Next-CSP
High Temperature concentrated solar thermal power plant with particle receiver and direct thermal storage

H2020 European funded project - Grant Agreement number 727762

Deliverable *(D9.4)*

WP9 – WP Exploitation, Communication and Dissemination of results
Deliverable D9.4 Final report on dissemination and communication activities
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Duration	58 months

Disclaimer

List of abbreviations

CA	Consortium Agreement
EC	European Commission
EU	European Union
IP	Intellectual Property
KPI	Key Performance Indicator
PEDR	Plan for the exploitation and dissemination of the results
PPT	Powerpoint
SME	Small and Medium Enterprise
WP	Work packages

List of tables

List of figures

Executive Summary

The purpose of this deliverable 9.4 is to report on the dissemination and communication activities implemented by all the partners during the whole duration of the project and it details how each activity has been implemented (purpose & expected, impact, recipient, content, media, timing ....).

These activities are part of the WP9 Dissemination and Exploitation whose aim is to establish the exploitation and dissemination plan for the project, to promote the dissemination of results and ensure relevant communication activities to raise awareness on the project.

This report is based on the D9.2 - Report on dissemination and communication activities submitted at M34, that has been updated to present all communication and dissemination activities performed by the Next-CSP consortium from October 2016 to July 2021.

Table of Contents

1. INTRODUCTION

A Plan for Dissemination and Exploitation of Results (PEDR) is extremely important to plan an efficient strategy to create awareness of the project results and maximize the future potential commercial exploitation of the Next-CSP project results. A first PEDR, corresponding to the deliverable 9.1 of the WP9, presented the activities foreseen in the project to enhance the dissemination and exploitation strategy, maximize the expected impact of the project, and develop sustainability for the continuation of the project activities after the EU-funding.

This deliverable 9.4 is the report on what has been achieved since the start of the project in regards to dissemination and communication, as planned in the PEDR.

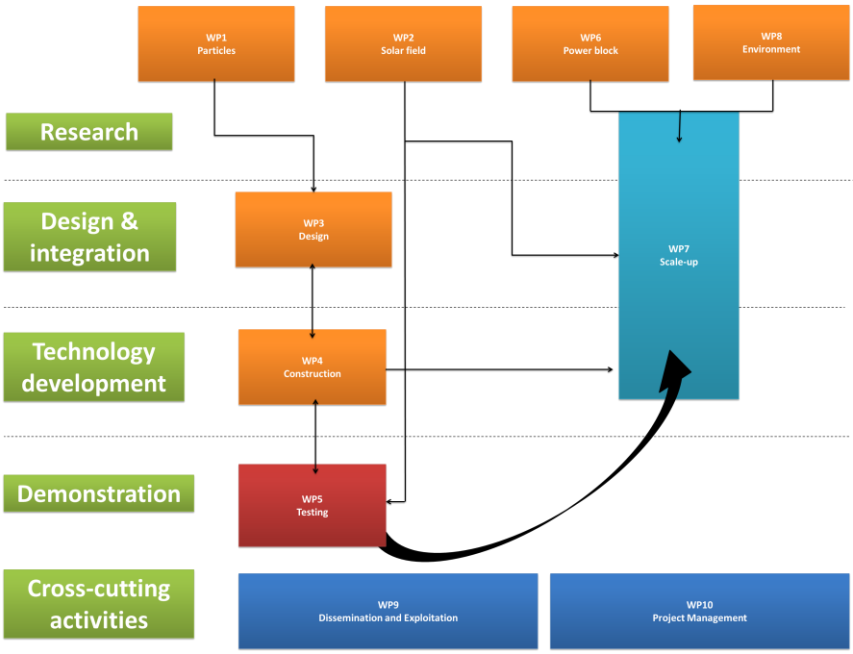
1.1. WP9 OBJECTIVES

This deliverable is part of the Work Package (WP) 9 on dissemination and exploitation, whose objectives are :

- To disseminate the foreground to the EU community, key professionals, scientific communities, private sector, policy makers and the general public;
- To engage with stakeholders in order to guarantee the long-term sustainability of the project results and to ensure maximum visibility of the project through tailored communication activities in order to raise awareness about the potential of high-temperature research infrastructures;
- To foster the innovation potential of the project through the mapping of the exploitable results and actions to boost their exploitation

The development of the project communication and dissemination strategy is an horizontal activity which spans the work of all WPs as presented in the figure below.

Figure 1 – WP9 in relation to other WPs



1.2. INTERNAL WP9 MANAGEMENT AND COMMUNICATION

All project participants were regularly updated about the WP9 advances through the semestrial reports done for each project meeting and other regular emails. Important documentation related to the WP9, including all dissemination and exploitation materials, is stored on the intranet of the project website (http://next-csp.eu/intranet/).

1.3. PURPOSE OF THE EXPLOITATION AND DISSEMINATION ACTIONS

In accordance with EU objectives for dissemination and exploitation of EU funded research projects, each dissemination action aims to:

- Show how European collaboration has achieved more than would have otherwise been possible, notably in achieving scientific excellence, contributing to competitiveness and solving societal challenges;
- Show how the outcomes are relevant to our everyday lives, by creating jobs, introducing novel technologies, or making our lives more comfortable in other ways;

- Make better use of the results, by making sure they are taken-up by industry and the scientific community to ensure follow-up, and also by decision-makers to influence policy-making.

Specific objectives:

- To ensure high visibility of the project among key stakeholders through the management and use of appropriate communication channels;
- To design specific actions aimed at the scientific community and general public (including business and political stakeholders);
- To engage and ensure collaboration with industry and end-users;
- To ensure that all project partners can identify and understand the information needs of specific target audiences;
- To design and conduct the dissemination and engagement strategy.

1.4. CONTENT OF THIS REPORT

This report contains the following information regarding dissemination and communication:

- Description of the communication tools (website, emails, press releases, publications, journal articles, conferences, workshops, etc) used during the lifetime of the project,
- List of communicaiton and dissemination activities performed during the whole project duration,
- Information on the implementation (timing, responsibilities, etc)
- Impact of the activities perfomed through monitoring and evaluation of Key Performance Indicators (KPIs): number of publications, number of visits on the website, number of events attended, feedback received from audiences at conferences, etc. To assess the success of the plan we used KPIs developed in the PEDR.

1.4.1. Responsibilities

Euronovia is the leading beneficiary in charge of dissemination and communication activities and is therefore responsible for writing this deliverable.

All partners have responsibilities in their role as disseminator of the project results. According to the grand agreement and unless it goes against their legitimate interests,

each beneficiary must — as soon as possible — 'disseminate' its results by disclosing them to the public by appropriate means (other than those resulting from protecting or exploiting the results), including in scientific publications (in any medium).

2. MAPPING OF THE TARGETED STAKEHOLDERS

The targeted audience was constantly updated throughout the lifetime of the project in relation to the results and deliverables. The list of stakeholders was defined with all consortium members at the start of the project and it was regularly updated.

Below is a list of stakeholders that we have contacted to disseminate relevant information related to the project. This list is not exhaustive since we cannot publicly provide all the contacts gathered in the framework of the project, some of them being part of the personal contact networks of the project partners. In addition, a common dissemination list was established jointly with other EU H2020 projects in the CSP sector to reach a wider network of people interested in this topic.

- **The academic and research community** database that we have built to disseminate the information on the project encompasses most of the EU research centers and outside EU dealing with CSP. This has been done thanks to previous collaborations in different EU projects and through actual participations to events. This list comprises more than 1700 contacts.
- **Industrial associations related to CSP in general**
  - EU associations like ESTELA , Deutsches CSP (Germany), Protermosolar (Spain), Anest (Italy), SER (France)
  - ESTELA international network : AUSTELA (Australia), Sastela (South-Africa), STELAWORLD (World)
  - China National Solar thermal Energy Alliance – China
  - Solar Energy Corporation of India (SECI) - India
  - Solar Energy Industries Association (SEIA) – USA
  - Emirates Solar Industry Association (ESIA) – UAE
  - Saudi Arabia Solar Industry Association (SASIA) – Saudi Arabia
- **Other EU associations related to solar and renewables in general**
  - EASE - The European Association for Storage of Energy – Europe
  - EERA – European Energy Research Alliance – Europe
  - ESTIF - European Solar Thermal Industry Federation – Europe
  - EDS - European Desalination Society – Europe

- REA - Renewable Energy Association – UK
- EUREC - The Association of European Renewable Energy Research Centres
- EMIRI - The Energy Materials Industrial Research Initiative

■ **EU SME support organisations**

- EBN - European Business & Innovation Centre Network
- EuroChambers - The Association of European Chambers of Commerce and Industry
- EEN – Enterprise Europe Network - To find a local partner for the EEN: http://een.ec.europa.eu/about/branches

■ **Worldwide stakeholders**

- The online Platform for CSP – Brazil
- The International Solar Energy Society (ISES) – International
- The International Energy Agency (IEA) – International
- The International Renewable Energy Agency (IRENA) – International
- SolarPACES -Technology Cooperation Programme of IEA– International

■ **Companies relevant in the CSP sector:** these companies have been mapped as relevant stakeholders for the project and are used to disseminate the information.

Table 1 – CSP companies relevant for the dissemination and potential exploitation

Linear fresnel:	**Parabolic trough**
Feranova	Aalborg CSP
Novatec Solar	Abengoa
Suncnim	Acciona
Industrial Solar	Ervis Technology
ExirSolar	TSK, including TSK Flagsol
Dish technology (sterling):	GlassPoint Solar
HelioFocus	Helioclim
ZED Solar	Parvolen
Azelio AB	Rackam
Operation and maintenance:	Schott Mirrors and Receiver Tubes
Smit Group	Royal Tech CSP
Auxiliar and anti-freezing boiler:	SkyFuel
Sugimat SL	SENER
Steam turbine erection:	Sopogy Micro CSP
Smit Group	Ultra Lite Solar
Pre-operational cleaning:	**Solar tower technology:**
Smit Ingeniería	ABROS green GmbH

Solarca

Aora Solar, formerly E.D.I.G. Solar Distributed Solar Thermal
BrightSource Energy / Luz II
CMI Solar
Greenway CSP
Torresol Energy

■ Other EU funded projects

Several synergies with other European projects funded by Horizon 2020 that are directly linked to CSP technologies have been developed and actions were planned in collaboration with them, such as:

- The creation of a joint CSP newsletter
- The organisation of joint workshops and joint booths at CSP conferences
- The management of LinkedIn account
- The management of a Twitter account

A telephone conference was organised every 3 months between the dissemination WP leaders of these projects to periodically discuss possible synergies.

Table 2 – EU funded projects

Project	Title	Objective	Website
ORC-PLUS	Organic Rankine Cycle - Prototype Link to Unit Storage	Increasing energy storage to optimise power generation from a concentrated solar power plant	http://www.orc-plus.eu/
PreFlexMS	Predictable Flexible Molten Salts Solar Power Plant	Demonstrating a novel steam generator technology and a weather forecast/dispatch optimisation software in a concentrating solar power plant	http://preflexms.eu/
CAPTure	Competitive SolAr Power Towers – CAPTure	Demonstrating a new type of concentrating solar power plant that combines several towers and heliostat fields	http://capture-solar-energy.eu/
SOLPART	High Temperature Solar-Heated Reactors fESSIALor Industrial Production of Reactive Particulates	Developing at pilot scale a process suitable for particle treatment in energy intensive industries (e.g. cement or lime industries), by using high-temperature solar heat to provide thermal energy required for CaCO3 calcination	http://www.solpart-project.eu/

SUN-to-LIQUID	SUNlight-to-LIQUID: Integrated solar-thermochemical synthesis of liquid hydrocarbon fuels	Advancing solar fuels well beyond the state of the art and to guide the further scale-up towards a reliable basis for competitive industrial exploitation	http://www.sun-to-liquid.eu/
MinWaterCSP	MinWaterCSP - Minimized water consumption in CSP plants	Developing solutions to drastically reduce water consumption in the operation of concentrating solar power plants	www.minwatercsp.eu
WASCOP	Water Saving for Solar Concentrated Power	Minimising water consumption in concentrating solar power plant operation	http://wascop.eu/
RAISELIFE	Raising the Lifetime of Functional Materials for Concentrated Solar Power Technology	Extending the in-service lifetime of five key materials for concentrated solar power technologies	https://www.raiselife.eu/
PEGASUS	Renewable Power Generation by Solar Particle Receiver Driven Sulphur Storage Cycle	Investigating a novel power cycle for renewable electricity production by applying a solar particle receiver with a sulphur storage system for base load operation	https://www.pegasus-project.eu/
MOSAIC	MOdular high concentration SolAr Configuration	Developing a new type of concentrated solar power plant based on a modular design using a novel high-concentration mirror concept	http://mosaic-h2020.eu/
INSHIP	Integrating National Research Agendas on Solar Heat for Industrial Processes	Engaging major European research institutes with recognized activities on SHIP, into an integrated structure	http://inship.eu/
IN-POWER	Advanced Materials technologies to QUADRUPLE the Concentrated Solar Thermal current POWER GENERATION	Develop High efficiency solar harvesting CSP architectures based on holistic materials and innovative manufacturing process	http://in-power-project.eu/
MUSTEC	Market uptake of Solar Thermal Electricity through Cooperation	Assess the existing barriers and opportunities for concentrated solar power that could play a key role in the future European electricity system by supplying electricity from	http://www.mustec.eu/

		Southern to Northern European countries	
SOCRATCES	SOlar Calcium-looping integRAtion for Thermo-Chemical Energy Storage	Demonstrating the feasibility to integrating Calcium-looping process (CaL) and concentrated solar power (CSP) plants for thermochemical energy storage and power generation	https://socratces.eu/
SHIP2FAIR	Solar Heat for Industrial Process towards Food and Agro Industries Commitment in Renewables	Demonstrating solar heat integration in four open-to-public industrial sites covering sugar, wine, spirits and meat sectors	http://ship2fair-h2020.eu/
SOLWATT	Solving Water Issues for CSP Plants	Demonstration at two sites that water consumption can be reduced with innovations in the solar field cleaning techniques, power-block cooling, water recycling system, and with optimised plant operation strategy	https://solwatt.eu/
HYCOOL	Industrial Cooling through Hybrid system based on Solar Heat	Increasing the current use of solar heat in industrial processes by developing a combined system based on new Fresnel concentrated solar collectors and hybrid heat pumps	http://hycool-project.eu/project/
POLYPHEM	Small-scale solar termal combined cycle	POLYPHEM aims at improving the flexibility and the performance of small-scale Concentrated Solar Power plants, thanks to a solar-driven micro gas-turbine technology.	https://www.polyphem-project.eu/
SFERA 2	Solar Facilities for the European Research Area	Boost scientific collaboration among the leading European research institutions in solar concentrating systems, offering European research and industry access to the best research and test infrastructures and creating a virtual European laboratory.	https://sfera2.sollab.eu/home.html
SFERA III	Solar Facilities for the European Research Area	The overall objective of this project is to reinforce the sustainability of the activities of the European advanced	https://sfera3.sollab.eu/

		Concentrating Solar Power research infrastructures.	

■ EU National Contact Points related to CSP

- The Energy team: http://www.c-energyplus.eu/
- The Environment team: http://www.env-ncp-together.eu/
- The NMP (Nanotechnologies Materials and Production) team: http://www.nmpteam.com/index.html
- The Research Infrastructure team: http://www.euroris-net.eu/

■ National / Regional Funding Organisation Contact Points in solar energies

These agencies are part of the Solar Era net network and were contacted when needed to reach policy and funding stakeholders.

Table 3 – National funding organisations

Country / Region	Funding Organisation or Contact Point	Contact(s) and Domain(s)
Austria	Austrian Research Promotion Agency (FFG)	Anita Hipfinger: anita.hipfinger@ffg.at
Belgium-Flanders	Vlaams Agentschap Innoveren en Ondernemen	Geert Carchon: geert.carchon@vlaio.be Bart De Caesemaeker: bart.decaesemaeker@vlaio.be
Belgium-Wallonia	Service Public de Wallonie (SPW)	DGO4-Department of sustainable energy and buildings Laurence Polain: laurence.polain@spw-wallonie.be
Cyprus	Research Promotion Foundation (RPF)	Pavlos Leptos: pleptos@research.org.cy
France	Agence de l'environnement et de la maîtrise de l'énergie (ADEME)	Tristan Carrere, Ingénieur Photovoltaïque, tristan.carrere@ademe.fr
France	Agence Nationale de la recherche (ANR)	Aurélien Gaufrès: Aurelien.gaufres@agencerecherche.fr Pascal Bain: Pascal.Bain@agencerecherche.fr
Germany	Projektträger Jülich (PtJ)	Geschäftsbereich Energiesystem: Erneuerbare Energien/Kraftwerkstechnik, Fachbereich Photovoltaik (ESE 1) Renate Horbelt: r.horbelt@fz-juelich.de, Kambulakwao Chakanga: k.chakanga@fz-juelich.de,
Germany-NRW	Projektträger ETN	Fachbereich Energie Dr. Melanie Schulte: me.schulte@fz-juelich.de, Dr. Joachim Kutscher: jo.kutsche@fz-juelich.de,
Greece	General Secretariat for Research and Technology (GSRT)	Paraskevi Afentaki International S&T Cooperation Directorate Bilateral and Multilateral Cooperation Section

Israel	Ministry of Energy	Gideon Friedmann, Head of R&D Division - Office of the Chief Scientist, gideonf@energy.gov.il
Italy	Ministry for Education, University and Research (MIUR)	Ing. Aldo Covello e-mail: aldo.covello@miur.it Dott. Andrea Previti e-mail: andrea.previti@est.miur.it
Netherlands	RVO	Otto Bernsen, otto.bernsen@rvo.nl Wijnand van Hooff, wijnand@tki-urbanenergy.nl
Spain-CDTI	Centre for the Development of Industrial Technology (CDTI)	Gabriel Barthelemy: gabriel.barthelemy@cdti.es,

3. REPORT ON COMMUNICATION TOOLS AND DISSEMINATION ACTIONS

The communication activities that are part of the dissemination plan are tailored to ensure that important messages are widespread to the adequate targeted audience and that the public at large gets to know the project objectives and results.

Below are the six main elements around which the communication strategy was conducted, including all the tools and activities performed during the lifetime of the project:

Table 4 – Elements of the communication strategy

Visual Identity	The project visual identity helped all partners communicate about the project in a uniform, consistent, and professional manner. It is composed of a project logo including a baseline, fonts, colours and texts directly derived from the project logotype and templates for word and PowerPoint.
Communication materials	A communication package containing the main elements of the project (PPT presentation, flyer, poster, roll-up banner, a one-page project description); timeline infographic; motion design video; YouTube interviews of the partners; final brochure, etc.
Website	The public website contains information targeted for the general public (description of the project, the WPs, the partners, basic information on the technology).
Social networks and online presence	Social web-based media: 1 LinkedIn page and 1 Twitter account targeting the general public, citizens, students and other EU projects and initiatives, a YouTube channel.
Publications and media appearance	Newsletters, press releases, articles in specialized magazines, public relations and media coverage, scientific publications, final media press kit, etc.

Public events	Project technology public workshops, webinars, exhibition booths at industry conferences, participation/exhibition in science popularization events, final info day, participation in external events, etc.

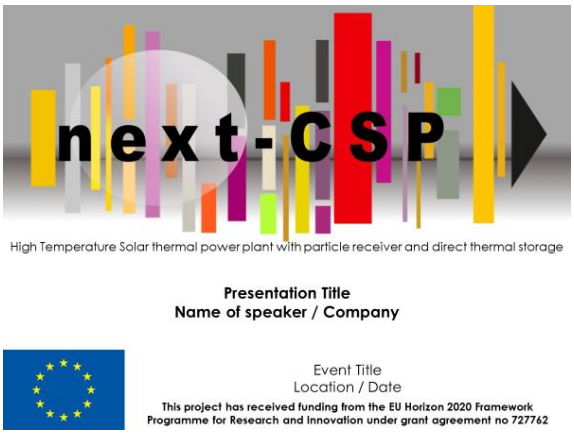
3.1. VISUAL IDENTITY

The visual identity of Next-CSP includes the project logo, the project identity and style guide and several templates (word, PPT) that were sent to partners for EU and local project communication.

Figure 2 – Next-CSP logo

Templates for the project deliverables, meeting agenda and minutes have been created during the first six months of the project, together with a PowerPoint template to be used by the partners for all presentations on the project both in internal and external events.

Figure 3 – Next-CSP PPT template

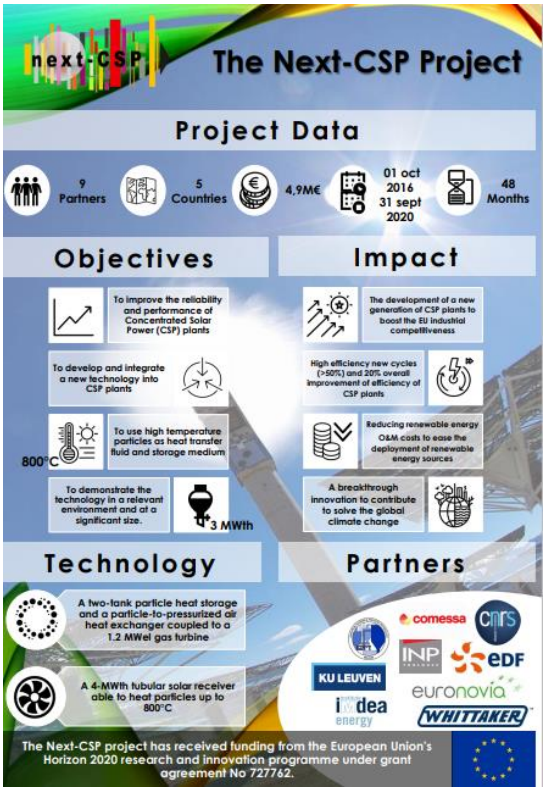


3.2. COMMUNICATION MATERIALS

3.2.1. Flyers and brochures

The first version of the flyer has been produced in February 2018. It contains straight to the point information under the form of an infography. A second updated version of the flyer was created in 2019.

Figure 4 – Next-CSP project flyers



The Next-CSP project brochure was created in May 2021 with the objective to provide the audience with an attractive and clear overview of the project, a summary of the main project objectives, results and expected impacts, as well as a timeline of the project achievements. This brochure was designed to reach not only experts, but also interested non-specialist audiences. It is available for download here: http://next-csp.eu/wp-content/uploads/2021/03/Brochure-next-csp-web.pdf.

Flyers and brochures has been distributed to all partners with the aim of distributing them to external events in which they participated.

3.2.2. Poster and roll-up banner

A poster and roll-up banner have been created in April and November 2019 respectively to be displayed at conferences, whenever these could be exposed.

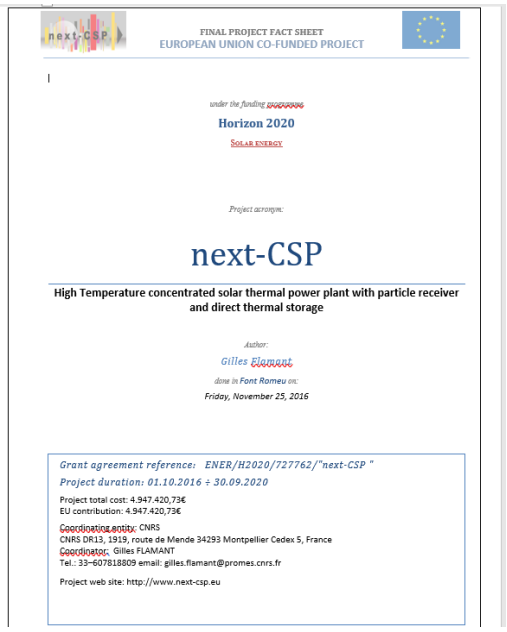
Figure 5 –Next-CSP poster and roll-up banner

3.2.3. Project factsheet

To get a more detailed overview of the project activities, a project factsheet has been created under the invitation of the EC to be used for dissemination purposes. This is part of the dissemination material package that the partners could use to disseminate information on the project.

The factsheet can be downloaded here: http://next-csp.eu/wp-content/uploads/2017/04/Next-CSP-project-factsheet.pdf.

Figure 6 – Project Factsheet



FINAL PROJECT FACT SHEET
EUROPEAN UNION CO-FUNDED PROJECT

under the funding programme

Horizon 2020

SOLAR ENERGY

Project acronym:

next-CSP

High Temperature concentrated solar thermal power plant with particle receiver and direct thermal storage

Author:

Gilles Flamant

done in Font Romeu on:

Friday, November 25, 2016

Grant agreement reference: ENER/H2020/727762/"next-CSP"

Project duration: 01.10.2016 ÷ 30.09.2020

Project total cost: 4.947.420,73€
EU contribution: 4.947.420,73€

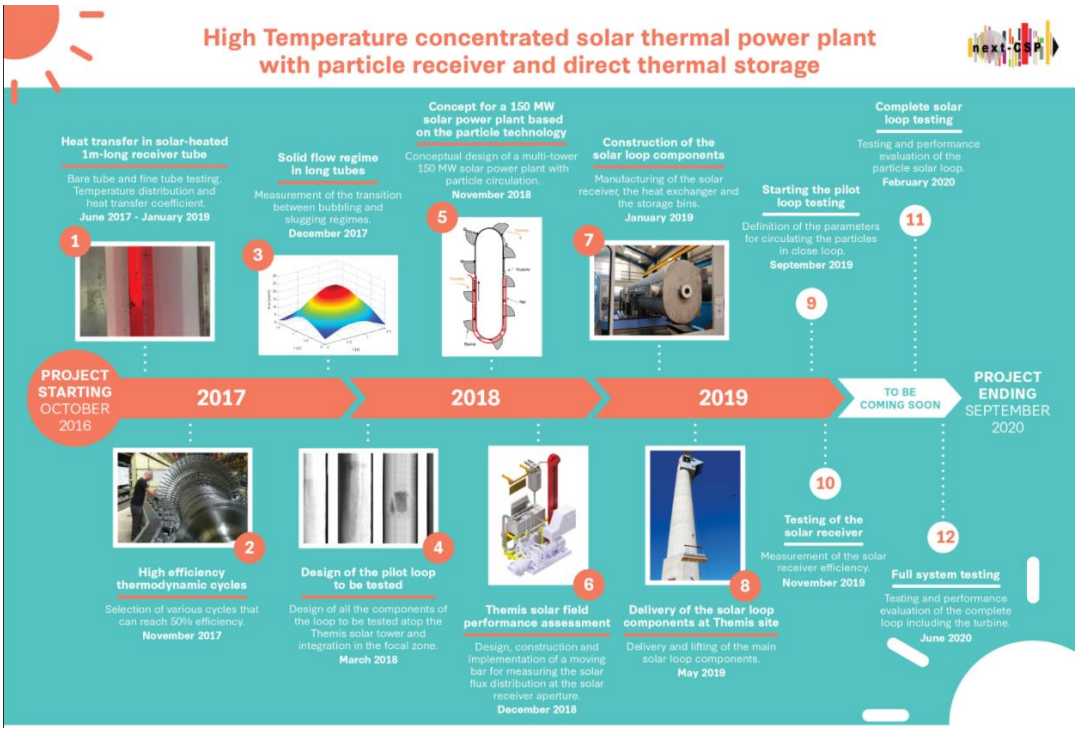
Coordinating entity: CNRS
CNRS DR13, 1919, route de Mende 34293 Montpellier Cedex 5, France
Coordinator: Gilles FLAMANT
Tel.: 33-607818809 email: gilles.flamant@promes.cnrs.fr

Project web site: http://www.next-csp.eu

3.2.4. Visual timeline

The visual timeline of the Next-CSP project highlights the numerous achievements of the project. The first version was created in August 2019 and updated in October 2020. It was widely disseminated through the website and social networks.

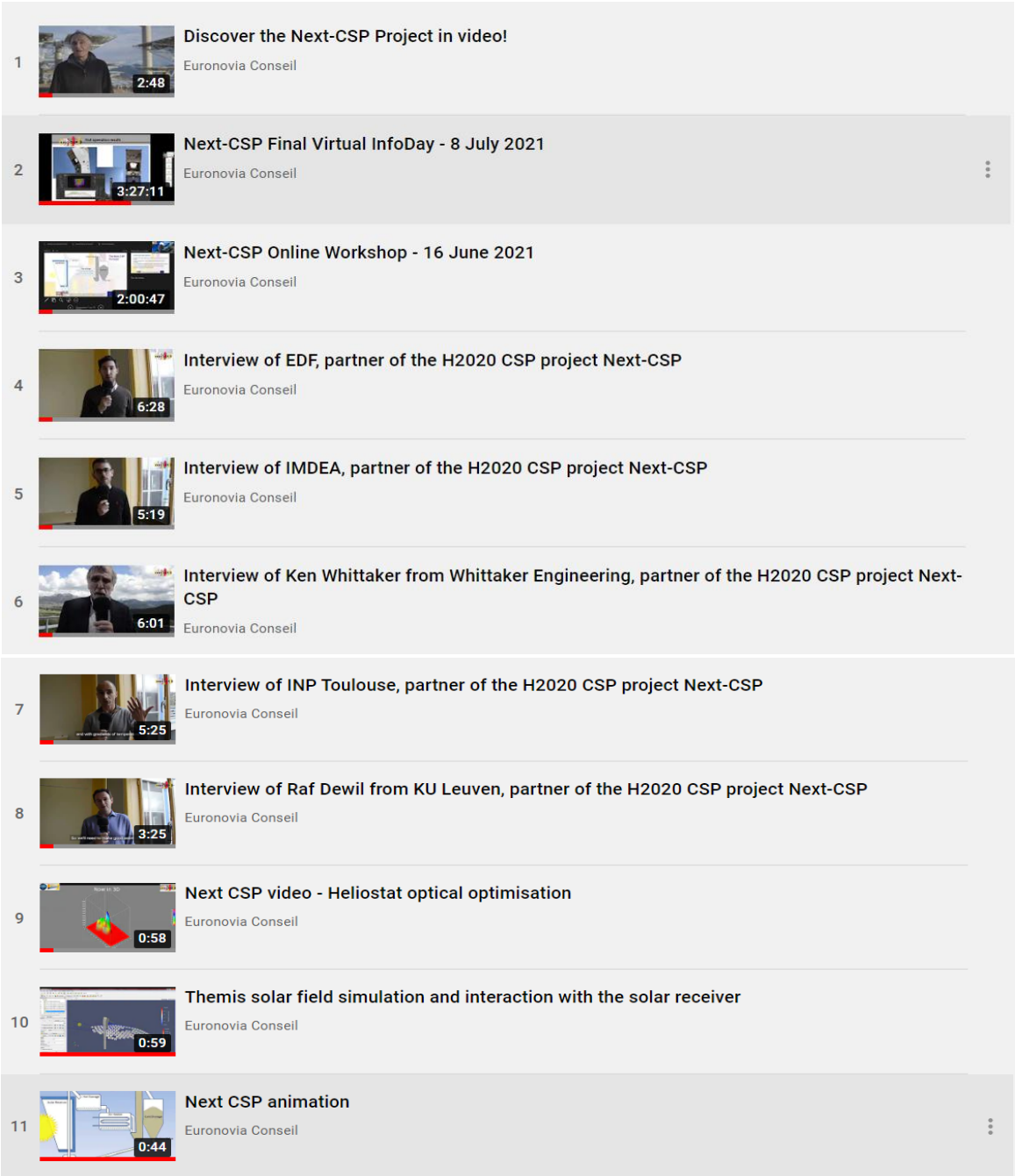
Figure 7 – Project visual timeline



3.2.5. Project videos

Several videos have been created by the consortium to raise awareness of the project and disseminate the work done by the partners. A Next-CSP **YouTube channel** was created to share these videos, including an animation video and a video presenting the Next-CSP prototype, as well as several interviews of the partners: https://www.youtube.com/playlist?list=PLBNLB4htebTtKGDzjPDaaB8ddXMwvYt75

There are currently 11 videos online, receiving a total of 2 010 views.



3.3. WEBSITE

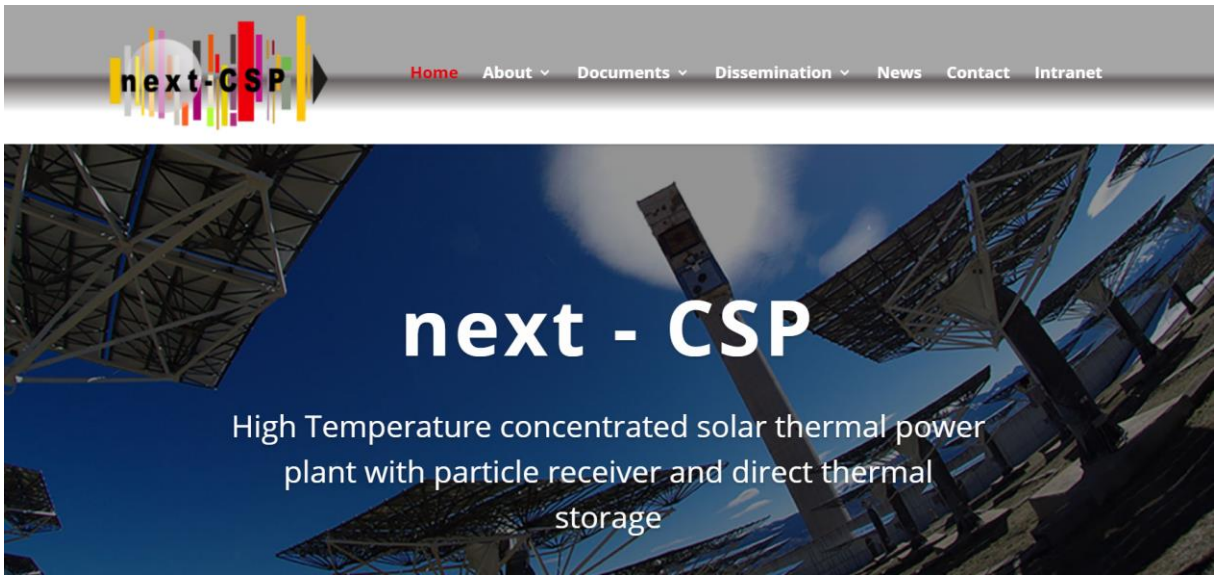
The Next-CSP website (www.next-csp.eu) was of crucial importance in order to enhance the visibility of the project. The website provides relevant content to the scientific communities, policy makers, professionals, academic and researchers, market actors and general public. It includes information on the project scope, objectives and activities, partners and information on the dissemination activities (events and other communication materials), links to other CSP projects and news.

The website was frequently updated and the content was expanded constantly during the project lifetime. It includes the following pages:

- Home
- About us
  - Objectives: detailing the main objectives of the project, including a video explaining the principles of the Next-CSP solar thermal power plant
  - Workplan: listing all WPs and their expected results
  - Partners: including the partners logos and a link to their website
- Documents
  - Reports: including the list of deliverables submitted within each WP
  - Scientific productions: including the list of scientific articles and conference proceedings published in the framework of the project. The abstract and link to the publications are also included
- Dissemination
  - Events: featuring the list of events organised by the project
  - Newsletters: including the list and links to the different issues of the newsletter published jointly with other H2020 funded projects in the field of CSP
  - Communication material: including the list of communication materials produced by the project (brochure, flyer, timeline, partners interviews, videos, webinar and logo) and links to download them
- News: gathering all news published by the project
- Contact: including the contact details of the coordinator and a map to reach the solar tower
- Intranet: gathering all the administrative documents, internal meeting minutes,

presentations and reports produced in the framework of the project. This page has an access restricted to the members of the consortium only.

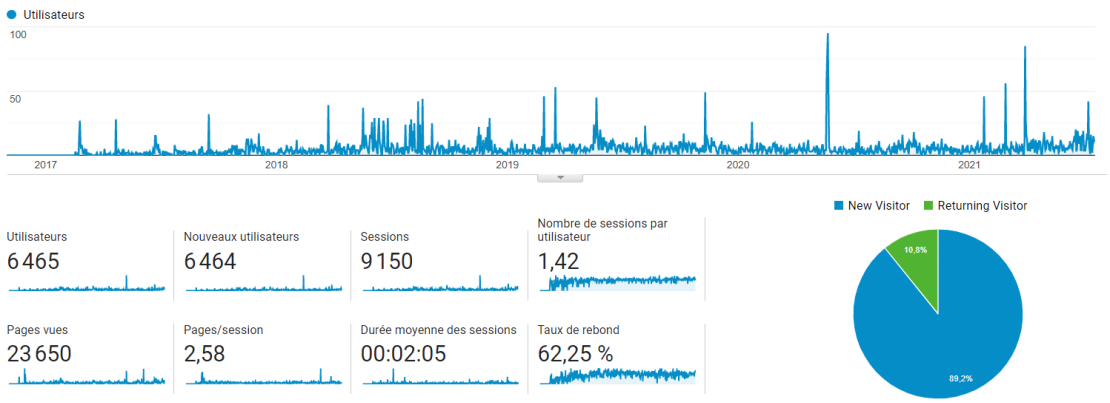
Figure 8 –Next-CSP website home page



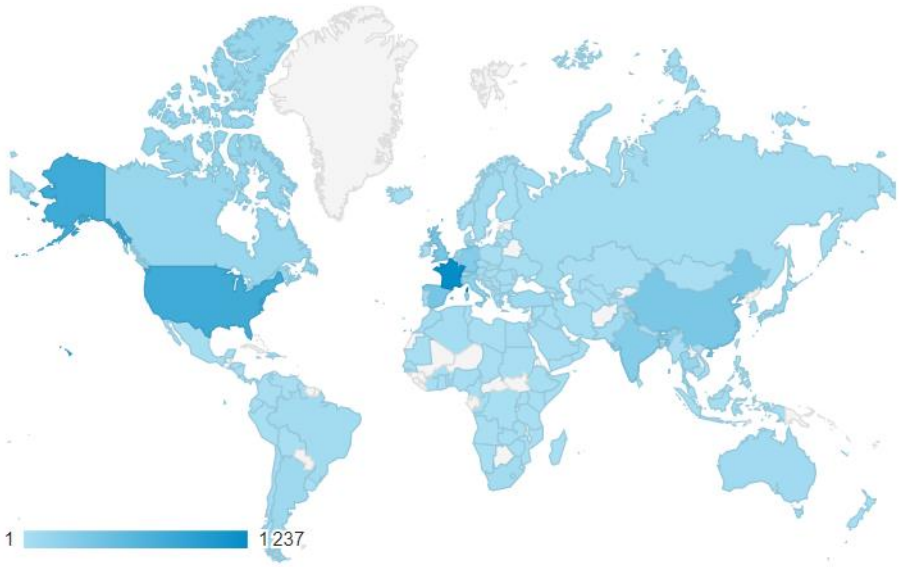
With regards to the news page of the website, our objective was to post at least one news per month to raise interest and trafic on the website. This objective was reached since there is a total number of 62 news published online, as shown in the table in Annex 1. According to the stats of Google Analytics, the News section is the second one, after the homepage, to receive the most views.

3.3.1. Website impact

The importance and impact of the website can be analysed by using Google Analytics, a web analytics tool that shows how people reached the website and how they have navigated through it. In the period, February 2017 – July 2021 the website was visited 6465 times, with 23 650 page views and an average visit duration of 2:05 minutes.



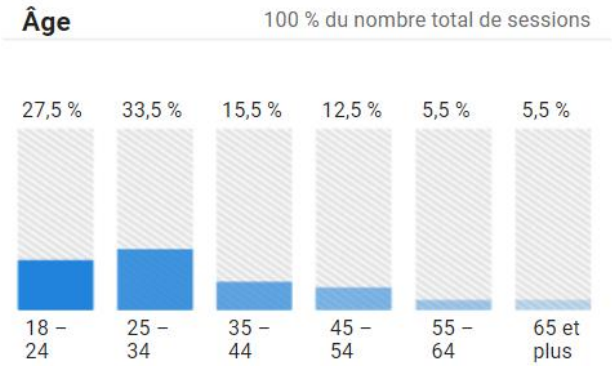
The website received an excellent worldwide coverage, with visitors spread over all continents (142 countries mapped), demonstrating a worldwide interest in this technology. The top-10 countries of origin of the website's visitors are: France, USA, China, Spain, United Kingdom, Germany, India, Italy, Belgium and Thailand.

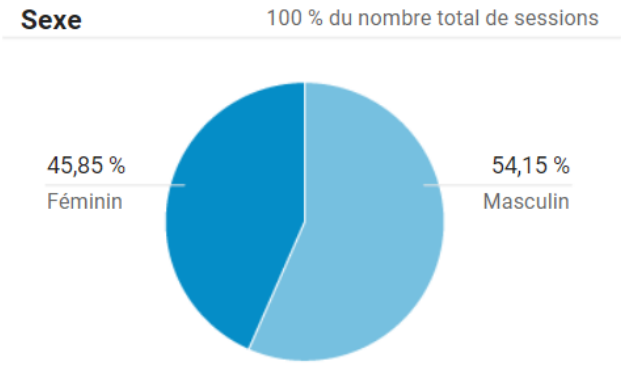


The figure below shows the interest for the project shared between the different continents. After Europe, this clearly shows the Asian interest for the project, followed closely by Americas.

Continent	Acquisition Utilisateurs
	6 465 % du total: 100,00 % (6 465)
1. Europe	3 233 (50,10 %)
2. Asia	1 539 (23,85 %)
3. Americas	1 209 (18,74 %)
4. Africa	274 (4,25 %)
5. (not set)	126 (1,95 %)
6. Oceania	72 (1,12 %)

The demographic analysis shows that users were mainly young people (25-34 and 18-24) with a fair gender balance. This data is encouraging, demonstrating the interest of the young population towards the development of new renewable energy sources.





3.4. SOCIAL MEDIA

A **LinkedIn group** (https://www.linkedin.com/groups/8596449/) has been created to foster the presence on social networks. 178 members have joined the group, whose aim is to widespread on the social network the information about the project. Next-CSP also contributed to the H2020 CSP LinkedIn group (https://www.linkedin.com/groups/13519618/) managed by another project and gathering together several European projects in the CSP sector to jointly disseminate news and information on the different projects. It counts 205 members.

In addition to the LinkedIn group, a **Twitter account** has been created to disseminate information about H2020 CSP projects among which Next-CSP: https://twitter.com/H2020CSP. The group has currently 320 followers.

Euronovia was responsible for managing these accounts, but all partners were asked to provide inputs in order to fill in the different social networks with up-to-date information.

3.5. PUBLICATIONS AND MEDIA APPEARANCE

3.5.1. Newsletters

The European Commission brought together the consortia of H2020 projects dealing with concentrated solar power in two workshops held in 2016 and 2018, at the INEA premises in Brussels. One of the outcomes of these workshops was the coordination of communication efforts by all projects, with the aim to share the most recent news from each project. As part of this exercise, the 'H2020 Projects News on Concentrated Solar Power' was created in May 2017 and includes updates from the European projects in the CSP sector currently co-funded by the European Commission. Scheduled every 6 months, the H2020 CSP project joint Newsletter was sent out from June 2017 to January 2021: https://us15.campaign-archive.com/home/?u=be5a9e502ccb8c519b107bae4&id=048ceab545.

3.5.2. Media press kit

A final media press kit was drafted at the end of the project, before the infoday (July 2021) and widely distributed to the event participants as well as through the project website, social media and partners' contact networks to inform everybody about the end of the Next-CSP project and its main outcomes.

It is available here: http://next-csp.eu/wp-content/uploads/2021/07/next-csp-press-pack.pdf

3.5.3. Peer-reviewed scientific publications

In total, the consortium has published 16 publications, of which 8 are available in Open Access. In addition, two papers are currently under review.

All scientific publications have been uploaded in the Next-CSP dedicated community on Zenodo: https://zenodo.org/communities/next-csp/?page=1&size=20

Scientific publications in open access:

- Rui Chen, Manuel Romero, Jose González-Aguilar, Francesco Rovense, Zhenghua

Rao, Shengming Liao, *Design and off-design performance comparison of supercritical carbon dioxide Brayton cycles for particle-based high temperature concentrating solar power plants*, Energy Conversion and Management, Volume 232, 2021, 113870, ISSN 0196-8904, https://doi.org/10.1016/j.enconman.2021.113870.

- Huili Zhang, Weibin Kong, Tianwei Tan, Flamant Gilles & Jan Baeyens, "*Experiments support an improved model for particle transport in fluidized beds*", Scientific Report. 2017, 7:1078. https://doi.org/10.1038/s41598-017-10597-3

- Grange B, Flamant G. *Aiming Strategy on a Prototype-Scale Solar Receiver: Coupling of Tabu Search, Ray-Tracing and Thermal Models*. Sustainability. 2021; 13(7):3920. https://doi.org/10.3390/su13073920.

- Gueguen R, Grange B, Bataille F, Mer S, Flamant G. *Shaping High Efficiency, High Temperature Cavity Tubular Solar Central Receivers*. Energies. 2020; 13(18):4803. https://doi.org/10.3390/en13184803.

- Alberto Sánchez-González, Benjamin Grange, and Cyril Caliot, "*Computation of canting errors in heliostats by flux map fitting: experimental assessment*," Opt. Express 28, 39868-39889 (2020). https://doi.org/10.1364/OE.412116.

- F. Rovense, M.A. Reyes-Belmonte, J. González-Aguilar, M. Amelio, S. Bova, M. Romero, "*Flexible electricity dispatch for CSP plant using un-fired closed air Brayton cycle with particles based thermal energy storage system*", Energy (2019) - https://doi.org/10.1016/j.energy.2019.02.135

- M.A. Reyes-Belmonte, A. Sebastián, J. Spelling, M. Romero, J. González-Aguilar, "*Annual performance of subcritical Rankine cycle coupled to an innovative particle receiver solar power plant*", Renewable Energy (2019) – https://doi.org/10.1016/j.renene.2018.06.109

- A. Le Gal, B. Grange, M. Tessonneaud, A. Perez, C. Escape, J-L. Sans, G. Flamant, "*Thermal analysis of fluidized particle flows in a finned tube solar receiver*", Solar Energy (2019), https://doi.org/10.1016/j.solener.2019.08.062

Scientific publications not in open access:

- Qian Kang, Raf Dewil, Jan Degrève, Jan Baeyens, Huili Zhang, *Energy analysis of a particle suspension solar combined cycle power plant*, ELSEVIER, Energy Conversion and Management, Volume 163, 1 May 2018, Pages 292-303. https://doi.org/10.1016/j.enconman.2018.02.067.

- Weibin Kong, Tianwei Tan, Jan Baeyens, Gilles Flamant, and Huili Zhang, *Bubbling and Slugging of Geldart Group A Powders in Small Diameter Columns*, ACS Publications, Ind. Eng. Chem. Res., 2017, 56 (14), pp 4136–4144

- Q. Kang, G. Flamant, R. Dewil, J. Baeyens, H.L. Zhang, Y.M. Deng, *Particles in a circulation loop for solar energy capture and storage*, Particuology, Volume 43, 2019, Pages 149-156, ISSN 1674-2001,

https://doi.org/10.1016/j.partic.2018.01.009.

- Yimin Deng, Florian Sabatier, Raf Dewil, Gilles Flamant, Alex Le Gal, Ronny Gueguen, Jan Baeyens, Shuo Li, Renaud Ansart, *Dense upflow fluidized bed (DUFB) solar receivers of high aspect ratio: Different fluidization modes through inserting bubble rupture promoters*, Chemical Engineering Journal, Volume 418, 2021, https://doi.org/10.1016/j.cej.2021.129376.

- Weibin Kong, Jan Baeyens, Gilles Flamant, Tianwei Tan, and Huili Zhang, *Solids Flow in a "Particle-in-Tube" Concentrated Solar Heat Absorber*, Industrial & Engineering Chemistry Research 2019 58 (11), 4598-4608, https://doi.org/10.1021/acs.iecr.8b04544.

- Q. Kang, G. Flamant, R. Dewil, J. Baeyens, H.L. Zhang, Y.M. Deng, *Particles in a circulation loop for solar energy capture and storage*, Particuology, Volume 43, 2019, Pages 149-156, ISSN 1674-2001, https://doi.org/10.1016/j.partic.2018.01.009.

- Huili Zhang, Hadrien Benoit, Inmaculada Perez-Lopèz, Gilles Flamant, Tianwei Tan, Jan Baeyens, *High-efficiency solar power towers using particle suspensions as heat carrier in the receiver and in the thermal energy storage*, Renewable Energy, Volume 111, 2017, Pages 438-446, ISSN 0960-1481, https://doi.org/10.1016/j.renene.2017.03.101.

- F. Sabatier, R. Ansart, H. Zhang, J. Baeyens, O. Simonin, "*Experiments support simulations by the NEPTUNE_CFD code in an Upflow Bubbling Fluidized Bed reactor*", Chemical Engineering Journal (2019), https://doi.org/10.1016/j.cej.2019.123568.

- Behar O, Grange B, Flamant G. "*Design and performance evaluation of a modular solar power plant using a gas turbine combined cycle with fluidized particle-in-tube receiver and direct thermal storage.*" Energy Conversion & Management (2020) 220; 113108, https://doi.org/10.1016/j.enconman.2020.113108

3.5.4. Conference proceedings

The consortium has published 12 conference proceedings, all available in Open Access. All of them have been uploaded in the Next-CSP dedicated community on Zenodo: https://zenodo.org/communities/next-csp/?page=1&size=20. A few additional conference proceedings will be published in the next months, after the end of the project.

- F. Rovense, M.A. Reyes-Belmonte, J. González-Aguilar, M. Amelio, S. Bova, M. Romero, "*Application of un-fired closed Brayton cycle with mass flow regulation and particles based thermal energy storage systems for CSP*", Proceedings of the SolarPACES 2018, October 2-5, 2018, Casablanca, Morocco. https://doi.org/10.1063/1.5117559

- M.A. Reyes-Belmonte, E. Diaz, J. González-Aguilar, M. Romero, "*Particles-based Thermal Energy Storage Systems for Concentrated Solar Power Applications*", Proceedings of the SolarPACES 2017, September 26-29, 2017, Santiago de Chile, Chile, AIP Conference Proceedings 2033(1):210013, https://doi.org/10.1063/1.5067215

- M.A. Reyes-Belmonte, F. J. Pino, M. Romero; C. Suárez, J. González-Aguilar, J. Guerra, "*Optimization of an Integrated Solar Combined Cycle*", Proceedings of the SolarPACES 2017, September 26-29, 2017, Santiago de Chile, Chile, AIP Conference Proceedings 2033(1):210012, https://doi.org/10.1063/1.5067214

- Jack Hoeniges, Inma Perez-Lopez, Hadrien Benoit, Daniel Gautier, Gilles Flamant, "*Fluidized particle in tube solar receiver and reactor: A versatile concept for particulate calcination and high-efficience thermodynamic cycles*", Proceedings of SolarPACES 2017, September 26-29 2017, Santiago de Chile, AIP Conference Proceedings 2033, 040017 (2018); https://doi.org/10.1063/1.5067053

- Huili Zhang, Shuo Li, Weibin Kong, Gilles Flamant, and Jan Baeyens , "*Scale-up considerations of the UBFB solar receiver*", AIP Conference Proceedings 2126, 030067 (2019) https://doi.org/10.1063/1.5117579

- Benoît Valentin, Frédéric Siros, and Jean-Florian Brau, "*Optimization of a decoupled combined cycle gas turbine integrated in a particle receiver solar power plant*", AIP Conference Proceedings 2126, 140007 (2019) https://doi.org/10.1063/1.5117655

- Shuo Li, Weibin Kong, Huili Zhang, Florian Sabatier, Renaud Ansart, Gilles Flamant, and Jan Baeyens, "*The fluidized bed air heat exchanger in a hybrid Brayton-cycle solar power plant*", AIP Conference Proceedings 2126, 140002 (2019) https://doi.org/10.1063/1.5117650

- Vanessa Schönfelder and Thomas Keck, "*Application of SbpRAY for simulation and optimization of a heliostat field and cavity receiver*", AIP Conference Proceedings 2303, 160006 (2020) https://doi.org/10.1063/5.0030257

- Pierre-Henri Defieux, Cyril Caliot, and François Hénault, "*Hybrid optical method for characterizing a heliostat field in a concentrated solar power plant*", AIP Conference Proceedings 2303, 100002 (2020) https://doi.org/10.1063/5.0029270

- Alex Le Gal, Benjamin Grange, Ronny Gueguen, Michael Donovan, Jean-Yves Peroy, and Gilles Flamant, "*Particle flow and heat transfer in fluidized bed-in-tube solar receivers*", AIP Conference Proceedings 2303, 070002 (2020) https://doi.org/10.1063/5.0028761

- Miguel A. Reyes-Belmonte, Manuel Romero, and José González-Aguilar, "*Integrated solar combined cycle using particles as heat transfer fluid and thermal energy storage medium for flexible electricity dispatch*", AIP Conference Proceedings 2303, 130006 (2020) https://doi.org/10.1063/5.0029297

- Jan Baeyens et al, "*Bio-energy Carriers as Back-up Fuel in Hybrid Solar Power Plants*", 2020 IOP Conf. Ser.: Earth Environ. Sci. 544 012012 https://doi.org/10.1088/1755-1315/544/1/012012

3.5.5. Media appearance

- Study on impacts of EU actions supporting the development of renewable energy technologies: http://solarheateurope.eu/wp-content/uploads/2018/09/D2.2_Technology_sector_report_Solar_thermal_Draft_for_conference_attendees.pdf
- Book - Principles of Solar Gas Turbines for Electricity Generation : https://books.google.fr/books?id=RY5aDwAAQBAJ&pg=PA203&lpg=PA203&dq=%22next-csp%22+solarpaces&source=bl&ots=izMJXxqc33&sig=ACfU3U0hXRnkBd91OqiG9k5jAs06fGs5TA&hl=fr&sa=X&ved=2ahUKEwjatLqFpK7iAhVGTBoKHf5SDcoQ6AEwB3oECAkQAQ#v=onepage&q=%22next-csp%22%20solarpaces&f=false
- Wikipedia: https://fr.wikipedia.org/wiki/Centrale_solaire_thermodynamique and https://fr.wikipedia.org/wiki/Th%C3%A9mis_(centrale_solaire)
- Doctoral thesis: http://e-spacio.uned.es/fez/eserv/tesisuned:ED-Pg-TecInd-Rbarbero/BARBERO_FRESNO_Ruben_Tesis.pdf
- Doctoral thesis: http://www.theses.fr/s251481
- Reve news website (Wind Energy and Electric Vehicle Magazine): https://www.evwind.es/tags/next-csp
- Event news on H2020 website: https://www.horizon2020.gouv.fr/cid130607/dispatchable-renewable-energies-from-a-myth-to-reality.html
- CORDIS website: https://cordis.europa.eu/article/id/421791-fluidised-particles-turn-up-the-heat-in-a-novel-solar-power-design/fr
- CSP Focus: http://www.cspfocus.cn/en/market/detail_1738.htm
- US Course class: https://www.wecanfigurethisout.org/ENERGY/Web_notes/Solar/Solar%20Thermal%20-%20Heat%20Storage.pdf
- Ecole Centrale France: https://www.centrale-energie.fr/spip/spip.php?article247
- Centrale Energies, Flash n. 54: https://www.centrale-energie.fr/spip/IMG/pdf/-56.pdf
- "Next-CSP pilot solar loop will be ready soon", Article section of the Chinese Solar Thermal Alliance: http://en.cnste.org/html/events/2019/0528/441.html

- https://www.fabiodisconzi.com/open-h2020/projects/205807/results.html
- INEA website: https://ec.europa.eu/inea/en/horizon-2020/projects/h2020-energy/concentrated-solar-power/next-csp
- Helioscsp Solar Thermal Energy News: https://helioscsp.com/tag/next-csp/
- Website IMDEA: https://www.energy.imdea.org/research/projects/next-csp
- scanR website: https://scanr.enseignementsup-recherche.gouv.fr/entite/423688134
- COMESSA website: https://www.comessa.com/news.html
- SBP website: https://www.sbp.de/news/neues-projekt-next-csp/
- Scottish Funding portal: https://portal.funding-portal.scot/event-listings/view?id=217
- CSP Plaza website (in Chinese): http://www.cspplaza.com/article-10941-1.html
- Prozparity Energy website: https://prozparity.com/a-market-review-on-concentrated-solar-power/
- Results Pack on "Solar Heat for Power and Industry" published by the European Commission on Cordis (August 2020): https://cordis.europa.eu/article/id/421854-solar-heat-for-power-and-industry

3.6. PUBLIC EVENTS

3.6.1. Events organized by the project

The Next-CSP consortium has organised 3 project events: one workshop taking place in Edinburgh in 2018 and two virtual events taking place in the last months of the project, in June and July 2021.

Unfortunately, due to the Covid-19 pandemic that made it impossible to travel and organise phisical events, we had to cancel the organisation of 2 events that were initially planned: a training course dedicated to students and teachers and a business workshop.

Here are more details concerning the events that we organised:

- Dispatchable Renewable Energies: From A Myth To Reality – 6th of June 2018 – Edinburgh – Next-CSP workshop organised by Euronovia and Whittaker with

participation of the University of Edimbourgh. http://next-csp.eu/event/next-csp-workshop-disptachable-renewable-energies-from-a-myth-to-reality/

Figure 9 - Programme of the training workshop

- Webinar – 16th of June 2021. Euronovia and the CNRS organised an online workshop to present an overview of the achievements of the project, its technology and the commercial perspectives. This was a technical workshop targeting specialists in the field of CSP and it attracted 40 participants.

  Presentations were delivered by 4 project partners with the following programme:

  - ☐ General presentation of the Next-CSP project and its main results - CNRS
  - ☐ Particle-in tube receivers: from Upflow Bubbling Fluidized Bed (UBFB) to Dense Upflow Fluidized Bed (DUFB) operation modes - EPPT
  - ☐ Integration of Next-CSP technology with high efficiency unfired thermodynamic cycles – IMDEA Energy
  - ☐ Position of CSP technology in the context of the electricity market - EDF

The webinar recording is available on the Next-CSP project website: http://next-csp.eu/2021/06/18/the-replay-of-the-next-csp-virtual-workshop-is-now-online/.

- Final infoday – 8th July 2021. Organised by Euronovia and the CNRS in collaboration with other partners (WEL, IMDEA, EPPT and INPT) the event aimed to present an overview of the achievements of the project and the prototype developed. Due to the Covid-19 pandemic, we decided to organise a hybrid event, with the possibility to both attend the event physically at the CNRS Solar furnace in Odeillo Font-Romeu (France), or online on Zoom. The event targeted the following audiences:
  - Representatives of the EC
  - Political representatives (local, regional, departmental).
  - Representatives of local public administration in charge of energy, innovation and economic territorial development;
  - Members of the administration of the CNRS and higher education establishments;
  - PhD students, post-docs, interns, engineers, and researchers in the relevant field

In the end, due to the Covid-19 travel restrictions, most of the people opted for an online participation: only researchers, interns, PhD students and post-docs from the CNRS attended the meeting in person. The event was successful with very good participation (more than 50 attendees) from different countries in Europe and beyond (Australia, US, China, Singapore, Turkey, Algeria). After the presentations, the meeting was closed by an interactive Q&A session.

For people attending in-person, we also organised an afternoon visit to the Thémis solar power tower, located 10 min nearby in Targassonne, that was attended by several people from the CNRS, one of the project partners (INPT) as well as the President of the Université de Perpignan Via Domitia, who posted a related news on his LinkedIn profile: https://www.linkedin.com/feed/update/urn:li:activity:6818931904998359040/.

The infoday recording and PowerPoint presentations are available on the Next-CSP project website: http://next-csp.eu/2021/07/09/final-infoday-replay/.

Figure 10 - Programme of the infoday

Following the infoday, we have organised a follow-up online meeting with experts in the field of CSP (July 21, 2021) to gather their feedback on the project. Discussions were led by the project coordinator and were organised around 4 main points:

- Advantages and disadvantages of the innovation
- Barriers to the development and necessary steps to be taken before the industrial demonstrator
- Possibility to valorize one of the components outside the complete system
- Possible exploitation outside the scope of the CSP

We received some interesing insights and suggestions, as well as their appreciation of the work done in the framework of the project. The minutes of this meeting have been included in deliverable D9.3.

3.6.2. Participation in external events

The Next-CSP project consortium has participated in 16 scientific and industrial international events, either with oral or poster presentations, or by organising an exhibition booth to feature the project, often jointly with another EU project.

In addition, Euronovia has attended 2 popularization events to reach the general public:

- ESOF (June 2018): Joint CSP projects exhibition featuring Next-CSP – Toulouse, France;
- European Utility Week and PowerGen (November 2019): Next-CSP Exhibition, Paris, France.

The full list of events attended by the project consortium is available in Annex 2.

4. IMPACT OF THE ACTIONS

Monitoring the impact of the different dissemination activities involves a systematic collection of data and reporting of information from all partners. This information serves to deliver the final verdict on the success of the dissemination process undertaken by the project.

In order to gather this information, a Google form was created by Euronovia and it has been used by the all partners, who were requested to update it with all the communication and dissemination activities performed: https://docs.google.com/spreadsheets/d/1L1UUyCwULVWs4r7Qs4lQtUoF1W8zQ_-5t-jOGBC8FRI/edit?usp=sharing.

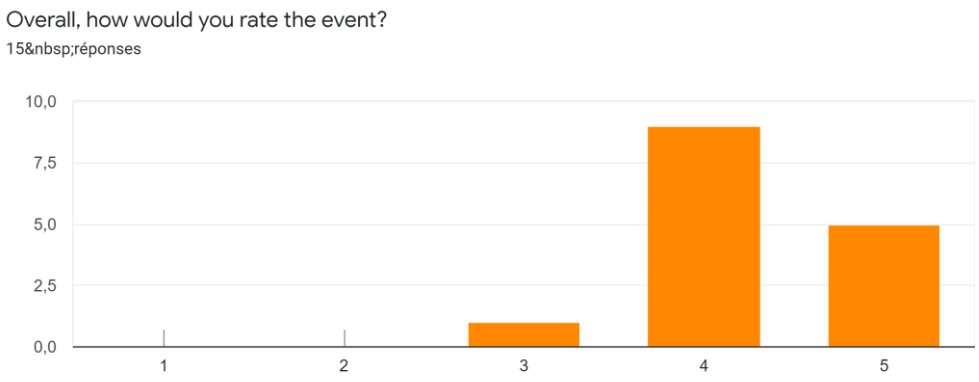
The table, also available in Annex 2, includes the full list of communication material, publications and conference proceedings produced by the projects, as well as the list of events attended by the consortium. For each one of these communication and dissemination actions, a series of Key Performance Indicators (KPIs) were identified, allowing to evaluate the success of each action. According to the KPIs identified, the project has overall met all the targets planned at the start of the project, as detailed in the table below.

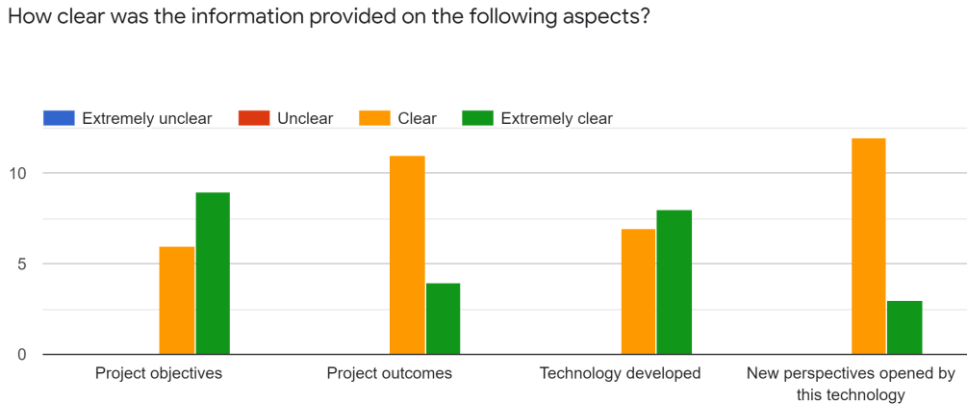
Table 5 – List of KPIs (quantitative indicators)

	Next-CSP Dissemination and communication actions			
Dissemination or communication channel	**Name**	**KPI**	**Target**	**Actual**
Events	Organised by the project	Number of events	4	3
		Number of participants	40	40-50
		Number of booths organised	3	7
	Participation in external events	Number of events attended	6	16
		Number of oral presentations	9-11	22
	Events for popularization science	Number of events attended	1	2
	Brochure	Number of brochures distributed	20-50	30
	2 flyers	Number of flyers distributed at the events	20-50	30-40
	Factsheet	Number of factsheets distributed at the events	20-50	30-40
	Website	Number of visits	200-500/month	124

Dissemination material and activities		Number of news	1/month (58)	62
	H2020 CSP joint newsletters	Number of newsletters	8	8
		Size of the dissemination list	> 200	> 1000
	H2020 CSP Twitter account	Number of followers	150-200	320
	Next-CSP LinkedIn account	Number of members	150-200	178
	H2020 CSP YouTube account	Number of videos online	10	11
		Number of views	200	180 on average
	Media appearances (i.e., publications, articles, news, books)	Number of media appearances	8-10	24
	Scientific publications	Number of publications (OA)	6-8	8 (+9 not in OA)
	Conference proceedings	Number of publications (OA)	N/A	12

To collect some qualitative indicators, after each event organised by the project we sent an evaluation form to all participant. Although the number of responses was quite low compared to the number of participants, feedbacks received were very positive, especially after the infoday. The general appreciation of the event was very good, as showed in the graphics below (scale: 0 to 5 – poor to excellent):





These satisfaction questionnaires provided also more general comments on the project, demonstrating the interest of researchers and companies towards the project technology, the current research on CSP, the materials currently being used, the technical challenges being addressed and the added value of CSP in the context of electricity markets.

5. Conclusions

The communication and dissemination activities during the project lifetime have been really satisfying, overstepping in some cases the project expectations, as demonstrated by the KPIs identified and monitored by the project.

Several dissemination activities were undertaken and various tools were developed. All project partners have been actively involved in the dissemination of the project results by providing content and promoting the project through their website and contact networks.

Moreover, we made consistent use of social networks and online communicaiton, especially in the last year and a half when the Covid-19 pandemics has affected travels and meetings forcing us to cancel face-to-face meetings and participation in conferences. The dissemination of promotional material was also hampered, taking place principally online. However, thanks to online meetings and communication we could develop close synergies with other EU projects in the field of CSP, increasing mutually our impact and developing a dynamic community interested in CSP technologies.

Also, while in the first three years we could organise and attend several events and conferences, we were unfortunately obliged to organise our 2 final events (a workshop and an infoday) online. In particular, our biggest regret was not being able to show to the public the result of our work at the Thémis solar tower, where we had planned to organise a visit with the participants in the infoday that had to be canceld due to travel restrictions. We hope we will be able to welcome interested stakeholders there in the coming months.

ANNEX 1 – LIST OF NEWS IN THE Next-CSP WEBSITE

	Title	Item	Date	Link
1	THE NEXT-CSP PROJECT HAS BEEN FUNDED AND APPROVED BY THE EUROPEAN COMMISSION	All news	01/10/2016	http://next-csp.eu/2016/10/01/lorem-ipsum-dolor-sit-amet/
2	LAUNCH OF THE NEXT-CSP PROJECT	Event	28/10/2016	http://next-csp.eu/2016/10/28/next-csp-kick-off-meeting/
3	LAUNCH OF THE NEXT-CSP WEBSITE	All news	29/10/2016	http://next-csp.eu/2016/10/28/lorem-ipsum-dolor-sit-amet-2/
4	NEXT-CSP PROJECT FACTSHEET	Communication	27/04/2017	http://next-csp.eu/2017/04/27/next-csp-project-factsheet/
5	PROJECT UPDATE. HEAT TRANSFER IN SOLAR-HEATED 1M-LONG RECEIVER TUBE	News	12/06/2017	http://next-csp.eu/2017/06/12/project-update-heat-transfer-in-solar-heated-1m-long-receiver-tube/
6	ANIMATED VIDEO OF THE PRINCIPLES OF THE NEXT-CSP SOLAR THERMAL POWER PLANT	Communication	20/06/2017	http://next-csp.eu/2017/06/20/animated-video-principles-next-csp-solar-thermal-power-plant/
7	NEXT-CSP 2ND PROJECT MEETING	Event	23/06/2017	http://next-csp.eu/2017/06/23/next-csp-2nd-project-meeting/
8	NEXT-CSP SCIENTIFIC PUBLICATION	Scientific publication	01/09/2017	http://next-csp.eu/2017/09/01/next-csp-scientific-publication/
9	NEXT-CSP 3RD PROJECT MEETING AT IMDEA IN MADRID	Event	23/11/2017	http://next-csp.eu/2017/11/23/next-csp-3rd-project-meeting-imdea-madrid/
10	THEMIS SOLAR FIELD SIMULATION & INTERACTION WITH THE SOLAR RECEIVER: DEMONSTRATION OF THE RAY-TRACING SOFTWARE SOLSTICE	Communication	14/12/2017	http://next-csp.eu/2017/12/14/animation-themis-solar-field-simulation-interaction-solar-receiver-demonstration-ray-tracing-software-solstice/
11	THE NEXT-CSP PROJECT INCLUDED IN A CATALOGUE OF THE MOST SUCCESSFUL INNOVATIVE PROJECTS IN THE AREA OF RENEWABLE ENERGY	All news	23/01/2018	http://next-csp.eu/2018/01/23/the-next-csp-project-included-in-a-catalogue-of-the-most-successful-innovative-projects-in-the-area-of-renewable-energy/
12	CHECK OUR PROJECT	Communication	27/02/2018	http://next-csp.eu/2018/02/27/need-a-quick-

	DATA FLYER!			summary-of-the-project-check-our-project-data-factsheet/
13	DON'T MISS THE NEXT-CSP WORKSHOP! DISPATCHABLE RENEWABLE ENERGIES: FROM A MYTH TO REALITY	Event	18/05/2018	http://next-csp.eu/2018/05/18/dont-miss-the-next-csp-workshop/
14	NEXT-CSP WORKSHOP PRESENTATIONS – DISPATCHABLE RENEWABLE ENERGIES: FROM A MYTH TO REALITY	Communication	28/06/2018	http://next-csp.eu/2018/06/28/next-csp-workshop-presentations-disptachable-renewable-energies-from-a-myth-to-reality/
15	NEXT-CSP EXHIBITED AT THE ESOF SCIENCE POPULARIZATION EVENT IN TOULOUSE	Event	26/07/2018	http://next-csp.eu/2018/07/26/next-csp-exhibited-at-the-esof-science-popularization-event-in-toulouse/
16	NOVEMBER EDITION – H2020 CSP PROJECTS NEWSLETTER	Newsletter	28/11/2018	http://next-csp.eu/2018/11/28/846/
17	APRIL EDITION – H2020 CSP PROJECTS NEWSLETTER	Newsletter	11/04/2019	http://next-csp.eu/2019/04/11/april-edition-h2020-csp-projects-newsletter/
18	SCIENTIFIC PUBLICATIONS: FLEXIBLE ELECTRICITY DISPATCH FOR CSP PLANT USING UN-FIRED CLOSED AIR BRAYTON CYCLE WITH PARTICLES BASED THERMAL ENERGY STORAGE SYSTEM	Scientific publication	24/04/2019	http://next-csp.eu/2019/04/24/scientific-publications-flexible-electricity-dispatch-for-csp-plant-using-un-fired-closed-air-brayton-cycle-with-particles-based-thermal-energy-storage-system/
19	THE ASSEMBLY OF THE NEXT-CSP PILOT SOLAR LOOP AT THE THEMIS SOLAR TOWER STARTED END OF APRIL 2019	All news	20/05/2019	http://next-csp.eu/2019/05/20/the-assembly-of-the-next-csp-pilot-solar-loop-at-the-themis-solar-tower-started-end-of-april-2019/
20	NEXT-CSP 5TH PROJECT MEETING	Event	23/05/2019	http://next-csp.eu/2019/05/23/next-csp-5th-project-meeting/
21	EVENT: NEXT-CSP AT SMART ENERGIES EXPO 2019	Event	25/06/2019	http://next-csp.eu/2019/06/25/smart-energies-expo-2019/
22	NEXT-CSP TIMELINE	Communication	06/08/2019	http://next-csp.eu/2019/08/06/next-csp-timeline/
23	SCIENTIFIC PUBLICATIONS: PROCEEDINGS SOLARPACES 2018 FOR THE NEXT-CSP PROJECT	Scientific publication	07/08/2019	http://next-csp.eu/2019/08/07/scientific-publications-proceedings-solarpaces-2018-for-the-next-csp-project/
24	NEXT-CSP AT SOLARPACES 2019	Event	11/10/2019	http://next-csp.eu/2019/10/11/solarpace-2019/

25	COMMUNICATION MATERIAL: CHECK OUT THE NEW NEXT-CSP PROJECT FLYER!	Communication	07/11/2019	http://next-csp.eu/2019/11/07/new-project-flyer/
26	NEXT-CSP AT EUROPEAN UTILITY WEEK 2019	Event	25/11/2019	http://next-csp.eu/2019/11/25/european-utility-week-2019/
27	NEXT-CSP 6TH PROJECT MEETING	Event	03/12/2019	http://next-csp.eu/2019/12/03/next-csp-6th-project-meeting/
28	H2020 CSP PROJECTS NEWSLETTER – NOVEMBER 2019 EDITION	Newsletter	09/12/2019	http://next-csp.eu/2019/12/09/h2020-csp-projects-newletter-november-2019/
29	CONTINUATION OF THE ASSEMBLY OF THE PILOT SOLAR LOOP AT THE TOP OF THE THEMIS SOLAR TOWER	Article	19/12/2019	http://next-csp.eu/2019/12/19/continuation-of-the-assembly-of-the-pilot-solar-loop-at-the-top-of-the-themis-solar-tower/
30	NEXT-CSP REVIEW MEETING AND EXPLOITATION WORKSHOP – DECEMBER 2019	Event	16/01/2020	http://next-csp.eu/2020/01/16/review-meeting-ipr-workshop-2019/
31	Keep up with the news from Next-CSP on social media!	News	20/02/2020	http://next-csp.eu/2020/02/20/news-next-csp-social-media/
32	Periodic Reporting 2: Review of the first 36 months of Next-CSP	News	09/03/2020	http://next-csp.eu/2020/03/09/rp2-periodic-report-m36/
33	H2020 CSP PROJECTS NEWSLETTER – APRIL 2020 EDITION	Newsletter	20/04/2020	http://next-csp.eu/2020/04/20/h2020-csp-projects-newletter-april-2020/
34	NEXT-CSP 7TH PROJECT MEETING	Event	03/07/2020	http://next-csp.eu/2020/07/03/7th-project-meeting/
35	COVID-19: NEXT-CSP IS EXTENDED BY 7 MONTHS	News	18/08/2020	http://next-csp.eu/2020/08/18/extension-covid-next-csp/
36	CONFERENCE PROCEEDINGS: 2020 10TH INTERNATIONAL CONFERENCE ON ENVIRONMENT SCIENCE AND ENGINEERING	Article	28/08/2020	http://next-csp.eu/2020/08/28/conference-proceedings-icese-2020/
37	NEXT-CSP HIGHLIGHTED IN THE EC'S RESULTS PACK ON SOLAR HEAT FOR POWER AND INDUSTRY	Article	07/09/2020	http://next-csp.eu/2020/09/07/result-packs-cordis-csp-h2020/
38	NEXT-CSP AT SOLARPACES 2020	Event	15/09/2020	http://next-csp.eu/2020/09/15/solarpaces-2020-virtual/
39	SCIENTIFIC PUBLICATION: SHAPING HIGH	Scientific	22/09/2020	http://next-csp.eu/2020/09/22/paper-

	EFFICIENCY, HIGH TEMPERATURE CAVITY TUBULAR SOLAR CENTRAL RECEIVERS	publication		publication-energies-journal/
40	ONLINE EVENT: MATERIALS & PROCESSES FOR THERMAL SOLAR SYSTEM	Event	30/09/2020	http://next-csp.eu/2020/09/30/webinar-inpower-2020/
41	NEXT-CSP PRESENTATIONS AT SOLARPACES 2020	Communication	07/10/2020	http://next-csp.eu/2020/10/07/presentations-solarpaces-2020/
42	NEXT-CSP 8TH PROJECT MEETING	Event	20/10/2020	http://next-csp.eu/2020/10/20/next-csp-8th-project-meeting/
43	NEXT-CSP PRESENTATION AT IN POWER ONLINE WORKSHOP	Communication	03/11/2020	http://next-csp.eu/2020/11/03/presentation-inpower-webinar-2020/
44	DISCOVER THE UPDATED TIMELINE OF NEXT-CSP	Communication	17/11/2020	http://next-csp.eu/2020/11/17/discover-the-updated-timeline-of-next-csp/
45	CONFERENCE PROCEEDINGS: SOLARPACES 2019	Article	16/12/2020	http://next-csp.eu/2020/12/16/solarpaces-2019-conference-proceedings/
46	H2020 CSP PROJECTS NEWSLETTER – JANUARY 2021 EDITION	Newsletter	28/01/2021	http://next-csp.eu/2021/01/28/h2020-csp-projects-newletter-january-2021/
47	PUBLICATION OF THE NEXT-CSP BROCHURE	Communication	25/03/2021	http://next-csp.eu/2021/03/25/final-brochure-next-csp/
48	MEET THE TEAM: VIDEO INTERVIEW OF EDF, NEXT-CSP PARTNER	Communication	29/03/2021	http://next-csp.eu/2021/03/29/itw-partners-edf/
49	SCIENTIFIC PUBLICATION: AIMING STRATEGY ON A PROTOTYPE-SCALE SOLAR RECEIVER: COUPLING OF TABU SEARCH, RAY-TRACING AND THERMAL MODELS	Scientific publication	09/04/2021	http://next-csp.eu/2021/04/09/scientific-publication-sustainability-2021/
50	MEET THE TEAM: A VIDEO INTERVIEW WITH NEXT-CSP PARTNER IMDEA	Communication	12/04/2021	http://next-csp.eu/2021/04/12/partners-itw-imdea/
51	NEXT-CSP 9TH PROJECT MEETING	Event	19/04/2021	http://next-csp.eu/2021/04/19/next-csp-9th-project-meeting/
52	DISCOVER THE NEXT-CSP PROJECT IN VIDEO!	Communication	20/04/2021	http://next-csp.eu/2021/04/20/discover-the-next-csp-project-in-video/
53	MEET THE TEAM: AN INTERVIEW WITH NEXT-CSP PARTNER INP	Communication	26/04/2021	http://next-csp.eu/2021/04/26/itw-partner-inp-toulouse/

	TOULOUSE			
54	SCIENTIFIC PUBLICATION: DESIGN AND OFF-DESIGN PERFORMANCE COMPARISON OF SUPERCRITICAL CARBON DIOXIDE BRAYTON CYCLES FOR PARTICLE-BASED HIGH TEMPERATURE CONCENTRATING SOLAR POWER PLANTS	Scientific publication	03/05/2021	http://next-csp.eu/2021/05/03/scientific-publication-energy-conversion-2021/
55	MEET THE TEAM: AN INTERVIEW WITH NEXT-CSP PARTNER KU LEUVEN	Communication	10/05/2021	http://next-csp.eu/2021/05/10/itw-ku-leuven/
56	NEXT-CSP ONLINE WORKSHOP – 16 JUNE 2021	Event	11/05/2021	http://next-csp.eu/2021/05/11/next-csp-online-workshop-16-june-2021/
57	MEET THE TEAM: AN INTERVIEW WITH NEXT-CSP PARTNER WHITTAKER ENGINEERING	Communication	24/05/2021	http://next-csp.eu/2021/05/24/itw-partner-whittaker/
58	SAVE THE DATE: NEXT-CSP ONLINE FINAL INFODAY	Event	08/06/2021	http://next-csp.eu/2021/06/08/save-the-date-next-csp-online-final-infoday/
59	THE REPLAY OF THE NEXT-CSP VIRTUAL WORKSHOP IS NOW ONLINE!	Article	18/06/2021	http://next-csp.eu/2021/06/18/the-replay-of-the-next-csp-virtual-workshop-is-now-online/
60	NEXT-CSP FINAL PROJECT MEETING	Event	09/07/2021	http://next-csp.eu/2021/07/09/next-csp-final-project-meeting/
61	WATCH THE REPLAY OF THE NEXT-CSP FINAL INFODAY	Article	12/07/2021	http://next-csp.eu/2021/07/12/final-infoday-replay/
62	PILOT SOLAR UNIT READY FOR OPERATION AT THEMIS SOLAR INFRASTRUCTURE	Article	16/07/2021	http://next-csp.eu/2021/07/16/ms4-prototype-assembly/

ANNEX 2 – LIST OF COMMUNICATION AND DISSEMINATION ACTIVITIES

The table below provides a complete overview of the different activities and communication materials produced since the beginning of the project, the calendar of events attended and organized by the project partners as well as the list of scientific publications and conference proceedings.

For each item we have included several information, such as the purpose, date, target audience, related KPI (target and actual) and partner in charge of the implementation.

We can note that the consortium has regularly attended several events up to the end of 2019 and that, due to the Covid-19 pandemics, we have only attended 3 online big events in 2020. These led to the organization of a virtual booth (where participants could virtually interact with the project communication manager) and to the publication of several conference proceedings.

The other activities, in particular online dissemination tools and channels, were regularly used during the whole duration of the project and all targeted KPIs were met.

	NEXT-CSP Dissemination and communication actions								
Dissemination or communication channel	**Name**	**Purpose and expected impact**	**When (and where if relevant)**	**Target Audience**	**KPI**	**Target**	**Actual**	**Responsible partner**	**Link**
Events organised by the project	Final infoday	Provide better scientific and technological understanding to nonscientific stakeholders Make science more accessible to non-specialists	July 8, 2021 - hybrid event	General public, policymakers, local authorities, stakeholders	Number of participants	40	58	CNRS, Euronovia	http://next-csp.eu/2021/07/09/final-infoday-replay/
	Webinar	Promote the results	June 16, 2021 - Online	Researchers and industrials	Number of participants	40	40	Euronovia - CNRS	http://next-csp.eu/2021/06/18/the-replay-of-the-next-csp-virtual-workshop-is-now-online/
	Training workshop "Dispatchable Renewable Energies: From A Myth To Reality"	Transfer of knowledge to students Attract new students to work on CSP	June 2018 - Edinburgh	Students and education sector	Number of participants	20	32	EPPT - Euronovia - Whitakker	http://next-csp.eu/2018/06/28/next-csp-workshop-presentations-disptachable-renewable-energies-from-a-myth-to-reality/
Participation in external events and conferences	IN POWER online workshop	Promote the results Find new interested users	October 2020 - Online	Scientific community Industry	- Number of conferences attended - Number of posters or oral presentation - Number of visitors at the stand	- 6 conferences attended - 6 posters - Min 200 participants - 20 visitors at the booth	- 16 conferences attended - 22 oral presentations - 2 posters - 7 booths	CNRS, Euronovia	http://next-csp.eu/2020/09/30/webinar-inpower-2020
	SolarPACES 2020 (5 oral presentations, 1 poster, virtual booth)	Promote the results Engage with the industry Find new interested users	October 2020 - Online	Scientific community Industry Policymakers				CNRS, EDF, SBP, WEL, Euronovia	http://2020.solarpaces-conference.org and http://next-csp.eu/2020/10/07/presentations-solarpaces-2020/
	ICESE 2020 - 10th International Conference on Environment Science and Engineering (1 oral presentation that turned into peer-reviewed proceeding)	Promote the results Engage with the industry Find new interested users	May 2020 - Online	Scientific community Industry				EPPT	http://next-csp.eu/2020/08/28/conference-proceedings-icese-2020/
	Solar World Congress – ISES Fair trade Joint booth	Promote the results Engage with the industry Find new interested users	November 2019 - Santiago, Chile	Scientific community Industry Policymakers				Euronovia	https://www.ises.org/what-we-do/events/solar-world-congress#:~:text=Over%20430%20participants%20from%2048,Cooling%20for%
	SolarPACES 2019 4 oral, 1 poster, joint booth	Promote the results Engage with the industry Find new interested users	October 2019 - Daegu, South Korea	Scientific community Industry Policymakers				Euronovia, CNRS, IMDEA	https://2019.solarpaces-conference.org/home/
	CSP Plaza Annual Conference	Promote the project (brochure dissemination) Find new interested users	July 2019 - China	Scientific community Industry Policymakers				Euronovia	http://cpc2019.cspplaza.com/EN.html
	Smart Energy Summit joint exhibition, 1 oral presentation	Promote the results Engage with the industry Find new interested users	June 2019 - Paris (France)	Scientific community Industry Policymakers				Euronovia	https://smart-energies-expo.com/2019/
	Fluidization XVI Congress	Promote the results Engage with the industry Find new interested users	May 2019 - Guilin (China)	Scientific community Industry Policymakers				INPT	https://frc.engineering.ubc.ca/2018/11/21/fluidization-xvi/
	6th Asian Conference on Innovative Energy and Environmental Chemical Engineering	Promote the results Engage with the industry Find new interested users	November 2018 - Taiwan	Scientific community Industry Policymakers				EPPT, CNRS, INPT	https://doi.org/10.1063/1.5117650
	Workshop on solar thermochemical conversion (1 oral presentation)	Promote the project Find new interested users	October 2018 - Seville (Spain)	Scientific community Industry Policymakers				CNRS	http://alojamientosv.us.es/diqaus/wp-content/uploads/Blog/Workshop%20on%20Thermochemical%20Solar%20conversion.pdf
	SolarPACES 2018 joint booth and 3 oral presentations	Promote the results Engage with the industry Find new interested users	October 2018 - Casablanca (Morocco)	Scientific community Industry Policymakers				CNRS/Euronovia/INPT/EPPT/EDF	http://2018.solarpaces-conference.org/home.html
	Smart Energy Summit (joint booth)	Promote the results Engage with the industry Find new interested users	June 2018 - Paris (France)					Euronovia	https://reseaudurable.com/smart-energies-2018-transition-energetique-territoires/
	World Congress on Particle Technology (oral presentation)	Promote the results Engage with the industry Find new interested users	April 2018 - Orlando (US)	Scientific community Industry Policymakers				INPT	https://www.aiche.org/conferences/world-congress-on-particle-technology
	One week course on CSP systems (1 oral presentation)	Promote the project Find new interested users	December 2017 - Morocco	Scientific community				CNRS	Oral presentation "Centrales solaires à concentration Gen3 défis pour la recherche" (Gilles FLAMANT)
	SolarPACES 2017 (joint booth, 3 oral presentations)	Promote the results Engage with the industry Find new interested users	September 2017 - Santiago (Chili)	Scientific community Industry Policymakers				Euronovia, IMDEA	https://aip.scitation.org/doi/pdf/10.1063/1.5067008

	JNES Congress & Conférences Internationales DERBI (oral presentation)	Promote the project Find new interested users	June 2017 - Perpignan (France)	Scientific community Industry				CNRS	https://jnes-2017.sciencesconf.org/data/pages/2017_D
Participation to events for popularization of science	European Utility Week 2019 & PowerGEN (exhibition booth and oral presentation at the EU H2020 Hub)	Popularize science	November 2019 - Paris	Public at large	Number of events attended	1	2	Euronovia	https://www.european-utility-week.com/__search#/
	ESOF - Euroscience Open Forum (joint booth)	Popularize science	July 2018 - Toulouse (France)	Public at large				Euronovia	http://next-csp.eu/2018/07/26/next-csp-exhibited-at-the-esof-science-popularization-event-in-toulouse/
Communication and dissemination material and activities	Final media press kit	Inform about the results	July 2021	Public at large	Number of people reached	N/A	100	Euronovia - CNRS	http://next-csp.eu/wp-content/uploads/2021/07/next-csp-press-pack.pdf
	Brochure	Inform about the project Promote the project	March 2021	Public at large	Number of brochures distributed	20-50	30	Euronovia - CNRS	http://next-csp.eu/wp-content/uploads/2021/03/Brochure-next-csp-web.pdf
	Visual timeline of the project	Inform about the project Promote the project	August 2019 updated October 2020	Public at large	Number of people reached	N/A	150	Euronovia - CNRS	http://next-csp.eu/2019/08/06/next-csp-timeline/
	Roll-up banner	Inform about the project	November 2019	Public at large	N/A	N/A		Euronovia	Picture available in RP2 report, WP10
	2 flyers	Inform about the project Promote the project	First version: February 2018 updated: May 2019	Public at large	Number of flyers distributed at the events	20-50	100	Euronovia	http://next-csp.eu/wp-content/uploads/2020/05/Next-CSP-Flyer.pdf
	Poster	Inform about the project	April 2019	Public at large	N/A	N/A		Euronovia	Picture available in RP2 report, WP9
	Factsheet	Inform about the project	February 2018	Public at large	Number of factsheets distributed at the events	20-50	30-40	Euronovia	http://next-csp.eu/wp-content/uploads/2017/04/Next-CSP-project-factsheet.pdf
	Website	Inform about the project Promote the project	Whole project duration	Public at large	Number of visits	200-500/month	124	Euronovia	http://next-csp.eu/
					Number of news	1/month (58)	62		
	H2020 CSP joint newsletters	To make science more accessible to a wider public To make renewable energies popular	Whole project duration	Stakeholders	Number of newsletters	8	8	Euronovia	http://next-csp.eu/dissemination/newsletters/
					Size of the dissemination list	> 200	> 1000		
	H2020 CSP Twitter account	To make science more accessible to a wider public To make renewable energies popular	Whole project duration	Public at large	Number of followers	150-200	313	Euronovia	https://twitter.com/H2020CSP
	NEXT-CSP LinkedIn account	To make science more accessible to a wider public To make renewable energies popular	Whole project duration	Industrials Researchers Stakeholders	Number of members	150-200	172	Euronovia	https://www.linkedin.com/groups/8596449/
	H2020 CSP YouTube account	To make science more accessible to a wider public To make renewable energies popular	Whole project duration	Public at large	Number of videos online	10	11	Euronovia	https://youtube.com/playlist?list=PLBNLB4htebTtKGDzjPDaaB8ddXMwvYt75
					Number of views	200	180 on average		
	Media appearances (i.e. publications, articles, news, books)	Inform about the project Promote the project	Whole project duration	Public at large	Number of media appearances	8-10	24	All partners	List available in D9.4

	Dense Upflow Fluidized Bed (DUFB) Solar Receivers of High Aspect Ratio: different fluidization modes through inserting Bubble Rupture Promoters. Chemical Engineering Journal (2021) 418, 129376 (not in open access), 2021				CNRS, EPPT, INPT	https://doi.org/10.1016/j.cej.2021.129376
	Design and off-design performance comparison of supercritical carbon dioxide Brayton cycles for particle-based high temperature concentrating solar power plants, 2021				IMDEA	https://doi.org/10.1016/j.enconman.2021.113870
	Aiming Strategy on a Prototype-Scale Solar Receiver: Coupling of Tabu Search, Ray-Tracing and Thermal Models. Sustainability (2021) 13, 3920.				CNRS-PROMES	https://doi.org/10.3390/su13073920
	Design and performance of a modular combined cycle solar power plant using the fluidized particle solar receiver technology, 2020 (not open access)				CNRS	https://doi.org/10.1016/j.enconman.2020.113108
	Shaping High Efficiency, High Temperature Cavity Tubular Solar Central Receivers. Energies (2020) 13, 4803				CNRS	http://dx.doi.org/10.3390/en13184803
	Computation of canting errors in heliostats by flux map fitting: experimental assessment, 2020				CNRS	https://dx.doi.org/10.1364/OE.412116
	Solids Flow in a “Particle-in-Tube” Concentrated Solar Heat Absorber (not in open access), 2019				EPPT, CNRS	https://doi.org/10.1021/acs.iecr.8b04544

Scientific publications	Flexible electricity dispatch for CSP plant using un-fired closed air Brayton cycle with particles based thermal energy storage system, 2019	Number of publications (OA)	6-8	16 (8 in OA)	IMDEA	https://doi.org/10.1016/j.energy.2019.02.135
	Annual performance of subcritical Rankine cycle coupled to an innovative particle receiver solar power plant, 2019				IMDEA	https://doi.org/10.1016/j.renene.2018.06.109
	Thermal analysis of fluidized particle flows in a finned tube solar receiver, Solar Energy (2019), 191, pp. 19-33				CNRS	https://doi.org/10.1016/j.solener.2019.08.062
	Experiments support simulations by the NEPTUNE_CFD code in an Upflow Bubbling Fluidized Bed reactor, 2019 (not open access)				CNRS, INPT	https://doi.org/10.1016/j.cej.2019.123568
	Particles in a circulation loop for solar energy capture and storage (not in open access), 2019				KU MEUVEN, CNRS, EPPT	https://doi.org/10.1016/j.partic.2018.01.009
	Energy analysis of a particle suspension solar combined cycle power plant (not in open access), 2018				KU Leuven	https://doi.org/10.1016/j.enconman.2018.02.067
	High-efficiency solar power towers using particle suspensions as heat carrier in the receiver and in the thermal energy storage (not in open access), 2017				CNRS, EPPT	https://doi.org/10.1016/j.renene.2017.03.101
	Bubbling and Slugging of Geldart Group A Powders in Small Diameter Columns (not in open access), 2017				EPPT, CNRS	https://doi.org/10.1021/acs.iecr.6b04798
	Experiments support an improved model for particle transport in fluidized beds, 2017				Ku Leuven, EPPT, CNRS	https://doi.org/10.1038/s41598-017-10597-3
Conference proceedings	Bio-energy Carriers as Back-up Fuel in Hybrid Solar Power Plants (ICESE 2020)	N/A	N/A	12	EPPT, KU Leuven, CNRS, INPT	https://doi.org/10.1088/1755-1315/544/1/012012
	Integrated solar combined cycle using particles as heat transfer fluid and thermal energy storage medium for flexible electricity dispatch (SolarPACES 2019)				IMDEA	https://doi.org/10.1063/5.0029297
	Particle flow and heat transfer in fluidized bed-in-tube solar receivers (SolarPACES 2019)				CNRS-PROMES	https://doi.org/10.1063/5.0028761
	Hybrid optical method for characterizing a heliostat field in a concentrated solar power plant (SolarPACES 2019)				CNRS-PROMES, IPAG CNRS	https://doi.org/10.1063/5.0029270
	Application of SbpRAY for Simulation and Optimization of a Heliostat Field and Cavity Receiver (SolarPACES 2019)				SBP	https://doi.org/10.1063/5.0030257
	The fluidized bed air heat exchanger in a hybrid Brayton-cycle solar power plant (AIP Conference Proceedings 2126, 140002 (2019)				CNRS, EPPT	https://doi.org/10.1063/1.5117650
	Optimization of a decoupled combined cycle gas turbine integrated in a particle receiver solar power plant (AIP Conference Proceedings 2126, 140007 (2019)				EDF	https://doi.org/10.1063/1.5117655
	Scale-up considerations of the UBFB solar receiver (AIP Conference Proceedings 2126, 030067, 2019)				CNRS, EPPT	https://doi.org/10.1063/1.5117579
	Application of un-fired closed Brayton cycle with mass flow regulation and particles based thermal energy storage systems for CSP (SolarPACES 2018)				IMDEA	https://doi.org/10.1063/1.5117559
	Particles-based Thermal Energy Storage Systems for Concentrated Solar Power Applications (SolarPACES 2017)				IMDEA	https://doi.org/10.1063/1.5067215
	Optimization of an Integrated Solar Combined Cycle (SolarPACES 2017)				IMDEA	https://doi.org/10.1063/1.5067214
	Fluidized particle in tube solar receiver and reactor: A versatile concept for particulate calcination and high-efficience thermodynamic cycles (SolarPACES 2017)				CNRS	https://doi.org/10.1063/1.5067053