage and talk to your clients, customers, and other interested parties**. Its approach to marketing focuses on healthy contact management practices, beautifully designed campaigns, and powerful data analysis.


Completed Campaign • Nov 30

15 Recipients

| | | | |
|---|---|---|---|
| Open Rate | 33.3% | Total Clicks | 0 |
| Clicks Per Unique Open | 0.0% | Orders | 0 |
| Successful Deliveries | 15 | Average Order Revenue | 0,00 $US |
| Total Opens | 17 | Total Revenue | 0,00 $US |

FIGURE 10. FIRST NEWSLETTER SENT

One newsletter sent out detailing the evolution of the project has provided valuable insights and updates to our audience. This communication piece served as a comprehensive overview of the project's progress. The open rate of 33% indicates a significant level of interest and engagement from our subscribers, demonstrating the effectiveness of the newsletter in reaching and resonating with our audience.



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Additionally, our colleagues from TNO organized the Nanotechnology Crossing Borders symposium, which brought together experts and professionals in the field to discuss and exchange ideas on nanotechnology. This action was included as a call to action at the newsletter.

Our successful outcomes across other communication channels have guided our content strategy towards prioritizing the feeding of platforms like the website and LinkedIn. This approach has proven to be not only more impactful but also a requirement as per the Grant Agreement terms. While the newsletter was not obligatory under the Grant Agreement, it was trialed to gauge its efficacy and potential as a communication channel, ultimately revealing that it was not essential for our objectives.



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## PRESENTATION AT INTERNATIONAL CONFERENCES

We have had the privilege of participating in a multitude of prestigious events that have served as platforms for us to showcase our project's advancements and engage with a diverse range of stakeholders. These events have not only allowed us to share our expertise and experiences but have also provided valuable networking opportunities and avenues for collaboration with like-minded professionals and organizations.

| Type of event | Event Title | Link | Date | Place | Partner Contribution (project presentation, brochure, stand...) | Countries addressed | Target | Responsible partner |
|---|---|---|---|---|---|---|---|---|
| participation to a workshop | Ecomondo Fair | https://www.ecomondo.com/ | 26-29 october 2021 | italy | poster | Italy | scientific community | Environment Park Spa |
| exhibition | EUSEW | https://ec.europa.eu/info/events/eu-sustainable-energy-week/eu-sustainable-energy-week-eusew-2021-oct-25_en | 25-29 October 2021 | Virtual | Booth/direct participation | EU | industry | RINA |
| exhibition | EU Utility Week | https://www.enlit-europe.com/euw | 30 November - 2 December 2021 | Milano, Italy | Booth/direct participation | EU | industry | RINA |
| exhibition | WSED22 | | | | Booth/direct participation | EU | scientific community | RINA |
| exhibition | International Solar Fule Conference | | | | Project presentation (abstract) | EU | scientific community | |
| organisation of a workshop | Ecomondo Digital Week | https://www.ecomondo.com/ecomondo/digital-green-weeks/progetto | 09/06/2021 | Italy | webinar: "The new fuels and fuels for decarbonisation: incentives and opportunities in the directive RED II" | EU | industry | RINA |
| exhibition | genova Smart Week | https://www.genovasmartweek.it/ | 01/11/2021 | Italy | Poster | Italy | general public | RINA |
| brokerage event | Hydrogen Europe | | Variuious dates | EU | Project presentation | EU | scientific community | RINA |
| pitch event | SolarMedia | https://solarmedia.co.uk/events/ | TBD | UK | Project presentation | EU | scientific community | RINA |
| exhibition | KeyEnergy | https://www.keyenergy.it/ | 26-29 october 2021 | italy | poster | EU | industry | RINA |
| exhibition | ACHEMA 2022 | https://www.achema.de/ | 4th to 8th April 2022 | Germany | Presentation | EU / Asia / India / North A | industry | Chemtrix |
| exhibition | MRS Fall 2021 | 2021 MRS Fall Meeting & Exhibit \| Boston | Nov 28- Dec3, 2021 | USA | presentation | EU/USA | scientific community | TNO |
| exhibition | Chemspec Europe | www.chemspeceurope.co | 29-30 September 2021 | Virtual | Presentation & Exhibition | EU / Asia / India / North A | industry | Chemtrix |
| exhibition | Chemspec Europe | www.chemspeceurope.co | 31st May to 1st June 2022 | Germany | Presentation & Exhibition | EU / Asia / India / North A | industry | Chemtrix |
| participation to a conference | NAM27 | NAM27 – The 27th North | May22-27 | USA | presentation | EU/USA | scientific community | TNO |
| participation to a conference | ASME Energy Sustainabilit | https://event.asme.org/E | July 11-13, 2022 | TBD | Presentation(abstract) | EU / Asia / India / North A | scientific community | EPFL |
| participation to a conference | Optical Devices and Mate | https://www.optica.org/e | July 24-28, 2022 | Hybrid | Presentation(abstract) | EU / Asia / India / North A | scientific community | EPFL |
| organisation of a conference | International Symposium | https://www.chemistryvi | May 2022 | La Rochelle, France | Presentation(abstract) | EU | scientific community | RINA |
| organisation of a workshop | ENLIT workshop | https://www.enlit-europe | 01/12/2022 | Frankfurt, Germany | Presentation & Exhibition | EU | industry | RINA |
| | ACHEMA | https://www.achema.de/ | 01/08/2022 | Frankfurt, Germany | Presentation | EU | industry | Chemtrix |

**Table 3 2021-2022 list of events**

| Event Title | Link | Date | Place | Partner Contribution (project presentation, brochure, stand…) | Countries addressed | Target | Responsible partner | Estimation of the target reached |
|---|---|---|---|---|---|---|---|---|
| 2023 MRS Spring Meeting | | April 2023 | San Francisco (CA, USA) | poster presentation | International | scientific community | UHA; Imec | 500 |
| Europacat | Home (europacat2023.cz | August 2023 | Prague | Poster | International | industry | TNO | 700 |
| Europacat | Home (europacat2023.cz | August 2023 | Prague | presentation | International | industry | UHA | 700 |
| IUPAC Chains | IUPAC World Chemistry C | August 2023 | Amsterdam | presentation | International | industry | TNO | |
| MRS | 2022 MRS Fall Meeting \| I | December 2022 | Boston | presentation | International | industry | TNO | |
| MRS | 2023 MRS Fall Meeting \| I | December 2023 | Boston | Poster | International | industry | TNO | |
| ASME ES 2023: 17th Interr | https://event.asme.org/E | July 10-12, 2023 | Washington DC, USA | Oral presentation | International | scientific community | EPFL | 300 |
| ASME ES 2024: 18th Interr | https://event.asme.org/E | July 15–17, 2024 | Anaheim, CA, USA | Oral presentation | International | scientific community | EPFL | 300 |
| The 10th International Syn | https://www.ichmt.org/r | June 12-16, 2023 | Thessaloniki, Greece | Oral presentation | International | scientific community | EPFL | 100 |
| ACHEMA | ACHEMA 2024: World For | June 2024 | Frankfurt | Booth | International | industry | TNO | |
| 244th ECS Meeting | | October 2023 | Gothenburg (Sweden) | oral presentation | International | scientific community | UHA, Imec | 200 |
| Greener Manufacturing Sh | Greener Manufacturing C | October 2023 | Cologne | Panel discussion, project | International | industry | TNO | |

**Table 4 2023-2024 list of events**



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**To highlight the selection of key trade fairs in the sector in the last 12 months, such as:**

**GASTECH**

**June 2023, Singapore**

https://spotlight-project.eu/2023/06/spotlight-at-gastech-conference/

The exhibition venue offered space to showcase the latest innovations in natural gas and LNG, hydrogen, low-carbon solutions and climate technology. Supported by more than 20 country pavilions, the exhibition had an international appeal and offer an integrated, world-class business environment. Aware of the importance of hydrogen, the event had a dedicated space to this energy vector. Our Consortium member Giorgio Bonvicini from RINA Consulting presented the results of the SPOTLIGHT project at the conference.

**THE GREENER MANUFACTURING SHOW – SPOTLIGHT Stakeholder workshop**

**November 2023, Cologne, Germany**

https://spotlight-project.eu/2023/11/we-participated-in-greener-manufacturing-expo-2023/

During this event our Consortium members TNO, DLR and Chemtrix participated at the Panel Discussion – Photochemistry As Key Enabler For A Sustainable Chemical Industry.

The panel discussion (40 minutes) took place under the topic Reducing Manufacturing Emissions; Lowering carbon emissions and process decarbonization. The aim of the panel discussion is to provide an analysis of broad industry trends from a variety of perspectives. The discussion started with the moderator providing an overview of the project, then each panellist gave a short introduction to themselves and their area of topic expertise. The moderator will then opened discussion with prepared questions and questions from the attendees. The presentation title was Photochemistry as key enabler for a sustainable chemical industry. In the panel discussion the potential of photochemistry for the production of fine/specialty chemicals, platform chemicals and synthetic fuels was highlighted.

Photochemistry can be an important enabler in the transition of the chemical industry from fossil-based to sustainable energy and feedstocks. The use of light to promote chemical reactions has been exploited since the 18th century, but only recently experienced its renaissance because of the development of visible light photoredox catalysis, the need to minimize the amount of energy for powering the reaction and carrying out downstream processing, and the desire to power sustainable chemical processes directly with sunlight.
For the photochemical production of fine/specialty chemicals, artificial light sources are typically applied. Based on the limited light penetration depth, microflow reactors are potentially ideal reactors for carrying out photochemical processes. Performing photochemical reactions in microchannels with an internal diameter < 1 mm will allow a higher and more homogeneous photon flux, resulting in shorter reaction times and reduced risk of producing side-products due to over-irradiation. Another advantage of microflow chemistry, correlated with the large surface-to-volume ratio, is improved heat transfer, which is important when performing reactions with high intensity light sources. Furthermore, the generic advantages of microflow over batch reactors are valid. Examples of photochemical production of fine/specialty chemicals in microflow reactors using LED light sources will be showcased.
For the photochemical production of platform chemicals, the direct use of sunlight as an energy source provides an interesting alternative to electrochemical processing. Recent developments of a photonic device and chemical process concept for the sunlight-powered conversion of $CO_2$ and green $H_2$ to fuels such as methane (via the Sabatier process), and to carbon monoxide (via the reverse Water Gas Shift process) as starting material for production of the chemical fuel methanol will be showcased.
In the panel discussion we highlighted the potential of the implementation of photochemical processes as sustainable alternative for the chemical industry from a variety of perspectives; we

gave a general overview of the topic, presenting recent developments in the framework of the H2020 SPOTLIGHT project (spotlight-project.eu), we discussed the potential impact for chemical industry and the energy sector, the techno-economic viability, the opportunities for introducing photochemistry in fine chemistry using continuous flow processes and the opportunities for the high tech industry, e.g. in terms of the development of auxiliary equipment (artificial lighting, concentrator devices and sensing).

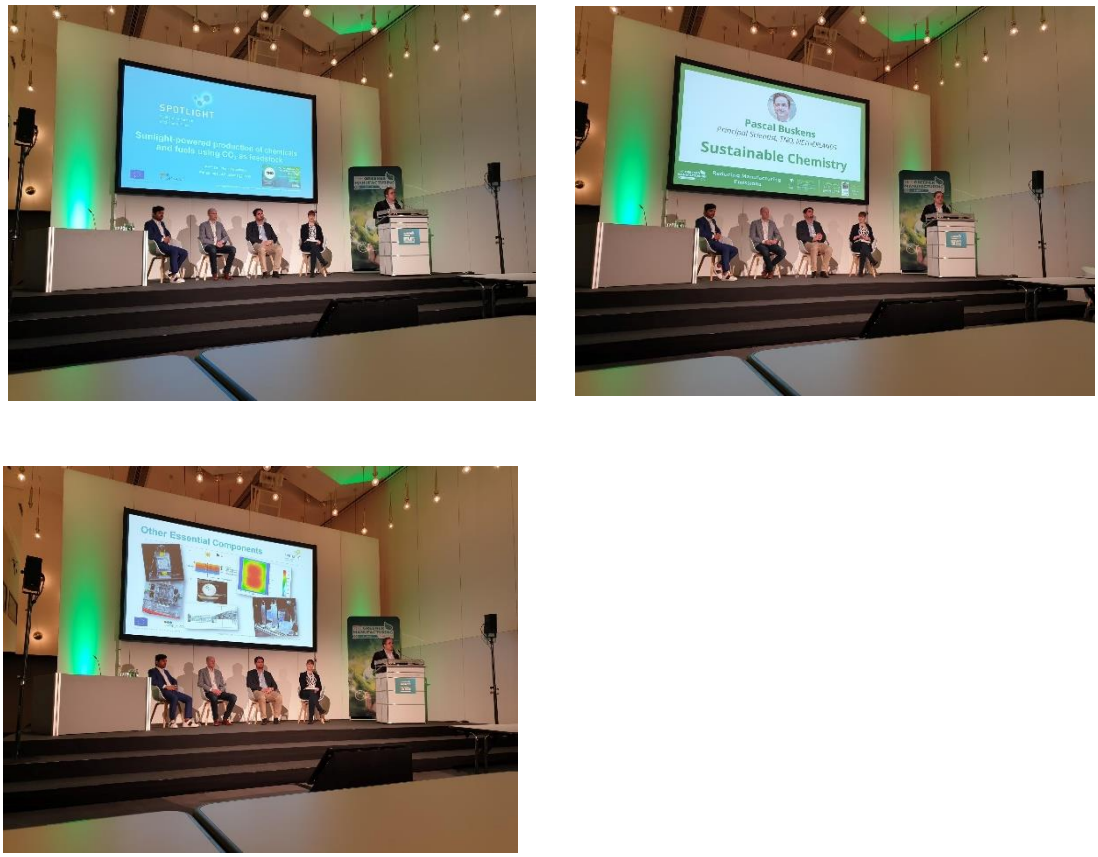


**Figure 2 The Greener Manufacturing Show**

**ACHEMA – SPOTLIGHT Stakeholder workshop**

**June 2024, Frankfurt am Main**

https://spotlight-project.eu/2024/05/spotlight-shines-light-on-sun-powered-chemistry/

The SPOTLIGHT Project held its final event at the ACHEMA fair, which took place in Frankfurt, Germany, from 10th to 15th of June.



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At our booth, we had the opportunity to present a comprehensive overview of the project's achievements and highlight the potential impact on the chemical industry and the energy sector to potential stakeholders.

During the event, we also had the opportunity to distribute project brochures to interested visitors and demonstrate the project's technology using a VR tool developed by our partner

DLR. This tool provided an immersive experience, allowing visitors to see how the project operates.





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**Figure 3 ACHEMA STAND**



This project has received funding from the Photonics Public Private Partnership programme under Grant Agreement **No.101015960**

## PUBLICATION IN SCIENTIFIC JOURNALS

The project has been published in the following scientific journals and publications. This dissemination has allowed the findings and progress of the project to be shared with the scientific community, thus contributing to knowledge and research in the relevant field. Publication in specialised journals has also given greater visibility and recognition to the work carried out, strengthening the reputation and impact of the project in the academic community.

| | Name | Publication, number, date | Link |
|---|---|---|---|
| **1** | Comparing the Performance of Supported Ru Nanocatalysts Prepared by Chemical Reduction of $RuCl_3$ and Thermal Decomposition of $Ru_3(CO)_{12}$ in the Sunlight-Powered Sabatier Reaction. | Catalysts, 12(3), Article 284 | https://doi.org/10.3390/catal12030284 |
| **2** | Using Fiber Bragg Grating Sensors to Quantify Temperature Non-Uniformities in Plasmonic Catalyst Beds under Illumination | ChemPhotoChem, 6, 2022 | https://doi.org/10.1002/cptc.202100289 |
| **3** | Design and operational guidelines of solar-driven catalytic conversion of $CO_2$ and $H_2$ to fuels | Applied Energy, 334, 2023 | https://doi.org/10.1016/j.apenergy.2022.120617 |
| **4** | Techno-economic analysis for the sunlight-powered reverse water gas shift process: Scenarios, costs, and comparative insights | Sustainable Energy Technologies and Assessments, Volume 65, 2024 | https://doi.org/10.1016/j.seta.2024.103768. |
| **5** | Non steady-state thermometry with optical diffraction tomography | Sci. Adv. Vol 10, Issue 12 2024 | DOI: 10.1126/sciadv.adk5440 |
| **6** | Radiative transfer in luminescent solar concentrators | Journal of Quantitative Spectroscopy & Radiative Transfer 2024 | https://doi.org/10.1016/j.jqsrt.2024.108957 |
| **7** | Towards the Use of Renewable Syngas for the Decarbonization of Industry | ChemSusChem 2024 | doi.org/10.1002/cssc.202400059 |

## PUBLICATION IN SPECIALIZED NON-SCIENTIFIC MAGAZINES

KPI achieved as it was established in 4 publications. The Key Performance Indicator (KPI) set for the number of publications has been successfully achieved, with a total of four publications meeting this target. This accomplishment highlights the effectiveness of the content creation strategy and the dedication of the team in delivering timely and relevant publications to the audience. By meeting this KPI, the team has demonstrated their ability to consistently produce high-quality content that aligns with the goals and objectives of the organization.



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| | Name | Date | Link |
|---|---|---|---|
| **1** | Photonics 21 | Feb 2022 | https://www.photonics21.org/news/Verlinkungen/2022/P21_05_-_SPOTLIGHT_Press_Release_FINAL.pdf |
| **2** | PR.euractiv | Jan 2022 | https://pr.euractiv.com/pr/new-technique-convert-greenhouse-gases-clean-energy-using-photonics-226999 |
| **3** | AZO OPTICS | Feb 2022 | https://www.azooptics.com/Article.aspx?ArticleID=2158 |
| **4** | RINA | March 2022 | https://www.rina.org/en/media/CaseStudies/spotlight |
| **5** | Photonics Spectra | June 2022 | https://www.photonics.com/Articles/Photonic_Technology_Converts_Greenhouse_Gases/a67708 |
| **6** | CORDIS | Jan 2024 | https://cordis.europa.eu/project/id/101015960 |

## CONTACT TO COMPANIES AND NON COMMERCIAL STAKEHOLDERS. LEAD BY RINA.

Our partner RINA-C has led this complicated task, in which all partners have collaborated. All stakeholder contacts have been obtained through personal/relational channels, as we asked partners to include any stakeholders they knew who might be interested in SPOTLIGHT.

As an emerging technology, **these have been the main challenges we have encountered.**

**- Limited knowledge:** Solar fuels are a relatively new field compared to established renewable energies such as solar or wind. Public and industry knowledge may be lower, making it difficult to identify stakeholders.

**- Fragmented landscape:** Solar fuel research and development may be dispersed among universities, start-ups and specialised companies. This fragmentation makes it difficult to find a centralised list of participants.

**- Lack of major events:** Unlike established technologies, solar fuels may not have large industry conferences or trade shows that attract a wide range of stakeholders.

**These challenges forced us to develop the following strategies for attracting stakeholders:**

- Targeting research institutions: Universities and research institutes are often at the forefront of solar fuels research. We sought personal contacts and academic publications and research grants related to solar fuels to identify the researchers and institutions involved.

- Industry associations and consortia: We contacted industry associations or consortia involved in renewable energy or advanced technologies.

- ✓ CHEMTRIX presented 28 stakeholders (mostly form UE and some of them from India, United States and UK)
- ✓ DLR presented 5 stakeholders ( one of them from Japan)
- ✓ TNO presented 28 stakeholders (all ot them from UE)
- ✓ RINA presented 13 stakeholders (one of them from UK)
- ✓ EPFL presented 4 stakeholders (two of the from United States).
- ✓ ENVI presented 65 stakeholders from Italy
- ✓ FHA presented 6 stakeholders



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- ✓ IMEC presented 6 stakeholders from Belgium
- ✓ UHASSELT presented 8 stakeholders from Belgium
- ✓ ISC presented 2 stakeholders from Germany

**Regarding the final KPI´s**

We achieved more than the 30 contacts to companies and non-commercial stakeholders via personal channels. In total we achieved 165.

However, we achieved only 15 contacts out of 20 regarding contacts to companies and non-commercial stakeholders via national and EU channels.

## FINAL KPI´S OVERVIEW

| DESCRIPTION | GOAL | ACHIEVED |
|---|---|---|
| **International Conferences** | 10 | 32 |
| **Publication in scientific journals** | 6 | 7 |
| **Website visits** | 3000 | 8371 |
| **Downloads** | 200 | 1842 |
| **Publications in specialized non-scientific magazines** | 4 | 6 |
| **Contacts to companies and non-commercial stakeholders via personal channels** | 30 | 165 |
| **Contacts to companies and non-commercial stakeholders via national and EU channels** | 20 | 15 |

**Table 5 Final Kpi´s Overview**



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