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Solar Energy in Industrial Processes*

***FRIENDSHIP***  
***Forthcoming Research and Industry for European and National Development of SHIP***  
*Starting date of the project: 01/05/2020*  
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CO	Confidential, only for members of the consortium (including the Commission Services)	



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## FRIENDSHIP

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## Executive Summary

Timely and effective dissemination of results is an essential part of every research project. This ensures that the gained knowledge or exploitable foreground can benefit the whole society, and that any duplication of research and development activities is avoided.

This document summarizes the strategy for disseminating the results of FRIENDSHIP project and the activities planned to give high visibility to the project, its achievements and partners. Dissemination activities will be developed with the aim to support the project exploitation, trying to attract and involve the stakeholders through specific communication activities.

Dissemination and Communication strategy will be regularly updated so that all possible dissemination and communication routes are used during the whole course of the project. Also, any suggestions on dissemination from the project's External Advisory Board will be taken into special consideration. This document will be updated in M18 and M36.

EC rules for dissemination are summarized in Chapter 2: guidelines for internal communication, dissemination and publication of the project contents, with reference to the EC Open Access policy, are provided to partners. The quality assurance and approval process are also described. The target audience is defined as well as the corresponding communication strategy: project website, brochures, multimedia and social media are addressed to broad public; scientific publications, publications in technology news server and participation to conferences are addressed to the scientific community; workshops, events, press releases and newsletters are addressed to CSP community, industry, policy-makers and media, etc. A Dissemination plan and corresponding timelines, able to create awareness is developed and presented in the Timeline subchapter.

FRIENDSHIP dissemination and communication activities are presented in the Chapters 3, 4, 5 and 6. Chapter 3 describes the main dissemination materials such as project logo, website, fact sheet, leaflets & brochure, newsletters and press releases, and social media. Chapter 4 presents the FRIENDSHIP tools such as FRIENDSHIP Guideline and Decision-making tool. Chapter 5 introduces the organization of the FRIENDSHIP events like workshops, final conference, training and stakeholders' involvement activities, publications of the FRIENDSHIP results in scientific events (conferences, symposia, meetings) and articles in relevant journals and periodicals. Chapter 6 is related to the Chapter 6 is addressed to the potential EU clustering activities and sister projects have been identified for this purpose.

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## 1. Introduction

Deliverable 9.1 Dissemination and Communication strategy documents prepared is part of the task 9.1 Dissemination, communication, and public events. The task states that partners will define a working document outlining the dissemination strategy (definition of internal procedures, target audience, and timelines) and communication strategy (means, methods and tools used to approach the defined target audience during the life of the project). The Dissemination activities and plan will be updated periodically by the use of “*FRIENDSHIP recording dissemination*” Excel file and information about dissemination will also be included in the periodic reports. “*FRIENDSHIP recording dissemination*” Excel file has already been distributed to FRIENDSHIP partners through OwnCloud in order to declare the dissemination activities where will be involved in the coming 18 months. Inputs are included in this document in particular on the subchapter Publications of the FRIENDSHIP results.

The dissemination strategy has the objective to outline the main elements and strategic choices regarding the dissemination activities of the FRIENDSHIP project towards the most important stakeholder groups. The document will enable the project team to properly plan and implement all required dissemination activities in order to achieve the identified main objectives: implement communication activities targeted to different stakeholders, produce publicity materials for project outputs awareness and involve the SHIP community throughout all phases of the project. Actively participate in conferences, workshops, trade-shows and courses and foster relationships with other framework projects and initiatives (clustering activities) are key initiatives for the plan.

## 2. Dissemination and Communication strategy plan

In relation to the external communication, it has to be mentioned that the dissemination of the project's achievements should never jeopardize the potential protection of generated intellectual property (e.g. patent, product design) and further industrial application. Therefore, before any dissemination activity (publication, presentation) strict rules of prior notice to all partners will be applied, according to EC guidelines. Partners will have the possibility to refuse dissemination of their own know-how (background or results) when it could potentially harm the partner's interests. The Dissemination Manager in cooperation with the Exploitation Manager will follow all the above described approval processes and will act as an internal executive approval body for any dissemination action organized by different partners.



Figure 1. Information and timeline of intention of publication

All project outcomes will acknowledge the support of the European Commission as it is requested by the Article 29 (Dissemination of Results, Open Access, Visibility of EU Funding) and Article 38 (Promoting the Action, Visibility of EU Funding) of the H2020 MGA and follow its principles. Unless it goes against their legitimate interests, each beneficiary must 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). This does not change the obligation to protect results in Article 27, the confidentiality obligations in Article 36, the security obligations in Article 37 or the obligations to protect personal data in Article 39, all of which still apply. The proper dissemination details (e.g. time schedule for prior notice and partner's approval) will be covered by signed Consortium Agreement.

Prior notice of any planned publication should be given to other consortium members at least 45 calendar days before the publication. Any objection to the planned publication shall be made in accordance with the Grant Agreement in writing to the Coordinator and to the consortium member proposing the dissemination within 30 calendar days after receipt of the notice. If no objection is made within the time limit, the publication is permitted (Figure 1).

The following information will be always mentioned in the publication: *“This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 884213, project FRIENDSHIP.”*

The procedures to allow all dissemination materials to be quality assured including both the content and layout are established with the aim to check: (i) messages to be transmitted outside of the consortium, including the suitability of the messages for the people addressed, the stress on the benefits and the relevance for the industry (when applicable); (ii) technical contents control in order to ensure the quality of achieved scientific and research objectives of project brochures; (iii) that scientific papers and publications contain sufficient reference to the project; and (iv) layout quality and suitability to the standard.

### 2.1. Guidelines for partners

The European Commission is encouraging the Dissemination Leaders to record, track, monitor, coordinate and report all the project Dissemination activities (publications, participation to events, contributions to press and media) with dedicated Deliverables and sessions inside the Periodic Reports. **An Excel file was prepared in order to track each partner’s contribution, prepare a complete list of possible future actions and monitor/assess each**

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**dissemination activity.** This file, created at the very beginning of the project, is composed of three different sheets: Scientific publications, Events and Press & Media (Figure 2, 3 and 4). The tables include information about each dissemination activity performed within the project (type and title, URL and references, targeted public and participants, date, location, FRIENDSHIP partner responsible for such Dissemination, visibility level, etc.) and associated methods (attendance, abstract submission, poster show, distribution of materials like fact sheet, newsletter, etc., oral presentations, DEMO/video show, stand/booth, press releases, post in social media, interviews and videos, etc.). It is distributed amongst the Consortium members and updated internally each 6 months during the whole FRIENDSHIP project duration. This updated information will be inserted in the official updated Dissemination and communication strategy in M18 and M36.

The following guidelines were provided to the partners as procedures for disseminating FRIENDSHIP (i.e. submit a peer-reviewed article, attend a conference, have a booth at a Trade Fair, publish press releases, post online information about the project, communicate with media, etc.):

- **Send an email to the Dissemination Manager** (Fabrizio Perrotta - AMI) and, **in case, to the other involved partners** (i.e. coordinator and co-authors for publications). Please, remember the clauses of prior to notice, approval and acknowledgement in the CA
- Each partner is free to choose **any national or international event or conference**, which may be interesting for showing results from the Project. **Co-authorships are encouraged and possible joint participation of partners** at the same event will be coordinated by the Dissemination Manager
- Once your article is published/ the conference or exhibition is closed/ the link of your contribution to media is available, send an email to the Dissemination Manager with some additional information to fill in and update the Excel tables
- The Dissemination Leader will update the Excel file **„FRIENDSHIP recording dissemination“** that will be made available for partners via OwnCloud. The dissemination recording Excel file will be circulated by email amongst the project partners for a double-check and updates every 6 months.

The benefits of having periodic recording of the project Dissemination activities are: provide regular updates to the EC about the project dissemination and the exploitation of the Excel tables from the project partners to be updated about project publications and upcoming events.

Dissemination recording and plan								
Name of the journal/book	Publisher/editor	D.O.I. (*)	Title of the FRIENDSHIP publication (#)	Partner responsible/main author	Authors	Cost of the Gold Open Access	Date of submission	Date of publication

(\*) D.O.I. Digital Object Identifier is a character string (a "digital identifier") used to uniquely identify a digital object, such as an electronic document. A DOI name differs from standard identifier registries such as the ISBN and ISRC.  
 (#) Peer review articles, manuscripts, book chapters, abstracts/articles in book of proceedings, thesis, etc.

Figure 2: Dissemination Recording Plan Scientific Publication

Dissemination recording and plan													
Type of event (*)	Name of event	URL	Date	Place	Partner responsible/participants	Targeted audience (#)	Number of participants/visibility (G)	Outputs (i.e. n. of contacts taken - see sheet "contacts")	Attendance	Abstract submission	Paper submission	Poster submission	Dissemination activity Lectures/Presentation Brochures/Newsletter distribution Video/DEMO Book/stand

(\*) Examples: Conferences, Workshops, Exhibitions, Trade Fairs, BusinessToBusiness meetings, Training, Clustering event, Other events  
 (#) Examples: Scientific community (including students and researchers), End users/customers, Industries (Components manufacturers/Integrators), Standards & regulation bodies, Broad public, Policy makers, Media, etc.  
 (G) Examples: Worldwide/International, European, National, Local

Figure 3: Dissemination Recording Plan Events

Dissemination recording and plan											
Press and Media (*)	URL	Publication date	Partner responsible/author	Targeted audience (#)	Language	Visibility (C)	Publication in paper form	Web article	Web post	Visual contents	Interview

(\*) Examples: Name of Newspaper, Title of non-scientific publication (i.e. magazine, websites, blogs), Social Network (LinkedIn, Facebook, Twitter, etc.), Youtube, Television channel, Radio channel, Others  
 (#) Examples: Restricted target group (Scientific community, End users/customers/industrial associations, Standardization bodies, Policy makers, etc.) or Broad public  
 (C) Examples: Worldwide/International, European, National, Local

Figure 4: Dissemination Recording Plan Press and Media

2.2. Publication policy and open access

Partners agree to generate peer-reviewed articles resulting from projects to an institutional or subject-based repository, for example Zenodo, and to make their best efforts to ensure open access to these articles at the latest on publication or within six months after publication. **The open access to scientific publications will be ensured in line with Article 29.2 H2020 MGA on Open access to scientific publication and “green” or “gold” model would be used depending on the strategy of consortium with regard to the specific peer-reviewed scientific publication.**

**Each beneficiary must ensure open access (free of charge online access for any user) to all peer reviewed scientific publications relating to its results (Article 29.2 of what). In particular, it must:**

- deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications; Moreover, the beneficiary must aim to deposit the research data needed to validate the results presented in the deposited scientific publications.
- ensure open access to the deposited publication at the latest:
- on publication, if an electronic version is available for free via the publisher, or
- within six months of publication in any other case.
- ensure open access to the bibliographic metadata that identify the deposited publication.

Owncloud will be used for internal open access repository. During the FRIENDSHIP project’s course, various data will be collected and generated. It will mainly be the data acquired during the phase of the development and validation of individual technologies/components and the entire toolbox system (data from modelling and simulation) and data obtained during the tests in laboratories and on real testing sites. An appropriate privacy policy will be put in place and all necessary approval will be acquired before the deployment of the system. **Anonymization of all data will be ensured.** All data collected during the project will be placed in the official OwnCloud, where they will be available for all authorized persons and will be properly secured against theft and misuse.

FRIENDSHIP Consortium will use the Zenodo, CEA and SINTEF Repository tools for peer review Publications to ensure to fulfil all the Open Access requirements in line with the Open Science principles. Furthermore, the project will benefit and publish the peer-review publications to the Horizon Europe Open Research Publishing Platform, which it should be launched by the EC in 2021.

2.3. Timeline

The Figure 2 below displays the proposed dissemination and communication channels during the project life span:

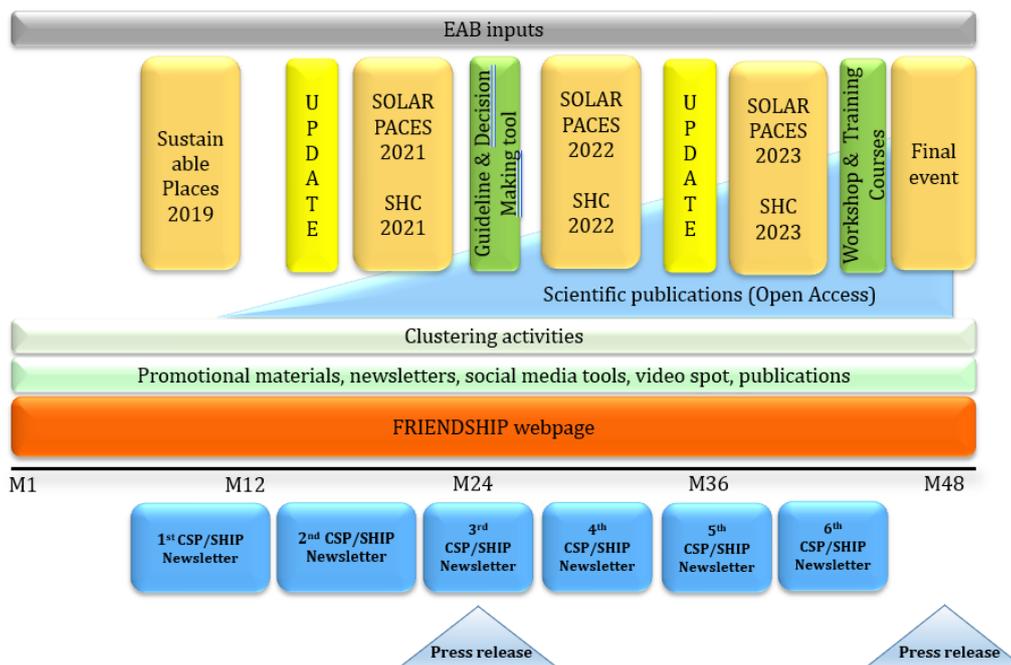


Figure 2. Main proposed dissemination and communication channels

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FRIENDSHIP communication and dissemination activities are suggested as follows:

- development and maintenance of the project webpage
- preparation of the dissemination materials
- training activities
  - e-learning tutorials
  - face-to-face training course
- organization of the FRIENDSHIP events
  - distance learning package three knowledge exchange and transfer courses
  - final FRIENDSHIP conference
- publication of the FRIENDSHIP results
  - at key conferences in Europe
  - in relevant scientific and industrial journals
  - contribution to technology news servers
- EU and national clustering activities
- E-mail newsletters

More in detail, **the FRIENDSHIP dissemination plan foresees:**

- Phase 1 (M1 – M12):
  - webpage creation
  - implementation dissemination strategy
  - clustering activities
  - first FRIENDSHIP presentations at events
  - preparation of the dissemination materials: factsheet
  - 1st CSP/SHIP Clustering Newsletter
- Phase 2 (M13 – M24):
  - dissemination strategy update
  - continuous webpage update
  - clustering activities
  - scientific publications of the FRIENDSHIP results
  - partners participating in conferences and symposia in SHIP related domains
  - dissemination materials: FRIENDSHIP poster/roll-up and brochure
  - CSP/SHIP clustering newsletter n°2 and n°3 and press release summarizing the first half of the project
  - workshop
- Phase 3 (M25 – M36):
  - dissemination strategy update
  - continuous webpage update
  - clustering activities
  - tutorials for SHIP professionals and technicians
  - scientific publications of the FRIENDSHIP results
  - dissemination materials: leaflet with project's results
  - CSP/SHIP Clustering newsletter n°4 and n°5
- Phase 4 (M37 – M48):
  - continuous webpage update
  - dissemination strategy update
  - training
  - scientific publications of the FRIENDSHIP results
  - final FRIENDSHIP conference
  - final project video summarizing the whole project progress
  - CSP/SHIP Clustering newsletter n°6 and Press release summarizing the whole project

## 2.4. Target Audience

Various communication tools will be used and will be tailored to the needs of various stakeholders and audiences. The target audiences will include **scientific community, industry (Concentrated Solar Power, Solar Heat for Industrial Processes, Solar Heating and Cooling, Industrial Cooling), policy-makers, standardization bodies, students, public and the media**. The identified channels and tools for the communication (and dissemination) are introduced in the Chapter 3.

Communication activities will be monitored and followed-up to maximize their impact. Project Officer will be regularly informed about the communication outcomes and based on her/his decision EC communication channels could be used too.

Target groups	Measure for dissemination	Target KPI	Impact
<b>Research community / Education</b>	Presentations at international conferences (M12 onwards)	12	Disseminate technical achievements. Setup collaborations for research activities. Education of users.
	Publications in international journals (M12 onwards)	15	
	Integration of modules with project results in regular courses	2	
	Issued certificates of successful completion of the training courses delivered	5	
	Evidence-based assessment tools (e.g. FRIENDSHIP guideline and FRIENDSHIP decision-making tool)	2	
	Stakeholders participating in the workshops organised in 2022 and 2023 to take-up their activities in a cross-border perspective	8	
<b>Industries and SMEs</b>	Project workshop	2	Direct contacts with customers at booth. Discussing licensing.
	Stakeholders participating in the workshops organised in 2022 and 2023 to take-up their activities in a cross-border perspective	8	
	Exhibitions and trade fairs	10	
	Interest of industrial customers on Technology Exploitation	10	
	Issued certificates of successful completion of the training courses delivered	5	
	Evidence-based assessment tools (e.g. FRIENDSHIP guideline and FRIENDSHIP decision-making tool)	2	
<b>Broad public and media</b>	Project Website (M4): Number of Visits	3000	Create awareness about the project, its objectives and impact on the EU community. Enhance multi-stakeholder learning network for knowledge exchange and for strengthening market competitiveness.
	Public deliverables will be made available: N° of downloads	200	
	Non-scientific publications (articles, press releases, videos) and posts in social media (e.g. Twitter)	10	
	Flyers/Poster distributed at conferences, workshops, etc.	1000	
	Project workshop	2	
<b>End-users</b>	Publications in specialised magazines	5	Technology replicability and business opportunity
	Presentations at specialized events	5	
	Project workshop	2	
	Stakeholders participating in the workshops organised in 2022 and 2023 to take-up their activities in a cross-border perspective	8	
	Issued certificates of successful completion of the training courses delivered	5	

	Evidence-based assessment tools (e.g. FRIENDSHIP guideline and FRIENDSHIP decision-making tool)	2	
<b>Standards &amp; regulation bodies</b>	Standardisation groups the project will interact with	1	Transfer of the pre-normative activities to the committee
	Participation in EU commission's consultation & other worldwide regulatory in the field of interest	1	
<b>Policy makers and EC</b>	Clustering events	4	Interaction with local authorities/communities.
	Project workshop	2	
	Stakeholders participating in the workshops organised in 2022 and 2023 to take-up their activities in a cross-border perspective	8	
	Issued certificates of successful completion of the training courses delivered	5	
	Evidence-based assessment tools (e.g. FRIENDSHIP guideline and FRIENDSHIP decision-making tool)	2	

Table 1. Matrix of intended FRIENDSHIP dissemination and communication channels and the targeted audience

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A role of a Dissemination and Communication Manager (WP9 Leader, Fabrizio Perrotta, AMI) has been established in order to plan, follow, undertake and monitor the planned communication and dissemination activities. Regular contact with all Work Package Leaders will ensure timely communication and dissemination of project outcomes and results.

### 3. Preparation of dissemination materials

Several types of dissemination materials will be prepared during the project's lifespan in order to create awareness and inform wide and various audiences on the FRIENDSHIP project and its development. These materials will be extensively used by FRIENDSHIP partners whenever they present at conferences, publish in journals and magazines, establish contacts with media, attend exhibitions, organize workshops, etc.

The promotional materials developed and under development during FRIENDSHIP project are:

- Project logo
- Project webpage
- Project folders and leaflets.
- Technology news servers
- Presentation at conferences, symposia, meetings
- eTools like Facebook, LinkedIn, Wikipedia, YouTube, Twitter
- Press conference and press releases

All the materials will be distributed to all the partners by email and uploaded to the OwnCloud.

#### 3.1. Project logo

Some proposals for the project logo were designed before the kick-off meeting and discussed with the coordinator. The official FRIENDSHIP logo (Figure 6) is also associated with the EU flag and acknowledgment. The project logo is used in all the project-related advertising materials including templates, website, leaflets, posters, brochures and newsletters.



Figure 3. FRIENDSHIP Official Logo

#### 3.2. Webpage

FRIENDSHIP website [www.friendship-project.eu](http://www.friendship-project.eu) has been set up in order to increase public awareness of FRIENDSHIP project. The FRIENDSHIP website will be actively maintained during the whole course of the project. The whole content of the webpage is public.

The content of individual pages is divided in 6 parts (frames): heading with project's logo, project full name and navigation menu with titles of the pages and subpages (visible as soon as moving the mouse on the page title), four moving photos of the ABSOLICON and Industrial Solar products and plants, a central area with content description related to the page, a moving bar with all partners' logos, and finally a footnote with the acknowledgment of EU funding and EU flag. The website also contains a search tool.

The main navigation menu is placed at the top of the central area and includes the following sections (with their respective subsections): Home, Project with subsections Projects facts, Consortium and EAB members, Work

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Packages, Dissemination with subsections Public deliverables, Scientific publications Repository Tool, Sister Projects & Clustering, Gallery, News & SHIP development with News, Events, SHIP in the industrial sectors, and Press & Media, and Contact us.

At the footnote of the website an acknowledgment of EU funding is placed: This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 884213, project FRIENDSHIP.

Project's website is described in detail in deliverable D9.2.

### 3.3. Project folders and leaflets

In order to provide a broad public, with information about the project, Promotional material like leaflets, flyers, brochures, posters, etc. about FRIENDSHIP. will be created and distributed widely in all key events and through a regularly updated database of contacts (including newcomers registering through the web site). Journalist (from television, periodicals, magazines, newspapers) will be regularly updated on FRIENDSHIP progress, results and events by publishing dedicated press releases. Upcoming events such as the WP1 knowledge transfer workshops will be announced via the above-mentioned channels. They focus for large non-specialized scientific community and stakeholders will be created and distributed to partner's institutions, EC and on dissemination events. Infographics will be used for better visualization of the information and project's objectives. They have been designed, approved by coordinator and distributed in the Consortium.

The objective of the information materials was to present the project in a short, simple and easy to read way. It includes general project information, an introduction about concentrating solar power as promising and sustainable renewable energy, basic facts and expected impact. Names and countries of partners, contacts of the project manager and coordinator, and the webpage link are also provided. The fact sheet can be distributed both electronically and in printed form by each partner during events and meetings with stakeholders.

### 3.4. Technology news servers

The project will comply with knowledge sharing arrangement and will actively contribute to CORDIS - periodically, each time after the latest achievements, at least at the beginning and at the end of the project.

### 3.5. Roll up

In order to make the presentation of the FRIENDSHIP project in different events, a roll-up will be developed including the general project information, the description of the FRIENDSHIP concept and approach with visual contents, the logos of partners and the webpage link. Other posters with more scientific contents could be developed by the partners and presented during scientific symposia and conferences, showing with tangible results and data the achievements of the project to the SHIP community and industry.

### 3.6. Press media

Newsletters and their regular dissemination can help to maintain the visibility of the project during its whole duration, create awareness and expectations regarding the final results and inform the target audience about advances made in the project. FRIENDSHIP is included in a SHIP Clustering group in which a at six-monthly intervals conjoin newsletter will be distributed in the CSP and SHIP community (more information in Section 3 EU Clustering activities). The sequence of the newsletter is developed to include the up-to-date project inputs and give to all projects in the cluster a high visibility together.

At least one press conference will be organized during the project's lifespan to inform the media about the project's content, intentions and/or the achievements. Project beneficiaries could be interviewed for TV/print media outcomes. Press releases will be written and circulated to relevant media list, at least at the beginning, in the middle and at the end of the project. English version could be translated into other languages (Spanish, French, German) to have a broader and local impact.

Publications in magazines, press campaigns and media events by partners will be supported during the lifespan of the project under the approval of Dissemination manager, Exploitation Manager and Project Coordinator. Media will

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be invited also during the next key project events, especially during the last year of the project. All press releases, articles and multimedia news connected with FRIENDSHIP project can be found in the section Press releases within the FRIENDSHIP website.

Project will comply with knowledge sharing arrangement and will actively contribute to CORDIS - periodically, each time after the latest achievements, at least at the beginning and at the end of the project.

### 3.7. Social media

Social Media like LinkedIn, YouTube, Twitter, etc. will be considered to address the potential impact especially to the younger generation and to have the feedback from various audiences. Short news on FRIENDSHIP project and its development would be prepared and shared on the identified tools especially during events, conferences, and symposiums. Social media will also be considered as a communication channels to disseminate potential clustering activities. In particular, FRIENDSHIP will be active in the H2020 CSP/SHIP projects LinkedIn group where the CSP/SHIP projects shares their current status as well as market and policy news.

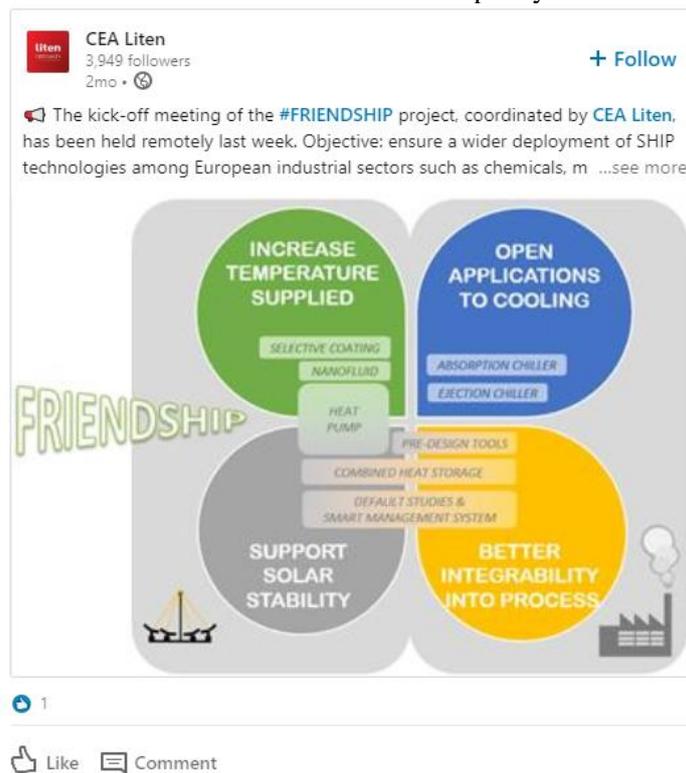


Figure 4. FRIENDSHIP KOM News in CSP H2020 LinkedIn group

## 4. FRIENDSHIP tools

### 4.1. FRIENDSHIP Guideline

A guideline aimed at enlightening the potential of solar thermal heat solutions into industrial processes. The guideline will be delivered at M48, with an interactive version published online at the service of the partners and all end-users. The guideline will be structured as it follows: Module 1: Rationale of SHIP technologies (general overview, key terms, feasibility, etc.); Module 2: Challenges; Module 3: Breaking down silos (strategies and tools for the implementation of SHIP technologies in the European Union, indicators, targets); Module 4: Developing Country Action Plans (logical frameworks, SWOT analysis, tailored action plans).

### 4.2. FRIENDSHIP decision-making tool

Free online tool to support the economic and technical prefeasibility studies for the implementation of solar thermal medium temperatures production into their processes. This tool will enable project managers, regardless of the industry (chemical, metallurgy, plastic, textiles, etc.), understand the value of using a macroscopic approach to successfully manage projects on SHIP technologies. The decision-making tool will be made available at M36 with

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the objective of guaranteeing that the results and information developed within the project continue to exist beyond the life of the project. It will be available in English, French and any other language considered appropriate for the proper use of the tool in the European Union.

## 5. Organisation of FRIENDSHIP events

Events organized by the FRIENDSHIP project are suggested in two directives: organization of project workshops and final FRIENDSHIP conference, and training activities such as tutorials and courses.

### 5.1. Project workshops

The consortium will organize several workshops on the concentrated solar power theme in order to promote the developed FRIENDSHIP concept.

Workshops are scheduled in year 3 and 4. The **workshops** will be organised in two schemes and they will be both public. Testing site visit will be prepared for journalists in order to give them the latest information on solutions developed in the FRIENDSHIP project and allowing them to inform the general public on the possibilities of SHIP plants improvements. Accordingly, INES will also organise a workshop in Germany to launch the FRIENDSHIP decision-making tool (see T9.2) to empower public authorities to plan, finance and implement policies/ programmes favouring.

An important event that it will be part of the project will be the **Energy-forums**. CLARIANT hosts events on different production sites not only in Europe but all over the world where energy managers jointly discuss latest innovative solutions for saving energy in industrial processes. For those meetings, external experts are being invited to present information about specific topics of interest. FRIENDSHIP partners will be invited to Clariant's 'energy-fora' in order to present the innovative technology, discuss about system requirements and potential implementation in our production sites. With this procedure, we will guarantee that the knowledge generated in FRIENDSHIP finds its way into a broader audience within all Clariant legal entities and beyond.

### 5.2. Final FRIENDSHIP Conference

Final FRIENDSHIP event will take place in Grenoble (France) making the most of the testing site in the project, and opening it to the public in order to disseminate the major outcomes and getting in touch with an interdisciplinary group of SHIP stakeholders. The final conference will have speakers from research and innovation, academia, companies and policy-makers. One session of the aforementioned workshop will be dedicated to the launch of the FRIENDSHIP guideline (see T9.2) fostering, firstly, the dissemination of results and experience from the project to relevant communities; secondly, information exchange between existing research and development communities to ensure the suitable implementation of SHIP technologies; and thirdly, the identification of pathways for future research and sustainability of the project outputs. Detailed information about the conference including the exact content, speakers, targeted audience, etc. will be discussed.

### 5.3. Trainings and stakeholders' involvement activities

Training and stakeholders' involvement activities are an important part of FRIENDSHIP and they are included in the task T9.2 Training and stakeholders' involvement. INES is the T9.2 Task leader. The activities related to this task are:

**Face-to-face training:** one face-to-face training session in Chambéry (France) addressed to industrials, engineering offices and auditors with the intention of raising awareness on the use of solar thermal medium temperatures as well as the positive impact for industries. It will be a two-day training course combining theory, real cases study, and a site visit of INES' solar thermal technical platform -of excellence and reference in Europe.

**E-learning:** E-learning videos for training will be set up for the consortium members and any other professional related to the field. This multimedia content is essential for the social innovation of learning combining approaches that include counselling. The e-learning content will be shared in the FRIENDSHIP website. The content will be updated between M25 and M48. The e-learning videos will be based on:

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- Two **practice-oriented training courses: e-learning tutorials** (one per WP2, WP3, WP4, WP5, WP6, WP7, WP8) devoted (M25-M45) to leverage all the contents, models, experience and lessons learnt from the process of transferring the operation of the solar facilities to the operators of the project's industrial partners; and a **complete face-to-face training course** offered to industry players, engineering offices and auditors based on lecture sessions and practical training by means of concrete case studies and an ad-hoc solar plant real-time simulator, to learn the main SHIP concepts and their positive impacts.
- **Evidence-based assessment tools** (FRIENDSHIP guideline (M48) and FRIENDSHIP decision-making tool (M36) to provide information and strategies to, on the one hand, develop a common understanding of solar thermal heat solutions; and, on the other hand, help project partners, end-users, policy-makers and industries build upon the evidence gained as a result of the project to best plan and implement the outcomes.

#### 5.4. Publication of FRIENDSHIP results

Publication of FRIENDSHIP results to relevant scientific periodicals, journals, events and key conferences will be assured during the whole project lifetime. Partners have inserted in the Dissemination Recording Plan excel file the dissemination activities planned until the M18 of the project. M18 will be updated the file and planned the dissemination activities until M36. From M30 is expected to plan the Dissemination strategy of the last year until the end of the project.

#### 5.5. Presentation of conferences, symposia, meetings

A set of conferences, workshops, and seminars in the SHIP domain have been identified by partners to disseminate FRIENDSHIP results.

Here are examples of events, where presentation of FRIENDSHIP project will be considered (the list is not exhaustive, and it will be updated):

- SHC Conferences (<https://www.iea-shc.org/shc-conference> )
- ZEP conferences (<https://zeroemissionsplatform.eu/co2-ts-infrastructure/>)
- ManuChem Strategies (<https://www.global-manufacturing-chemicals.com/>)
- ener.CON Europe (<https://www.energyefficiencyeurope.com/>)
- ARC Industry Forum Europe (<https://www.arcweb.com/events/arc-industry-forum-europe>)
- Strategietage Businessfactors (<https://www.businessfactors.de/en/conferences/information-technology/>)
- MODELICA (<https://www.modelica.org/events/modelica2020Americas>)
- MATHMOD (<https://www.mathmod.at/>),
- International Congress of Refrigeration (<https://icr2019.org/>)
- Heat Pump Conferences (<http://hpc2020.org/>),
- Gustav Lorentzen Conference of Natural Refrigerants (<https://iifir.org/en/fridoc/6030>),
- International Conference on Nanofluids (ICNf) <https://www.icnf2019.com/>
- SmartGrids ETP conferences / workshops (<http://www.smartgrids.eu/>)
- ZEP conference / workshops (<http://www.zeroemissionsplatform.eu/events.html>)
- ESTELA Conference & Exhibition
- SolarPACES conferences (<http://www.solarpaces.org/>)
- SuNEC Sun New Energy Conference
- ISES SWC Grid + events
- Industrial Technologies conference
- EU Sustainable Energy Week 2016 (EUSEW 2016 - <http://eusew.eu> )
- ECOS (<http://ecos2015.sciencesconf.org/>)
- UK Solar Energy (<http://uk.solarenergyevents.com/>)
- PowerGen Europe 2017 (<http://www.powergeneurope.com/index.html>)
- IRSEC (<http://www.med-space.org/irsec-15/>)
- ADEME event on solar thermal energy (<https://www.solarthermalworld.org/taxonomy/term/30181>)
- RHC for a Sustainable Future (<https://www.rhc-platform.org/100rhc-event/>)

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Partners will provide updated information about events attendances in the M6 internal report. Clustering activities with other projects will provide more opportunities to participate in dissemination activities.

### 5.6. Scientific articles in relevant journals and periodicals

Publication of FRIENDSHIP results in relevant scientific and industrial periodicals and journals in Europe will be encouraged during the course of the project.

Examples of journals, where contributions from FRIENDSHIP partners might be expected (the list is not exhaustive):

- Elsevier (<http://www.journals.elsevier.com/solar-energy/>)
- Energy & Environmental Science
- Journal of Energy and Power Engineering
- Science Bulletin
- Resource-Efficient Technologies

## 6. EU Clustering activities

Clustering activities are essential and strategic for FRIENDSHIP dissemination and it will be highly promoted by the consortium. The objectives are to address innovation and exploitation issues in running projects and explore potential for cross-project clustering.

### 6.1. EU Clustering events

FRIENDSHIP project is planning to participate in clustering meetings organized by the European Commission. Similar activities are also expected at national levels. As disclosed in the next subchapter, partners have been working together in other projects, so it is expected a high participation in clustering events.

### 6.2. Project clustering

Dissemination manager responsibility will be also to monitor and to contribute to necessary information related to policy making (market failure, European benchmark, systemic barriers for better European competitiveness, etc.) towards Project Officers, related to the EU clustering activity. In particular, it is expected that the consortium activities will be reported to ESTELA Association and other relevant European Technology Platforms and similar activities are expected also on the national levels. The project will contribute, upon invitation by the INEA, to common information and dissemination activities to increase the visibility and synergies between H2020 supported actions.

Cooperation and synergies with other projects in the field of SHIP by the European Commission will be used to enforce a rapid exploitation and potential cross-linking of project goals and marketing initiatives. Within this collaboration organization of joint events is expected as well as sharing important knowledge gained during the project.

To this aim, ongoing projects has been identified by the Consortium and the European Commission and coordinators will be contacted to identify common actions and share ideas on possible cooperation. It is planned that representatives of identified projects will be also invited to workshops and events organised by FRIENDSHIP. Moreover, policy-structuring meeting will be proactively attended, e.g. DG RTD clustering and brokerage meetings in the LCE domain.

FRIENDSHIP will be actively involved in the CSP/SHIP H2020 clustering group which currently include these projects: Hycool, INSHIP, MOSAIC, MUSTEC, Next-CSP, ORC-PLUS, POLYPHEM, SHIP2FAIR, SOCRATES, SOLPART, SOLWATT, SUN to LIQUID. Clustering activities will include apart the shared events, a common Twitter and LinkedIn groups and a 6 months newsletter.

Following projects were identified as possible for clustering:

- **INSHIP:** INSHIP aims at the definition of an ECRIA engaging major European research institutes with recognized activities on SHIP, into an integrated structure that could successfully achieve the coordination

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objectives of: more effective and intense cooperation between EU research institutions; alignment of different SHIP related national research and funding programs, avoiding overlaps and duplications and identifying gaps; acceleration of knowledge transfer to the European industry, to be the reference organization to promote and coordinate the international cooperation in SHIP research from and to Europe, while developing coordinated R&D TRLs 2-5 activities with the ambition of progressing SHIP beyond the state-of-the-art.

<http://www.inship.eu/>

- **SHIP2FAIR:** SHIP2FAIR (Solar Heat for Industrial Process towards Food and Agro Industries commitment in Renewables) aims to foster the integration of solar heat in industrial processes of the agro–food industry. With this purpose, SHIP2FAIR will develop and demonstrate a set of tools and methods for the development of industrial solar heat projects during their whole life-cycle.  
<http://ship2fair-h2020.eu/>
- **SFERA III:** The overall objective of this project is to carry on with the work done during the past 8 years in the SFERA 1 and SFERA 2 projects and reinforce the sustainability of the activities of the European advanced Concentrating Solar Power research infrastructures.  
<https://sfera3.sollab.eu/>
- **DURASOL:** Durasol is a platform containing scientific equipment for testing the durability of solar materials and systems. Aim is to increase the durability of any type of solar energy systems, such as photovoltaic, solar thermal or concentrated solar power.  
<https://www.durasol.fr/>
- **SUNHORIZON:** The main objective of SunHorizon is to demonstrate up to TRL 7 innovative and reliable Heat Pump solutions (thermal compression, adsorption, reversible) that acting properly coupled and managed with advanced solar panels (PV, Hybrid, thermal) can provide heating and cooling to residential and tertiary building with lower emissions, energy bills and fossil fuel dependency. A cloud-based functional monitoring platform will be realised in the project to be the “performance data mine” for the development of Data Driven/KPI oriented optimized algorithms and tools for predictive maintenance, optimize the management towards maximisation of solar exploitation and give to the manufacturer inputs for new installation design.  
<http://www.sunhorizon-project.eu/>
- **IN POWER:** IN POWER aims at developing and integrating new innovative material solutions into concentrated solar technology to increase the efficiency while simultaneously decreasing the energy production cost.  
<https://in-power-project.eu/>
- **S-PARCS:** S-PARCS presents a sound concept for reducing energy costs and energy consumption in industrial parks, while, at the same time, increasing renewable on-site energy production. The pre-assessment of the seven Lighthouse Parks from Spain, Portugal, Italy, and Austria, which participate in the study, has shown a high potential for joint energy actions, many of which are transferrable to the community of S-PARCS Followers in the UK, Sweden, Turkey, Russia, Italy, Portugal, Austria and Norway.  
<https://www.sparcs-h2020.eu/>

Apart from the joint work on different European and national projects, the consortium is active also in both **SolarPACES** and **SHC** programs which are IEA collaborative programs dealing with solar heating and cooling, solar thermal electric systems, solar chemistry research, solar technology and advanced applications, solar heat for industrial processes, solar resource assessment and forecasting and solar energy and water processes and applications.

In particular, CEA, ISG and INES are strongly involved in the **IEA Task on Solar Process Heat (Task 64 SHC / Task IV SolarPACES)**. The scope of the task is on solar thermal technologies for converting solar radiation into heat and further the intelligent integration of the produced heat into industrial processes (i.e., the subject that is covered by the Task starts with the solar radiation reaching the collector and ends with the hot air, oil, water or steam being integrated into the application).

Applications, systems, and technologies, that are included in the scope of this task, are:

- **All processes in industry**, commerce and agriculture that are thermally driven and operated in a temperature range from ambient temperature up to approx. 400-500 °C.

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- **Solar thermal systems** using air, water, low-pressure steam or oil as a heat carrier, i.e. not limited to a certain heat transfer medium in the solar loop.
- All types of solar thermal collectors are addressed: uncovered collectors, flat-plate collectors, improved flat-plate collectors - for example hermetically sealed collectors with inert gas fillings, evacuated tube collectors with and without reflectors, CPC collectors, MaReCos (Maximum Reflector Collectors), **linear Fresnel collectors, parabolic trough collectors.**

The aim of the FRIENDSHIP Consortium is to become the voice of the **Task 64 SHC / Task IV SolarPACES** and push the SHIP technology towards a wider use into industrial processes.

## 7. Conclusions

This document represents the public Deliverable D9.1 “Dissemination and Communication strategy” of the project FRIENDSHIP and it summarizes the strategy for disseminating the results of FRIENDSHIP project and the activities planned to give high visibility to the project, its achievements and partners. The dissemination of the project’s achievements should never jeopardize the potential protection of generated intellectual property and further industrial applications. Therefore, before any dissemination activity (publication, presentation) strict rules of prior notice to all partners will be applied, according to EC guidelines: prior notice of any planned publication should be given to other consortium members at least 45 calendar days before the publication. The Dissemination Leader in cooperation with the Exploitation Manager will follow the approval processes and will act as an internal executive approval body for any dissemination action organized by different partners.

An Excel file was prepared in order to record each partner’s contribution to dissemination and guidelines for dissemination and publication of the project contents, with reference to the EC Open Access policy, are provided to partners. List of main journals have been identified by partners. It is the role of the main author to propose fair and equal distribution of co-authorships and determine the order. Each partner is free to choose any national or international event or conference, which may be interesting for showing results from the FRIENDSHIP project.

The target audience is defined in the document as well as the corresponding dissemination routes: project website, brochures, multimedia and social media are addressed to broad public; scientific publications, publications in technology news server and participation to conferences are addressed to the scientific community; workshops, events, press releases and newsletters are addressed to SHIP Community, industry, policy-makers and media, etc.

FRIENDSHIP promotional materials will create awareness and inform the wide and various target audiences about the FRIENDSHIP project and its development. These materials will be extensively used by FRIENDSHIP partners whenever they present at conferences, publish in journals and magazines, establish contacts with media, attend exhibitions, organize workshops, etc.

The dissemination plan will be reviewed and updated at the M18 and at M36 to ensure the best dissemination strategy during the later stages of the project. These updates will also include detailed information on the FRIENDSHIP workshops, final conference, tutorials or trainings. Possible new routes will be further monitored and if found relevant they would be integrated in the communication, dissemination and exploitation road map.

When disseminating the results of the project, it will always be ensured, that following sentence is mentioned: *This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 884213, project FRIENDSHIP.*

## **8. Degree of Progress**

The deliverable is to 100% fulfilled. Task 9.1 “Dissemination & Communication strategy document prepared” will continue till the end of the project and the Dissemination activities and plan will be updated periodically (each 6 months) by the use of “FRIENDSHIP recording dissemination” Excel file.

## **9. Dissemination level**

The Deliverable D9.1 is public and therefore it will be available to download on the project’s website and on demand.