SOLARIS

www.solaris-heu.eu

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DISSEMINATION, COMMUNICATION AND EXPLOITATION PLAN

2024

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D8.1 – Dissemination and exploitation incl. communication plan

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Abstract	This document presents the dissemination, exploitation and communication strategy for the SOLARIS project, which aims to foster the development and integration of PV systems in Europe. The project aims to boost Europe's Photovoltaic Future by developing efficient, reliable, and profitable Solar O&M Strategies.
Key words	Communication, dissemination, exploitation, strategy, key message, target group
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Version	Date	Description of change	List of contributors
0.1	31.10	First review	Pierre Hendrickx (EQY), Peter Poulsen (DTU)
0.2	19.11	Integration of exploitation part	Matina Karakitsiou (PPC)
0.3	28.11	Final review	Peter Poulsen (DTU)
0.4	09.12	Final contributions and review by partners	Saeed Peyghami (AAU), Verena Ruedl (UBI), Antonio Sgorbissa (UNIGE), Cristobal Villasante (TEK)

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EXECUTIVE SUMMARY

The deliverable 8.1 "Dissemination and exploitation incl. communication plan" has been developed in the SOLARIS Work Package 8 context. It aims to align the Consortium on the means and tools towards efficient communication, dissemination and exploitation activities to reach the relevant target groups and the wider public, even after the end of SOLARIS.

The purpose of this document is to present the strategy that will be followed for all the dissemination and communication activities of the project and suggest a concrete plan for their implementation throughout the project's four-year duration.

The document outlines all the dissemination and communication tools, channels, and activities that will be utilised in the project, tailored to their respective target groups. It also details the optimal timing for executing the communications strategy and specifies the responsibilities and contributions expected from the various partners.

Deliverable 8.1 is a living document that will evolve throughout the project's duration; it serves as a dynamic record of agreements among the partners, to be reviewed and updated regularly.

1. Introduction

The aim of this document is to present the SOLARIS Dissemination, Communication and Exploitation plan. It sets out a strategy for dissemination and publicity of the project's outcomes, as well as effective engagement of stakeholders in relevant project activities.

Dissemination stands for the public disclosure of the results of the project. It is an active process of promotion and awareness-raising right from the beginning of a project. It makes research results accessible to various stakeholders (i.e. other researchers, industrialists, professional organisations or policymakers) in a targeted manner. Since industrials, researchers, and policymakers of the solar energy sector will be the most benefited target groups of SOLARIS, special focus and efforts will be put on disseminating the project results and technological advances to these groups.

Communication activities promote the project and its results throughout its lifetime to non-expert but targeted audiences. The aim is to inform and reach out to society and to demonstrate the activities carried out, the use and the benefits of the project for citizens. For this various media, both traditional (i.e., Radio, TV, newspaper, posters...) and online (i.e., social media, website…etc) are implemented to reach the wider audience. The content of those activities will be adapted to such an audience so that everyone can understand the stakes and goals of the project without having to understand all the technical details.

Exploitation includes the use of the results of the project in research and innovation activities other than those covered by the action concerned (e.g. continuation of research, patents and licences, sale of products or services, etc.). Specific exploitation strategies and routes will be identified throughout the project, to optimise the use of SOLARIS' results.

For all communication and dissemination activities detailed below, reference to the EU funding will be made: "Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them."

2. Language

The language of this project is English. For consistency, we recommend the use of British English spelling conventions where possible. Other languages spoken in the consortium (Danish, German, Greek, Hebrew, Spanish) will be considered for the elaboration of communication materials.

We recommend partners read the EC DG Translation English Language Style Guide.

3. Stakeholder groups

To better reach the targets of the SOLARIS project through communication, dissemination and exploitation activities and strategies, a complete stakeholder analysis and mapping needs to be conducted.

The stakeholder mapping and analysis will help understand their behaviour and interests, necessary to better design communication, dissemination and exploitation strategies, as well as the linked message and activities. It will also help define in which ways those stakeholders can be solicited to ensure the highest impact of SOLARIS.

The analysis and mapping need to be conducted with the Consortium partners and will be updated annually (M18, M30). Task 7.2 will give new insights about the audiences.

3.1. Preliminary stakeholder analysis

The communication, dissemination and exploitation strategy will aim at reaching the target groups below. Key messages to communicate and project results have also been identified:

Table 1 - Target groups and key message

Category	Stakeholders	Key message	Results
INDUSTRIAL DEVELOPERS, OPERATORS AND MAINTAINERS	PV O&M companies; O&M companies and asset owners beyond solar PV (e.g. solar thermal)	SOLARIS gives you the key to efficient, reliable and profitable operation and maintenance of PV plants.	• Complete and reliable SOLARIS solutions for more profitable O&M activities. • Accurate weather and power generation forecasting • Energy trading tool for optimised energy selling and prolonged BESS lifetime • PV asset management software • Automated monitoring and inspection data gathering for accurate fault detection, identification, predictive maintenance and decision support • Strategies against soiling for PV systems that allow for increased performance and lower cleaning costs • Wind load sensing for adapted self-protection • Novel impedance sensing device for continuous, accurate and preventive fault detection and location & Novel inverter prototype for prolonged components lifetime and reconfiguration • Automated multi-imagery and high-resolution PV inspection using drones for fault location

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FORECASTING & DIGITAL TOOL DEVELOPERS	Forecasting institutions; digital tool developers for fault detection, predictive maintenance, energy trading	SOLARIS gives you access to digital efficiency and actionable data to boost PV energy outputs.	• Accurate weather and power generation forecasting • Energy trading tool for optimised energy selling and prolonged BESS lifetime • Automated monitoring and inspection data gathering for accurate fault detection, identification, predictive maintenance and decision support • PV asset management software • Publicly available datasets and long-term PV potentials allowing to improve the accuracy and reliability of (AI-based) algorithms through training.
MANUFACTURERS FOR EQUIPMENT INSPECTION, MONITORING, RECONFIGURATION & SELF-PROTECTION	Manufacturers of additives for PV cleaning; PV power electronics manufacturers; Drones' developers; equipment manufacturers beyond solar PV, (e.g. solar Thermal); PV sensor developers and manufacturers	SOLARIS brings you low-cost, easy-to-install and reliable physical solutions to maximise the use of solar energy.	Strategies against soiling for PV systems that allow for increased performance and lower cleaning costs Easy-to-install wind load sensing for adapted self-protection Novel impedance sensing device for reliable, continuous, accurate and preventive fault detection and location & Novel inverter prototype for prolonged components lifetime and reconfiguration Reliable and automated multi-imagery and high-resolution PV inspection using drones for fault location
END-USERS	Energy communities; (smart) cities; National/local energy providers	SOLARIS increases the lifetime and efficiency of your solar plant.	Complete SOLARIS solutions set for better PV maintenance and operationality

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ACADEMIA & RESEARCH	Research organisations, DG for Research and Innovation, European Energy Research Alliance (EERA) from the Joint Programme on Concentrated Solar Power (JPCSP), the European Technology and Innovation Platform for Photovoltaics (ETIP-PV)	SOLARIS can bring new elements and trigger further development in the field of solar energy.	Developed and improved forecasting Developed and improved modelling for energy trading, reliability prediction, failure detection and diagnosis Automated monitoring and inspection Complete sustainability assessment Publicly available datasets and long-term PV potentials
POLICY MAKERS & PUBLIC BODIES	Local/regional/national scale policymakers, public authorities, European institutions, DG Energy, DG RTD, DG MOVE	SOLARIS impactful solutions allow for environmental and socio-economic benefits.	Sensibilisation about the role of public authorities in the value chain Demonstration results as examples for proper solutions implementation considering all sustainability aspects
GENERAL PUBLIC	International, European, and national NGOs and local citizens' associations	SOLARIS can demonstrate the importance of solar energy while improving its environmental impact.	Sensibilisation around solar energy

The general key message of the project, that will figure in all communication is:

Make the most of every ray. Boosting solar operation and maintenance through AI-enabled monitoring and forecasting solutions.

3.2. Stakeholder mapping

A stakeholder mapping will be conducted later in the project and will be finalised for the third review of this plan (M30). The mapping and analysis will study the role of stakeholder in driving the uptake of the results and define their stake based on their interest and potential impact.

An initial list will be provided by partners in the frame of T7.2. They will identify and select stakeholders covering all fields of SOLARIS. This initial list will be completed throughout the project.

Based on the results of the analysis, reviewed engagement and dissemination strategies will be developed.

3.3. Stakeholder Forum (StF)

A Stakeholder Forum gathering both PV systems' operators/end-users and technology providers, will be created to:

- Share feedback on the design of the business models for each solution developed
- Help with the overall project exploitation plan to reach market integration of SOLARIS' solutions.
- Support all developments towards commercialisation
- Forster the dissemination of the solutions towards relevant external stakeholders

The Stakeholder Forum will be constituted of at least 50 members coming from the project consortium networks, identified in the stakeholder mapping, especially:

- At least 15 Industrial PV systems developers, operators and maintainers
- At least 10 forecasting and digital tools developers for PV energy
- At least 10 equipment manufacturers for PV monitoring, inspection, reconfiguration and self-protection
- At least 10 researchers
- At least 5 policymakers

A first list of members will be available at M12. Its members will be gathered yearly (e.g. side event of consortium meetings) and will actively participate in networking activities.

4. Dissemination activities

4.1. Dissemination channels and tools

4.1.1. Scientific publications

PURPOSE

SOLARIS partners will publish reports and results (according to the intellectual property rights protection strategy defined in the Consortium Agreement and the open-access objective) in the scientific literature, dedicated peer-reviewed journals and magazines.

TARGET GROUP

These scientific and technical publications will aim to reach the R&D (research and development) community and other research projects in the field of solar energy.

CONTENT

Most publications will be about the development and improvements of the SOLARIS solutions in forecasting, modelling for energy trading, reliability prediction, failure detection and diagnosis and maintenance.

Table 2 - Planned publication topics and targeted journals

Topic	Journal targeted
Physics-based maintenance scheduling Using Condition Monitoring	Journal of IEEE Transactions
Autonomous Aerial Drones - experiments in the field	Journal of Field Robotics
Autonomous Aerial Drones - path planning and visual serving	Robotics and Autonomous Systems
PV module power loss estimation from EL images	Applied Energy / Solar RRL
Monitoring plane of array irradiance in PV plants using sky imaging	Solar Energy
Multibias imaging and diagnostics of PV modules	IEEE Journal of Photovoltaics
Modelling the impact and progress of solar cell failure modes on the electrical and luminescence characteristics of solar cells and modules	Applied Energy
Fault detection in PV plants by string I-V monitoring	Applied Energy
Multispectral image diagnosis of PV modules	IEEE Journal of Photovoltaics
Sensor developments for preventive troubleshooting of solar farms	Applied Energy

New cleaning technique (additives for the cleaning water)	Solar energy Journal / Journal of Sol-Gel Science and Technology
New wind load measurement approach	Solar Energy / IEEE Journal of Photovoltaics
New dust sensor	MDPI Sensors
New energy trading tool	International Journal of Electrical Power & Energy Systems
Environmental, economic and social assessment of the developed solutions	Renewable and Sustainable Energy Reviews/ Science of the total Environment/ Sustainability

Additionally, all public project deliverables will be published on the SOLARIS website.

Table 3 - List of public deliverables

N°	Deliverable name	WP	Lead partner	Date
D1.1	Guidelines for all SOLARIS developments	1	DTU	M6
D6.1	Report on demonstration results and optimisations at DTU	6	DTU	M38
D6.2	Report on demonstration and assessment results at PPC, EILAT and FIB	6	FIB	M48
D8.1	Dissemination and exploitation incl. communication plan	8	EQY	M6
D8.2	Report on communication, dissemination and exploitation	8	EQY	M48
D9.2	Data management plan	9	DTU	M6

SCHEDULE

Publications will be made available according to the results' obtention and deliverables' deadlines.

IMPACT TRACKING

Key indicators	Impact
Number of scientific papers submitted	>15
Number of views of publicly available datasets/projections	> 200

4.1.2. Participation in conferences and events

PURPOSE

SOLARIS partners will attend a minimum of 10 outreach events in the form of workshops, seminars, conferences and side events focussing on solar energy (European Solar Industry Alliance, Pulse, Intersolar Europe, World Future Energy Summit, Power Electronics, EU PVSEC, IEEE PVSC, ICPSEPT, ICPSRE, ICEAI, Sustainable Solar Europe, Solar & Storage Symposium). This will allow to present the project's results, and network with relevant stakeholders, notably industrials active in the field of solar energy.

In addition, at least 3 events (workshops, webinars, conferences) will be organised to present the project's results and issue collaborations with other relevant initiatives in the PV systems industry. At least one will be specifically targeting the Industrial PV systems developers, operators and maintainers.

TARGET GROUP

The scientific community, industrials (developers, operators, maintainers, forecasting and digital tool developers, manufacturers, PV systems developers, operators, maintainers, forecasting and digital tools developers), and policy makers will be targeted with these events.

CONTENT AND SCHEDULE

Events will take place at strategic moments throughout SOLARIS (see Table below). Events on specific topics will be organised until the end of the project, especially during the demonstration phase. The table below introduces the events since the beginning of the project.

Table 4 - SOLARIS representation at events and conference

Name of the event	Date	Location	Partner(s) involved and/or attending
NWR Horizon Conference	February 2025	Germany	Eilat
TMRESS Technologies and Materials for Renewable Energy, Environment and Sustainability	10-13/02/2025	Marocco	PPC
ECPE	19-20/02/2025	Italy	Aalborg University
NREL PV module reliability workshop 2025	4-6/03/2025	USA	DTU
Intersolar Europe	6-7/05/2025	Germany	EMA
CPE-POWERENG	19-20/05/2025	Turkey	Aalborg University
IEEE International Conference on Robotics and Automation ICRA 2025	19-23/05/2025	USA	UNIGE
International Hybrid Power Plants and Systems Workshop	03-04/06/2025	Finland	TEK
PVSC 2025	08-13/06/2025	Canada	DTU

Mission Cities Conference 2025	June 2025	Lithuania	Eilat
Intelligent Autonomous Systems 19	30/06-04/07/2025	Italy	UNIGE
ESCC 2025: 12th International Conference on Energy, Sustainability and Climate Crisis	25-29/8/2025	Greece	PPC
ECCE 2025	31/08-4/09/2025	UK	Aalborg University
European Photovoltaic Solar Energy Conference and Exhibition	22-26/09/2025	Spain	DTU, TEK, EMA
IEEE/RSJ International Conference on Intelligent Robots and Systems	19-25/10/2025	China	UNIGE
IEEE Photonics Conference (IPC)	9-13/11/2025		TEK
Sophia PV module reliability Workshop 2025	29-30/04/2025	Denmark	DTU
EuroSun	1-4/09/2026	Germany	TEK
European Photovoltaic Solar Energy Conference and Exhibition	2026		DTU
IEEE Photovoltaic Specialists Conference	2026		DTU
European Photovoltaic Solar Energy Conference and Exhibition	2027		DTU
Ubiquitous Robotics	2027	Genova	UNIGE
IRTC24: Raw materials in a changing world	2025	Ljubjana	CIEMAT

IMPACT TRACKING

Key indicators	Impact
Number of conferences visited	>8

4.1.3. Collaboration with other projects

PURPOSE

Throughout the project's life, SOLARIS will establish synergies and close cooperation patterns with fellow EU projects and initiatives focusing on solar energy. Joint dissemination activities and clustering will be planned with other funded projects.

TARGET AUDIENCE

The scientific community from other research projects and public authorities (national and European) will be targeted with these events.

CONTENT

SOLARIS will have strongly linked activities with researchers and partners of other projects (see table below). Discussions and exchanges by email, and during meetings with other relevant existing Horizon Europe projects and newly identified projects, will be engaged when relevant to create potential synergies. A special relationship will also be built with the sister projects funded under the same call as SOLARIS, i.e., SUPERNOVA (coordinated by Accademia Europea di Bolzano - UPM).

Additionally, SOLARIS will contribute, upon invitation by CINEA, to common information and dissemination activities to increase the visibility and synergies within Horizon Europe.

SCHEDULE

This will take place throughout the project's life.

Table 5 - Potential collaboration with other projects

SOLARIS objectives	Project acronym	Inputs to SOLARIS	Partner	Collaboration potential
O1	EASY PV	High accuracy paths between PV rows employing GPS positioning; IR images acquiring, georeferencing and processing.	AAU, UNIGE	P
O2	NoSoilPV	The cleaning schedule can be used as a basis for the PV asset management software and built upon using data from the soiling sensor.	TEK	P
O2	SOLWARIS	1st Design of the soiling sensor	TEK	Use of results from SOLWARIS project (already finished)
O2	MULTISPECTRAL	Developing drone based EL/PL inspection tools and AI assisted image processing and fault identification.	DTU, A6	P

O2, O3	SERENDI-PV	Fault diagnosis in different PV plants (bifacial, floating PV, BIPV); Predictive maintenance (inverters & storage); PV power forecasting.	TEK, UBI	P
O3, O4	AI4PV	AI algorithms for comparison in enhanced energy yield, predictive maintenance, etc.	TEK, UBI, ELLC, EQY	P
O2	SIC4GRID	Novel design of power electronics; Reliability models	AAU, EQY	P

SOLARIS Objectives
O1: Improve the accuracy and reliability of forecasted data to feed smart digital solutions and improve the energy management of PV systems.
O2: Interconnect physical solutions for PV systems' automated monitoring, inspection, and response towards better maintenance
O3: Develop a PV asset management software for facilitated decision-making of PV operators, and optimised PV systems' performance and maintenance
O4: Build large and wide datasets through demonstration and assess the sustainability of SOLARIS' solutions.
O5: Ensure the widespread use and market uptake of the demonstrated solutions.

IMPACT TRACKING

Key indicators	Impact
Number of clustering events attended	> 2

4.1.4. Dissemination multipliers

To increase the impacts of SOLARIS, partners will need to exploit the networks they are already a part of as dissemination multipliers: FOTOPLAT, Solar Sector Forum of Basque Country Energy Cluster, IEA PVPS Task 13. Dissemination through I-RIM, the Italian Institute of Robotics and Intelligent Machines of which Antonio Sgorbissa (UNIGE) is a member of the Executive Board, will be possible, also through the Italian Doctorate DRIM with Headquarters in Genova.

5. Communication activities

Through communication activities, SOLARIS targets the general public and aims to raise awareness about the potential of solar energy.

Communication on the SOLARIS project will be done using the following channels and tools:

- Online channels: website of the project (www.solaris-heu.eu), including its visual identity, and social media accounts (LinkedIn and Youtube)
- Promotional materials: short explanatory videos, brochures, leaflets, PowerPoint templates, etc.
- Popular science articles
- Events and conferences (tools: workshops, webinars and/or seminars, site visits, booth at local market, international event, etc.).

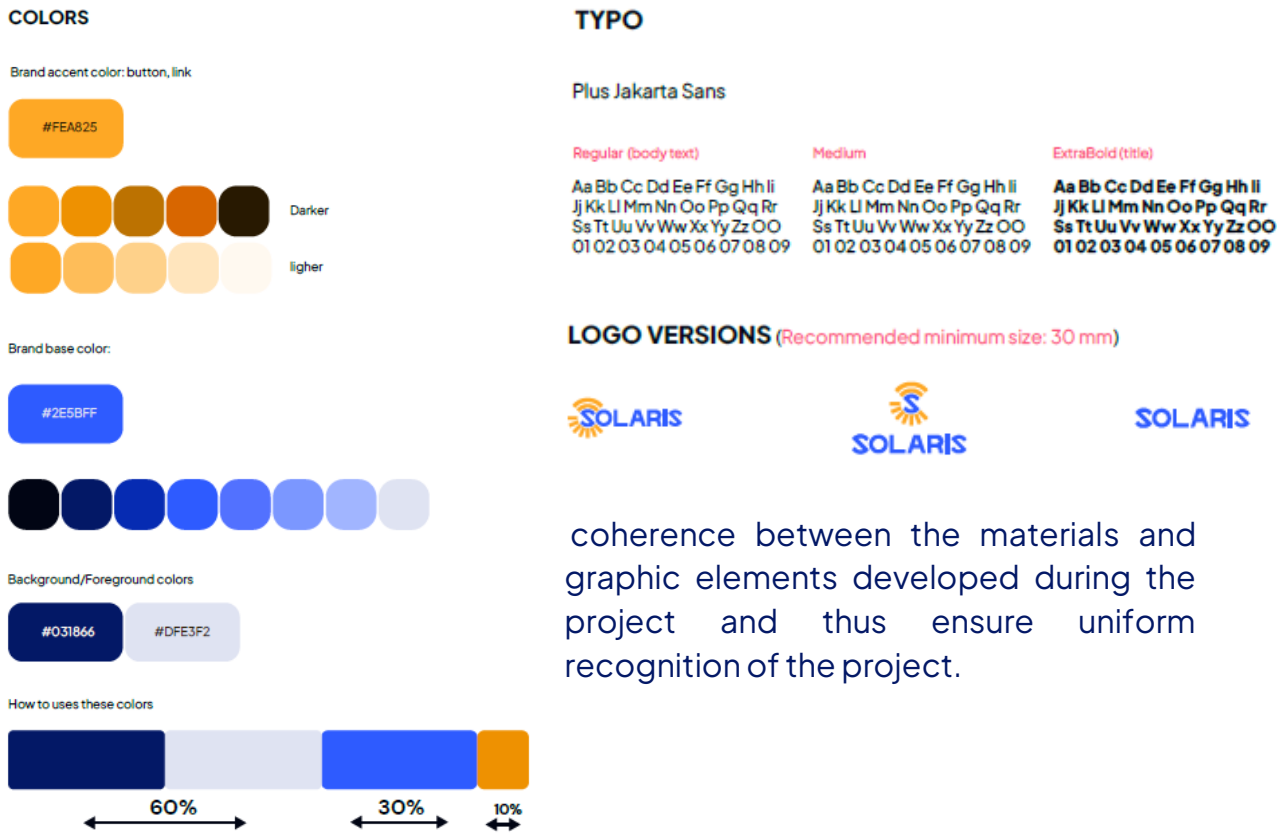
The online channels and promotional materials developed in SOLARIS will be used to target the relevant stakeholders of the SOLARIS project (identified in Table 4.1), but especially the general public.

5.1. Communication channels and tools

5.1.1. Visual identity

PURPOSE

A graphic charter has been developed at the beginning of the project and includes the typography, a colour palette and the logo. It represents the visual identity of SOLARIS. The main objective of the graphic charter is to create



coherence between the materials and graphic elements developed during the project and thus ensure uniform recognition of the project.

Figure 1 - SOLARIS visual identity

5.1.2. Dissemination templates

Based on the visual identity approved by all the consortium partners templates for Microsoft Word and Microsoft PowerPoint were developed by EQY. SOLARIS partners will use these during the project for presentations, reporting, deliverables, etc.

5.1.3. Acknowledgment of EU funding

As included in SOLARIS's Grant Agreement, all materials used in Communication and Dissemination actions as well as any infrastructure, equipment, or supplies funded by the grant must acknowledge EU support and display the European flag (emblem) and funding statement (translated into local languages, where appropriate):

Figure 2 - EU emblem

Whenever possible, the full funding statement should be included. It is however not necessary to include it as a written text in social media posts. The following logo that includes the statement with the grant number should be used:

Figure 3 - EU emblem including acknowledgement

5.1.4. Disclaimer

In some cases, and whenever some project results or opinions are stated through a written text (i.e. reports, articles, publications…) the following disclaimer should be added:

"Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them."

5.1.5. Website

PURPOSE

A website for SOLARIS will be developed in the early stages of the project. The website will be the main communication and dissemination platform, allowing stakeholders and others to access the project aims, development, and results.

The website will be available in English. The website will appear in all project communication materials and should also appear on the partner's websites to increase its visibility.

The general structure of the SOLARIS website will be as follows:

- Home page: picture illustrating the project, followed by a short presentation of the project and the key message of the project. It will also include a key data banner, the goals of the project, a carrousel with the partners' logos and at the bottom the latest news.
- Project
  - About SOLARIS: more in-depth presentation of the project
  - Partners: description of the partners
  - Stakeholders Forum: This section will be up once a preliminary list of the Stakeholder Forum has been finalised. The member of the forum will have a profile dedicated to them as well as a short description about their expertise.
- News & Events: This section will be updated by the partners. The partners will maintain contact with project followers and stakeholders and share with them upcoming events where SOLARIS partners will be present
- Resources: This section will be updated by the partners as project milestones and deliverables are achieved.
  - Reports: This section will include all public deliverables of the project. The stakeholders will be able to access them freely.
  - Scientific publication: It will list the publications published throughout the project by partners.
  - Media kit: Followers will be able to download communication materials of SOLARIS.

- Contact: this section will allow interested person to contact the project consortium.

SCHEDULE

The full English version of the website will be developed by EQY, in close collaboration with the partners, and will be available at M6. The website will be updated regularly by EQY, following project progress. Large updates will be done every 6 months to present e.g., public deliverables (as listed in Table 5.2), milestones and other achievements or results. Other updates will be done following participation in events and other news to be shared monthly.

IMPACT TRACKING

Key indicators	Impact
Number of commercial interests for including SOLARIS' solution(s) in the portfolio before the end of the project	> 5
Number of web page visits per year	>2,000

5.1.6. Social *media*

SOLARIS social media account was created on LinkedIn: https://www.linkedin.com/company/solaris-project-heu/

PURPOSE

Having those social media channels will increase the visibility of the project and allow to reach different stakeholder groups. Additionally, networking, interactions, and content sharing between different stakeholder groups will be made possible. This will help build a community around the project and thus ensure the sustainability of the project results and inputs beyond the project's lifetime. Already existing social media of all partners will also be used to share news on SOLARIS.

CONTENT

To attract a wider audience, the content shared will be general and popularise. They will invite the reader to visit the project website to have more information (e.g., explanation of solar energy, issues on the demonstration sites and their context, upcoming events, details on the project objectives, consortium, activity details etc.).

Posts will include:

- Announcements of progress

- Press releases
- Resources linked to specific deliverables
- Progress updates on the use-cases
- Reports on conferences and meetings
- News on milestone achievements
- Information about forthcoming events
- News on research and developments on related issues from all over the world

Communication campaigns are planned throughout the project and are detailed in Table 6.1. Short videos targeting the general public and policymakers will present the project's results and societal and environmental benefits.

SCHEDULE

The social media account was created at the very start of the project. Regular posts and maintenance will be ensured by EQY throughout the project, with high-impact key campaigns at least once a year, to present project developments and results.

Table 6 - Social media campaign calendar

N°	Date	Topic	Partners involved	Communication support
#1	September 2024	Project presentation	All	Visuals
#2	October 2024 – December 2024	Partner presentation	All	Pictures + written presentations
#4	January 2025	Launch of the website in English	EQY	Website
#5	February 2025 -April 2025	Presentation of the technologies: AI-based nowcasting, mid-term and seasonal forecasting models, AI-based energy trading tool, solutions against soiling, wind load sensing, novel impedance sensing, design for power electronic, autonomous drones' inspection, online IoT platform, PV asset management software	All	Pictures and infographics
#6	May 2025	Behind-the-scenes development of dust and	All	Pictures and infographics

		wind smart sensors + multi-imaging PV inspection with drones		
#7	June 2025	European Solar Day campaign	All	Visuals and infographics
#8	July 2025	Demonstration site presentation	All	Pictures
#9	August 2025 – September 2025	Achievement of the first project year	All	Pictures, infographics
#10	October 2025	Focus on stakeholder forum members and activities	All	Pictures
#11	November 2025 – December 2025	Right and wrong assumptions about solar energy	All	Visuals
#12	January 2026	Launch of animated project video	All	Video
#13	February 2025 – March 2026	Updates on the technology developments	All	Pictures and infographics
#14	April 2026 – May 2026	Behind the scenes preliminary testing of the impedance sensor device and novel inverter	All	Pictures
#15	June 2026	European Solar Day campaign	All	Visuals and infographics
#16	July 2026 – August 2026	EU relevant missions and policy updates every 6 months (Blue deal, Water 2030, soil 2030 mission)	EQY	Infographics
#17	September 2026 – October 2026	Achievement of the second project year	All	Pictures, infographics
#18	November 2026	Focus on stakeholder forum members and activities	All	Pictures
#19	December 2026 – January 2027	Joint communication actions with sister project	All	Visuals and infographics

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#20	February 2027 – April 2027	Updates on the technology developments	All	Pictures and infographics
#21	May 2027	Behind the scene: demonstration at DTU	All	Pictures
#22	June 2027	European Solar Day campaign	All	Visuals and infographics
#23	July 2027 – August 2027	Behind the scene: preparation of the demonstration	All	Pictures
#24	September 2027 – November 2027	Snippets of testing at demonstration sites	All	Pictures
#25	December 2027 – January 2028	Focus on stakeholder forum members and activities	All	Pictures
#26	February 2028	Go back to our technologies: latest updates	All	Pictures
#27	March 2028	Go back to our demonstration sites: latest updates	All	Pictures
#28	April 2028	Final stakeholder Forum update	All	Pictures
#29	May 2028	Launch of final video presenting the results	All	Video
#30	June 2028	Project closure: presentation of results and closure meeting	All	Reports/publications + interviews/testimonials + infographics

The social media schedule will be modified throughout the project to match the needs of the specific activities and actions implemented during the project, that were not foreseen. Common activities with the sister projects are also planned and will mostly be conducted through our social media channels.

IMPACT TRACKING

Key indicators	Impact
Number of posts per year on social media	> 30
Number of views per post on social media	>400
Number of followers through all social media channels	> 600

5.1.7. Promotional material

PURPOSE

The promotional materials are effective communication tools to reach a wide audience. They describe and explain the background of the SOLARIS research and its importance, clearly and succinctly. All printouts will be uploaded to the website, available to download and serve as support documents for events or conferences.

SOLARIS will however limit the physical material used to prevent waste production, and whenever material is needed promote green material (recycled, using less water).

CONTENT

SOLARIS will use physical materials such as roll-ups, brochures and flyers as they are a simple way to disseminate information about the project and can be easily placed on stands, left on tables in high-traffic areas or distributed at events.

Digital tools will also be developed and used throughout the project such as infographics and visuals.

An animated video presenting the project to the general public will be prepared by EQY and disseminated through various channels such as the website and social media.

SCHEDULE

At the beginning of the project, before M6, a roll-up and flyers following the graphic charter will present the project and include the following: project logo, key message, main objectives, and expected results. Other more specific flyers or leaflets will be produced during the project life whenever a result or milestone is reached.

The project presentation video will be developed at the beginning of the second year of the project. A closing video will be developed at the end of the project to present the results synthetically, and accessible to a non-expert audience.

IMPACT TRACKING

Key indicators	Impact
Number of views of SOLARIS video	> 1000

5.1.8. Popular scientific articles

PURPOSE

During SOLARIS, popular science articles will be published to address specific topics linked to the project that are easily understandable by a wider audience. They will be published both in English and in local languages for a wider outreach.

Table 7 – Targeted science journals

Topics	Targeted science journals
Physics-based maintenance scheduling using condition monitoring in PV inverters	IEEE Transactions on Power Electronics
Autonomous Aerial Drones for PV plant monitoring	Focus Italia
The importance of data management in solar farm troubleshooting	Journal of Applied Physics

CONTENT

The articles will focus on specific issues of the project, including technical while being understandable by a wide audience. They will address topics linked to solar energy in general, maintenance of PV plants, automated inspection using drones, PV digitalisation, specific issues of the demonstration sites and their context.

SCHEDULE

As for scientific/technical publications, the popular scientific articles will be published all along the project, at appropriate moments when new research results are obtained and/or planned deliverables are published.

IMPACT TRACKING

Key indicators	Impact
Number of popular science articles published	> 5
Number of readings per article	> 500

5.1.9. Press releases

PURPOSE

During the project's lifetime, press releases will be drafted and published to inform about the progress of SOLARIS.

CONTENT

Each of press release will aim to generate interest in the project's activities. Each partner can issue its press release but needs to inform all partners beforehand to ensure the accuracy and consistency of the information.

SCHEDULE

The press releases will be published along the project when the project has reached key milestones and there is a need to showcase a key development.

IMPACT TRACKING

Key indicators	Impact
Nb of press releases	>3

5.1.10. Communication guide

A communication and social media guide has been developed and shared with the partners, to support the general communication activities. This guide can also be found in Annex 1.

6. Monitoring of dissemination and communication activities

All communication and dissemination activities will be monitored throughout the project. This will be the case for activities initiated by the project, but also by the partners individually. A communication and Dissemination tracker has been made available by EQY on the SharePoint and will need to be updated regularly by all partners, and includes updates about publications, attendance and organisation of events, social media posts and website.

The monitoring of the communication and dissemination activities' impact will take place at every Consortium Meeting (every 6 months) and more thoroughly at each periodic report. The progress assessment will be made through the identified key indicators in this document.

7. Exploitation strategy

7.1. Introduction

This section aims to define and outline the foundational information upon which the SOLARIS Exploitation Plan will be established. This plan will primarily focus on the Key Exploitable Results (KERs) of the project and will detail the steps and measures required to exploit these results at the end of the SOLARIS project and beyond. The Exploitation Plan aims to enable the successful implementation and commercialisation of the project results by considering:

- The market positioning and exploitation expectations of the various partners in developing the KERs

- The management of Intellectual Property Rights (IPR) among partners concerning the KERs
- The risk assessment of the project results
- The individual exploitation plans of project partners
- Technological watch and IP monitoring
- Upcoming funding opportunities
- The market needs—to be addressed in D7.1 - Business Model

The Exploitation Plan aims to maximise the impact of the proposed solutions and prepare the KERs for the transition toward industrialisation and commercialisation. It will describe the activities to be carried out (including how and by whom) to prepare for the exploitation of the project results. During the project's initial phase, exploitation activities will focus on achieving consensus among the partners on the key business strategy elements for the Exploitation Plan. This will involve analysing the different KERs and defining the following aspects:

- The key innovation of each KER (involving all partners connected to the KER)
- Initial exploitation plan for each KER (involving all partners connected to the KER)
- The targeted stakeholders for each KER (involving all partners connected to the KER)
- The initial exploitation route for each KER, updated as the project progresses (involving all partners connected to the KER)
- An initial estimated time for each KER to reach the market (involving all partners connected to the KER)
- The initial exploitation plan for all partners participating in the project (involving all partners not directly related to any KER)

As the project progresses, Table 1 and Table 2 of the KERs will be updated accordingly by all SOLARIS relevant partners, along with Table 3, which includes the individual exploitation plan of each project participant. The potential exploitation results of the consortium partners will be presented in a clear and accessible format to facilitate input from other beneficiaries. The exploitation strategy will be supported by all consortium members. The finalised exploitation strategy for each KER will be presented at the end of the project in M48.

7.2. Exploitation Strategy - Key Pillars for Solaris

The exploitation strategy for SOLARIS will be based on the following key exploitation pillars (KEP). Our approach towards the project's end and beyond will align with the EU's strategy for solar energy and sustainability, driving progress towards a green and resilient energy future. The five key exploitation pillars of SOLARIS are presented below[1]:

KEP1: Decarbonising the Energy Sector: Our objective is to achieve substantial reductions in energy-related CO2 emissions to meet EU climate goals. To do this, we will deploy SOLARIS's advanced AI-based forecasting and energy trading tools, which will maximise the integration of solar power into the grid.

KEP2: Promoting Renewable Energy Dominance: We aim to make renewable electricity the primary energy carrier in the EU. By utilising SOLARIS's comprehensive forecasting tools and autonomous inspection drones, we will enhance the efficiency and reliability of solar power generation.

KEP3: Economic Growth and Job Creation: Our goal is to boost the EU economy and create new jobs in the renewable energy sector. We will accelerate the commercialisation of SOLARIS innovations, such as AI-based energy trading and advanced PV management software. This will drive economic growth, creating more jobs in the renewable energy sector than those lost in traditional fossil fuel industries, in line with EU objectives.

KEP4: Enhanced Energy Security and Efficiency: To improve energy security and operational efficiency of solar energy systems, we will implement SOLARIS's novel impedance sensing and wind load resilience technologies. These innovations will increase the durability and reliability of solar installations, contributing to a stable and secure energy supply.

KEP5: Advancing Green Innovation and Sustainability: SOLARIS will develop and deploy environmentally friendly soiling solutions and low-cost sensors to maintain high efficiency in PV panels. This aligns with the EU's commitment to sustainable development and the circular economy.

Based on the key exploitation pillars and by defining the exploitation routes for each result, the SOLARIS strategy is well-secured to lead to success. By engaging key stakeholders and implementing risk mitigation measures such as risk assessments and technological watch, our strategy aims to bring project results to TRL9 within five years of project completion.

[1] Online Source: https://ec.europa.eu/commission/presscorner/detail/en/memo_15_4485

7.3. Key Exploitable Results (KER)

Although a set of Key Exploitable Results (KERs) has already been identified during the proposal stage of SOLARIS, amending this list may become necessary as the project progresses. Regular meetings, together with a workshop at the end of the project, will be held to carefully monitor all project outcomes for their exploitability. As of now, eight KERs have been identified:

1. PR1: Comprehensive forecasting tool (UBI)
2. PR2: AI-based energy trading tool (TEK)
3. PR3: Solutions against soiling (TEK)
4. PR4: Wind load sensing (TEK)
5. PR5: Novel impedance sensing and design for power electronics (respectively EMA & AAU)
6. PR6: Autonomous drones' inspection (DTU, AIR6 & UNIGE)
7. PR7: Online IoT platform (ELLC)
8. PR8: PV asset management software (HELIO; Add-ons from DTU & AAU)

An analytic description of each result, along with the innovations they will bring and the key stakeholders, is provided in Table 1 by the involved partners: UBI, TEK, EMA, AAU, DTU, AIR6, UNIGE, ELLC, and HELIO.

Table 8 - Analytical description of KERs

PR1: Comprehensive forecasting tool (UBI & UBIDE)
Description: The comprehensive forecasting tool developed by UBIMET focuses on creating a standardised system for weather and energy predictions. APIs will be developed to ensure that data is presented consistently, making it compatible with PV asset management software and energy trading tools. Additionally, a master data API will integrate essential PV characteristics such as location, installation details (orientation, elevation), and panel specifications like power curves, allowing for seamless data management. The web-based dashboard will also be enhanced, providing visualisation, analytics, and reporting features to support insights from demonstration sites. *Innovation:* The comprehensive forecasting tool provides an innovative solution for aggregating precise data by integrating an enhanced AI-driven nowcasting model with a Numerical Weather Prediction (NWP) model, along with aerosol and pollution data. This combination enables highly accurate weather forecasts, including severe weather events, and delivers precise machine learning (ML) and AI-based power generation predictions. Furthermore, a fine-scale global radiation model will improve the spatial resolution of small-scale phenomena, such as local cloud formations. Exogenous factors like temperature, humidity, and aerosols will also be considered using data from ground-based stations and remote sensing.

Key Stakeholders: PV plant operators, PV owners, TSO and DSO
PR2: AI-based energy trading tool (TEK)
Description: The energy trading tool developed by TEKNIKER will be used to optimally operate the PV plants, and enhance their market participation strategy, covering key aspects such as hybridization with storage systems, and the participation in reserve markets. *Innovation:* The AI based energy trading tool will include several novelties which will help maximizing the plant's profitability: - Address the effects of price cannibalisation and forced curtailments in the PV plant at noon hours inside the optimal operation strategy - Include the previous effects in both energy and frequency restoration reserve market participation, hybridizing the PV plant with energy storage systems - Combine classical and metaheuristic optimization methods to provide an optimal and robust scheduling method *Key Stakeholders:* PV plant operators, electricity market agents, PV plant investors
PR3: Solutions against soiling (TEK)
Description: The solution proposed by TEKNIKER will consist of two different development fronts: -Firstly, that of a dust sensor for real-time determination of soiling levels based on IR light scattering measurements. This development will consider the definition of non-invasive installation and management procedures, and the definition of detection algorithms based on the correlation of the sensor output signal with the level of soiling and the power generated. -Secondly, an environmentally acceptable water-based cleaning fluid (90%) and <10% inert materials (silica and titania) for semi-permanent anti-soiling properties *Innovation:* The proposed dust sensor will have several advantages over other types of commercial measuring procedures and equipment available in the state of the art: 1. Low-cost continuous operation 2. Stand-alone operation, no separate cleaning requirements or interference with other equipment. 3. More compact design allows for more integration options and lower estimated cost than other systems based on similar principles. 4. Does not require the presence of sunlight for operation, its data collection period is not limited to dusk as in other camera-based systems As for the water-based cleaning fluid developed in SOLARIS, the innovation beyond the state os the art will be: - The semi-permanent effect on the PV glass providing it with self-cleaning and dust repelling properties without changing its optical properties - Non hazardous product (water based antisoiling fluid) - Easily applicable in plants already in operation - It doesn't need to be applied on clean glass *Key Stakeholders:* PV O&M engineers, PV owners, PV Manufacturers, glass manufacturers
PR4: Wind load sensing (TEK)
Description: The wind load sensing solution proposed by TEKNIKER aims at providing criteria for putting the PV in defence position using the conventional plant level information from the wind sensor complemented with panel level information from

additional sensors (e.g. accelerometers) to assess the damage (deformation and vibration) inflicted by the wind loads to the PV.
The development will be based on a set of low-cost sensors that will be selected after full monitoring of the PV with lab sensor systems (including accelerometers, force sensors and strain gauges, etc.) and after the analysis of the characterization campaign performed during the initial stages of the project.
After the selection of the set of sensors, the data will be analysed and the Reduced Order Model allowing the evaluation of the local state of wind load in the panels will be deployed and integrated in the plant controller to provide a reduction of the wind damage and an improved solar tracking by the reduction of the time spent in the defence position.
Innovation: Detailed monitoring of a solar field at panel level using a wide range of sensors for characterizing the wind load. Selection of a set of low-cost sensors to assess the state of the PV modules and the current wind loads (static and dynamic), Identification of patterns combining the values of the low-cost sensors and the signals already available in the plant, developing Reduced Order Models (ROM) to ensure that each panel is kept in tracking while the mechanical design conditions are not exceeded, optimizing the energy production by limiting the time spent in defence position. Implementation of the ROM in the plant controller to automate the decision about the adoption of the defence position.
Key Stakeholders: PV designers, PV manufacturers, PV tracking systems developers, PV plant operators.

PR5: Novel impedance sensing and design for power electronics (respectively EMA & AAU).

Description: Recent advances in inverter design rely on mission-profile-based reliability analysis using physics-of-failure to design the inverter components for a desired end-of-life criterion under given operating conditions and mission profiles. Furthermore, inverter design based on physical reconfiguration using interleaving concept and redundant operation strategy has been developed to enhance its reliability. However, maintenance and reconfiguration with respect to the state-of-the-health of inverter and active/reactive power control reconfiguration
have not been considered so far in PV inverter design optimisation. As PV systems are working in different loading levels according to solar irradiance, maintenance, physical and control reconfiguration in the PV inverter structure will remarkably impact its reliability, availability, and consequently its manufacturing and operational costs.
Innovation: Going beyond the state-of-the-art, AAU will propose a novel PV inverter design based on current commercial topologies of two-level inverter and three-level NPC inverter with redundant operation to enhance its reliability and decrease its manufacturing and operational costs. The main idea is to design a reconfigurable structure for the PV inverter, where the reconfiguration will be smartly applied at physical level (by having non-exclusive redundant and interleaved legs) and at control level (by reactive power routing), according to the state-of-the health of different power devices and loading conditions. This will not only add physical and non-exclusive redundancy to the inverter to properly operate in case of failure in a power device but also add inherent redundancy in partial loading conditions in case of failure in more than one power device, high thermal damage in some power devices and reactive power supply. Thus, the inverter's availability will be remarkably increased.
Key Stakeholders: PV Inverter manufacturers, PV Designers, PV plant operators, PV owners

PR6: Autonomous drones' inspection (DTU, AIR6 & UNIGE)
Description: UNIGE will explore innovative techniques to enhance aerial drone flight capabilities, enabling: (1) optimized drone path planning over large PV plants, including the possibility of multiple drones operating simultaneously, (2) lower-altitude flights along PV module rows, resulting in higher-resolution image "strips" for each row, rather than producing an orthomosaic, and (3) advanced obstacle avoidance techniques in scenarios involving multiple drones covering the same plant. Collectively, these innovations will boost the competitiveness of companies utilizing aerial drones for PV plant inspections. *Innovation:* UNIGE will propose three innovations. Innovation 1: novel techniques to compute a model of the entire PV plant from aerial or satellite images, coupled with optimized path planning. Path planning will consider factors such as path length, battery charge, availability of multiple drones for coverage, and their take-off positions, all within a unified framework. Optimal and suboptimal techniques will be explored, and their performance compared. Innovation 2: a pipeline of techniques for real-time visual segmentation and servoing to allow drones to navigate along PV modules, improving accuracy with respect to using GNSS positioning alone. These techniques will account for desired altitude relative to the PV panels and handle cases where the panels are not parallel to the ground. Deep learning and computer vision techniques will be employed for panel segmentation, while Extended Kalman Filter-based localization and non-linear control will be explored to compute and correct the positional error between the drone and the PV modules. Innovation 3: Drone coordination algorithms and obstacle avoidance techniques will be developed to dynamically adjust paths in real-time and prevent collisions with other drones or obstacles. Methods for representing the path as the intersection of two 3D surfaces, which are locally deformed by the presence of obstacles, will be investigated as a possible solution. Key Stakeholders: Researchers working on aerial drone applications, Companies using aerial drones for PV plant inspections.
PR7: Online IoT platform (ELLC)
Description: Visual interface for real-time monitoring of the PV plants (through novel sensors developed and already installed SCADA). Data from the drones' inspection will be integrated, as well as the data from the forecasting tool. AI-algorithms for identification of unwanted working conditions patterns. *Innovation:* ELLC will bring its IoT platform to SOLARIS for real-time monitoring and automated control and maintenance of the PV installations, which enhances the current state-of-the-art as follows: 1. Fault detection: By integrating the different data sources and results into a single platform, the fault detection of PV plants is enhanced. 2. Interoperability: By developing the necessary software connectors in-house, ELLC can integrate most meters, sensors, programme logic controllers and other devices on the market. ELLC uses the most appropriate data transmission technology for each location and has no proprietary protocol. It is a completely open solution. 3. Cybersecurity: By guaranteeing data integrity and confidentiality using secure protocols (certified ISO27001), whenever the various connectivity agents allow it.

4. Scalability: By extending the functionality of the ELLC container platform (given the large number of components expected) with tools that offer the option of operating a complex application on discrete systems with reduced management overhead. Clustering can be performed using e.g. Docker Swarm.
5. Automated control: Real-time data managed by the platform can be used for automated control like resetting inverters or adjusting the operation to curtailment conditions.
6. Cost of the solution: By offering a low-cost solution since it does not require purchases, as it is based on open-source technology.

Key Stakeholders: PV O&M engineers, PV owners

PR8: PV asset management software (HELIO; Add-ons from DTU & AAU)

Description: Integrated SaaS PV fleet performance analytics suite allowing to leverage monitoring and field data and turn them into operational insights and actions recommendations.

Innovation: Building on the tool previously developed by HELIO, an unprecedented PV asset management software will be developed, bringing:

1) An extended "data analytics" software, based on a heuristic adaptative digital twin encompassing various models able to detect upcoming fault through the analysis of precursor signatures derived from sensors,

2) A field control app to radically augment the experience of technical field operators through multisource data fusion, offer enhanced spatial information to guide onsite actions, equip operators with analytics with which to address detected incidents, verify fault correction, and/or undertake additional measurements required for a precise diagnosis (based on expert-trained classification decision tree).

3) A fleet management tool based on predictive maintenance to suggest preventive interventions, to prioritise them depending on the severity of the fault, allowing the design of an optimised maintenance scheduling. Two add-ons will be developed for this fleet management tool: i) A risk of module power loss estimator model that takes as input the multispectral (visual, IR, EL/PL) images acquired by drone inspection, and performs automatic image analysis to detect anomalies and potential failures or power loss causes, classify them based on type and severity, estimate power and energy loss over time. This will allow to detect faults/anomalies such as glass breakage, frame and glass/EVA delamination (visual); soiling (IR and visual); potential induced degradation (PID), incipient cell cracking and cell interconnect degradation (EL/PL). ii) A specific focus will be made at the power inverter level, where lifetime prediction models will be developed and used for predictive maintenance in order to enhance the inverter availability and reliability.

Key Stakeholders: PV fleet O&M, PV fleet owners, PV Monitoring portal, PV Manufacturers

7.4. Exploitation routes

As exploitation states, project results can be used in further research activities beyond those covered by the project, in developing, creating, and marketing a product or process, or in creating and providing a service. Therefore, the exploitation route options can be divided into several categories, such as:

- Use for further research
- Developing and selling own products/services
- Spin-off activities
- Cooperation agreements/Joint ventures
- Selling IP rights/Selling the (IP-based) business
- Licensing IP rights (out-licensing)
- Standardisation activities (new standards/ongoing procedures)

For all exploitable results, one or more exploitation routes will be scheduled to identify the exploitation strategy and the target market for at least five years following the project's end. To facilitate this exercise for the partners, in this first deliverable, a template (Table 2) has been created, which will be updated significantly by the end of the project.

Table 9 – Exploitation routes template

	KER	Result	Partner(s)	Type *	Exploitation routes	Time to market
1	Comprehensive forecasting tool	R1	UBI, UBIDE	S-Software T-Technology	Use the KER for further research Developing and selling own products/services	< 2030
2	AI-based energy trading tool	R2	TEK	S-Software T-Technology	Use the KER for further research / Licensing IP rights / New services to the industry	< 2030
3	Solutions against soiling	R3	TEK	T-Technology	Use the KER for further research / Licensing IP rights	< 2030
4	Wind load sensing	R4	TEK	T-Technology	Use the KER for further research / Licensing IP rights	< 2034
5	Novel impedance sensing and design for power electronics	R5	EMA & AAU	ISM	Use the KER for further research / Licensing IP rights / Developing physics of failure based preventive maintenance models for PV inverters	< 2030

6	Autonomous drones' inspection	R6	DTU, AIR6 & UNIGE	UNIGE: Software technology	UNIGE: Use the KER for further research / Licensing IP rights	< 2030
7	Online IoT platform	R6	ELLC	IS	Use the KER for further research Developing and selling own products/services Cooperation agreements/Joint ventures	< 2030
8	PV asset management software	R7	HELIO; Add-ons from DTU & AAU	IS	Use the KER for further research Developing and selling own products/services Cooperation agreements/Joint ventures	2027

* S-Software IS-Integrated Software M-Models T-Technology SE-Service

Partners who are not directly involved in the KERs of SOLARIS should still play a crucial role in the project's overall success by contributing to the exploitation strategy. These partners are required to complete a detailed table (Table 3) outlining how they intend to leverage the SOLARIS results within their own domains or networks. This will include specifying which results they plan to use, the intended applications, potential markets, and any anticipated impacts on their business or research activities. By providing this information, these partners help ensure that SOLARIS results are effectively utilised and disseminated across various sectors, enhancing the project's overall impact.

Table 10 - Individual exploitation plan of each SOLARIS partner

Partner Name	Solaris Result Utilised	Application Area	Target Market/ End Users	Expected Impact	Implementation Timeline
PPC	Physical solutions and Digital	Utility scale-PV systems	PPC will serve as	Increase in performance and reliability the PV	PPC will directly apply the SOLARIS

	tools of SOLARIS		an end user.	systems of PPC through advanced O&M techniques, dust reduction, and AI-driven predictive maintenance.	solutions after the project ends
FIB	Physical solutions and Digital tools of SOLARIS which will be tested at FIB Demonstration sites	Private / Commercial scale PV systems	Researchers and local PV operators	Increase the yield of PV systems and improved maintenance procedures	Immediate implementation after the project end is targeted
EILAT	Sharing the results with households to improve the solar production	Public, private and companies systems	Citizens and municipality PV projects	Eilat city set an energy independence target by 2030, improving PV production will help us speed up the process and will also save a lot of money invested in the Maintenace	Immediate implementation after the project end is targeted
CIEMAT	Data on Solaris solutions and tools	Sustainability assessment	Academia and researchers, stakeholders, decision-makers, regulators	Expand the body of knowledge on sustainability performance of renewables an PV, show the benefits of optimize the use-phase in terms environmental, socioeconomic and economic terms.	Ciemat will exploit the developed data and the sustainability assessment for and after the project
AAU	Digital twin of PV inverter	Utility scale-PV systems	Academia and researchers, PV	Increase the PV inverter lifetime prediction accuracy, increase	AAU will exploit the developed models and tools for PV inverter

	maintenance tool		power plant owners, operators	PV inverter availability and reliability	maintenance after the project

7.5. Intellectual Property Management

The Intellectual Property (IP) Management Strategy for SOLARIS outlines the approach to identifying, protecting, managing, and exploiting the intellectual property generated throughout the project. This strategy ensures that the IP rights of all partners are respected and leveraged effectively to maximise the project's impact and facilitate the commercialisation of the results. There are many types of intellectual property; the most well-known types are copyrights, patents, trademarks, and trade secrets. The main IP types are presented in the table below (Table 4). In this deliverable, we are providing the main guidelines for IP management. The final ownership of results will be delivered in D7. 2 by DTU.

Table 11 - Intellectual property categories

Patent 2	A patent is a type of intellectual property that gives its owner the legal right to exclude others from making, using, or selling an invention for a limited period of years, in exchange for publishing and enabling public disclosure of the invention.
Copyrights 3	Copyright is a type of intellectual property that gives its owner the exclusive right to make copies of a creative work, usually for a limited time. The creative work may be in a literary, artistic, educational, or musical form.
Trademarks 4	Trademarks are a type of intellectual property consisting of a recognisable sign, design, or expression that identifies products or services of a particular source from those of others, although trademarks used to identify services are usually called service marks

[2] https://en.wikipedia.org/wiki/Patent -*Internet Source*
[3] https://en.wikipedia.org/wiki/Copyright -*Internet Source*
[4] https://en.wikipedia.org/wiki/Trademark -*Internet Source*

Trade secret 5	Trade secrets are a type of IP that comprise formulas, practices, processes, designs, instruments, patterns, or compilations of information that have inherent economic value because they are not generally known or readily ascertainable by others, and which the owner takes reasonable measures to keep secret.

7.6. Technological Watch and IP Monitoring

Maintaining a technological watch is crucial to ensure the SOLARIS project remains at the forefront of innovation while safeguarding its Intellectual Property (IP). Partners should regularly monitor scientific publications, patent databases, and industry developments to identify potential threats or opportunities related to their innovations. This proactive approach will help detect emerging technologies or competitive patents that could impact the project's advancements. By staying informed about the latest research and patent filings, partners can anticipate and address challenges, adapt their strategies, and enhance their competitive edge. Regular reviews and updates on the technological landscape will be essential for mitigating risks and capitalising on new developments.

The following table (Table 5) will be populated by all partners. The table results will be reported in M48 in D8.2.

Table 12 - Technological watch of SOLARIS

Date	Source Monitored	Key Findings/Developments	Potential Impact on Project	Action Required	Responsible Partner

[5] https://en.wikipedia.org/wiki/Trade_secret -*Internet Source*

	Patent Database (e.g., EPO) Scientific Journal (e.g., IEEE) Industry News (e.g., Solar Power World)				

7.7. Potential Funding Opportunities

Securing additional funding is crucial for the successful exploitation and commercialisation of project results. This section outlines an initial methodology for identifying funding opportunities that can support exploitation activities beyond the initial Horizon Europe grant, as described in Task 8.4 of the GA. These opportunities include European Union programs, national and regional funding schemes, venture capital, and other private investment sources.

The funding opportunities that will be examined and considered for financing the further development of the SOLARIS project are shown in Figure 1 and are further summarised as follows:

- Create and partially fund the first joint venture (JV) activities with own funds.
- Work on a new proposal and seek EC funding for a new project that will build on and further optimize the SOLARIS results.
- Gain access to funding through local financial institutions via financing programmes handled by the EIB Group: The European Investment Bank (EIB) and the European Investment Fund (EIF).
- Turn to other EC bodies that can provide expertise and facilitate access to funding.
- Find an industrial end-user (whether part of the consortium or not) willing to invest in SOLARIS results until they reach TRL9.

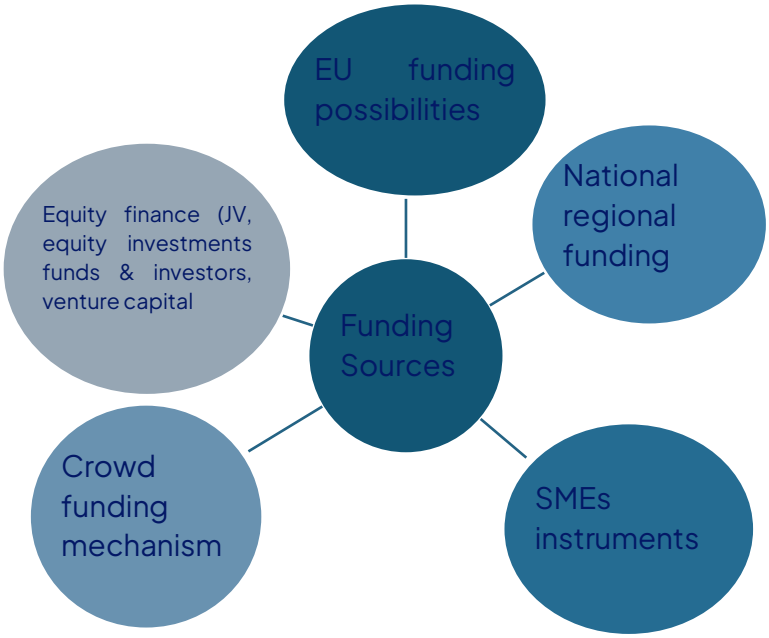

Figure 4 - Future funding opportunities for SOLARIS project

During the exploitation workshop planned near the project's conclusion, all partners will define the exploitation route and strategy for the five years following the project's end. Additionally, all project participants must report their national funding sources related to the SOLARIS topic in D8.2. Table 13 will compile funding opportunities for each region until the project's end.

Table 13 - Regional funding opportunities for countries participating in SOLARIS

Countries	Responsible partner	Regional funding source
Denmark	DTU, AAU, EMA	Innovation Fund Denmark, EUDP
France	HELIO, EQY	
Austria	UBI, AIR6, FIB,	
Spain	ELLC, TEK, CIEMAT	CDTI (Centro para el Desarrollo Tecnológico y la Innovación) SPRI (Agencia Vasca de Desarrollo Empresarial)
Germany	UBIDE	
Israel	EILAT	

Greece	PPC	
Italy	UNIGE	PRIN, Ministero ell'Università e della Ricerca; FIS, Ministero ell'Università e della Ricerca; TRAPEZIO, Fondazione Compagnia di SanPaolo

7.8. Risk identification of the KER

All partners need to evaluate risks using the Risk Assessment Tool (Table 7) to identify and assess risks. They must agree on actions for addressing risks once the exploitable results are finalised. Risk identification is crucial for the smooth progress of the exploitation results and maximising the percentage of commercialisation after the project ends.

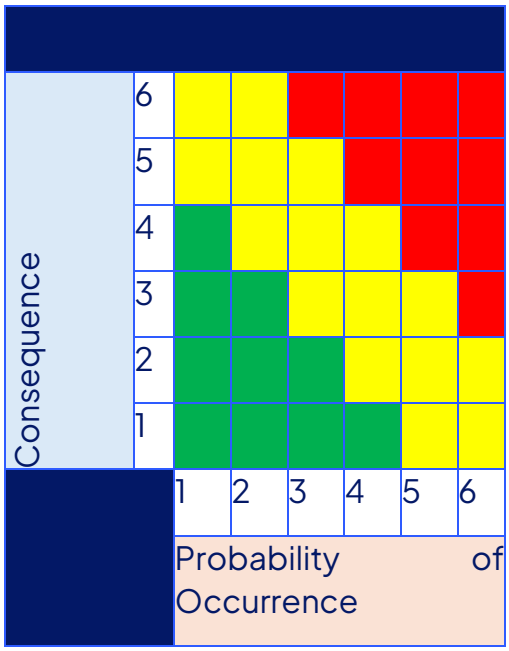

Figure 5 – Risk Assessment Matrix

Risks affecting project success include:

- Technological Risks: Combination of technology and technical risks related to system implementation and integration.
- Partnership Risks: Risks from other partners involved in the project.

- Market Risks: Economic losses from market changes, including equity, interest rate, property, and currency risks.
- IPR/Legal Risks: Legal issues related to laws, standards, and regulations. Challenges in filing patents or IP overlaps.
- Management and Financial Risks: Ineffective project management and financial inconsistencies.
- Environmental, Regulation, Safety Risks: Health, safety, and environmental regulations posing risks to project outcomes.
  These risks will be considered in the subsequent risk evaluation of KERs, which will be included in D8.2. Market risks will be evaluated separately in D7.1: Business Model.

7.9. Next Steps

A comprehensive exploitation plan is developed around five key pillars, supported by an action plan designed to mitigate risks, IP conflicts, and publication conflicts. This plan helps project partners establish a clear strategy for exploiting their results over the five years following the project's completion. It includes detailed exploitation routes for each result, an IP management plan, and potential funding sources.

Activities & Roles

To implement the exploitation strategy, the following roles and activities are essential throughout the project:

Roles

The Project Coordinator (DTU) with support from the Exploitation Manager (PPC), oversees the protection of Intellectual Property Rights (IPR) and the development of business plans outlined in WP7. These roles establish the foundation for the consortium's exploitation strategy.

Activities

1. Workshops: An exploitation workshop will be organised to achieve several objectives:
   - Define the exploitable results in detail
   - Develop the replication and exploitation strategy, addressing what, who, and how
   - Identify barriers and determine ownership for each exploitable result
   - Finalise definitions of IPR and exploitable results

- Discuss the most promising exploitable results and initial business plan hypotheses
- Secure agreement on the final exploitation actions

2. Monitoring and Reporting: Deliverable D8.2 "Report on Communication, Dissemination, and Exploitation," provides:
    - The status of KERs at the project's conclusion
    - The go-to-market strategy for the most advanced KERs, those with higher TRL and market potential

    By clearly defining both roles and activities, this approach ensures that every aspect of the exploitation strategy is effectively managed throughout the project's duration, paving the way for successful commercialization and impact.

Annex 1: Communication and social media guide

Overall dissemination and communication rules

As stated in the Grant Agreement, communication and dissemination activities of the beneficiaries and any infrastructure, equipment, vehicles, supplies or major result funded by the Grant must:

- Acknowledge EU support
- Display the European flag (EU emblem)
- Mention the following funding statement and disclaimer: "Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them."

Please note that it is not necessary to include the funding statement in social media posts, but it is mainly thought for publication, written documents or presentations.

Use of the EU emblem logo

The Commission has set up a guide for you to consult to know more about the use of the logo. We advise you to go through it thoroughly.

Without the funding statement

For material (social media visual, presentation) where there is no need to add the statement. The following logo must be used:

With the funding statement

If you think you need to add the funding statement, then only use the emblem and not the full logo:

Social media guide

This guide will help to coordinate the accounts and the contents that will be communicated over the project's lifetime.

Social *media* account

A LinkedIn (https://www.linkedin.com/company/solaris-project-heu/) account was created at the beginning of the project and plays a key role in day-to-day communication and, more widely, to support the dissemination of the project and other related activities.

LinkedIn will be basically the main account to deliver complete and regular communication. With a basis of 2-3 posts per week maximum, different types of posts are foreseen as described above. It will focus on the presentation of the project partners and main results but also relay dissemination events or relevant activities external to the project.

Guidelines

How to gain visibility

The key to improving our visibility on LinkedIn is to engage with the other members of our network. In terms of ratio, we need to engage 80% of the time and create the remaining 20%. Please note that liking isn't enough to improve our visibility.

We advise to comment judiciously (I.e. by giving your opinion, by sharing a related article, by helping someone with a question) and to participate in certain comments (those you deem relevant).

How to write a post

Visual: Every post should contain a visual (preview of a link, picture…). Select catchy pictures, infographics, statistics...etc

In the text:

- Start with a title presenting the subject of your post (in case of an event, include practical information such as location, date, time...etc)
- Main content: keep it simple and concise, using keywords (which can be technical terms). Think of the post as a teaser for the project website.
- Tag/mention other initiatives and project

- Hashtags to be quoted when relevant:

Hashtags to be quoted when relevant: #Solarisproject #horizoneurope #EUfunded #CINEA #photovolatic #greenenergy #solarenergy

- Partners to tag:

@DTU - Technical University of Denmark | @Aalborg Universitet | @air6-systems | @CIEMAT | @Eilat Eilot Environmental Unit | @Elliot Cloud | @emazys ApS | @Euroquality - Tinexta Group | @Heliocity | @PPC S.A. | @UBIMET Group | @Università degli Studi di Genova | @Tekniker | @Wirtschaftsagentur Burgenland Forschungs- und Innovations GmbH

Example of a post

📢 **Launch of SOLARIS project**

Together with our 15 partners, we kicked off the @SOLARIS **project** in Roskilde, DK Denmark!

➡ SOLARIS aims **at boosting Europe's #photovoltaic future by developing efficient, reliable, and profitable Solar #operations and #maintenance strategies**.

🎯 Ultimately SOLARIS will demonstrate the #effectiveness of a complete set of both physical and digital #solutions for answering the #PV industry needs in terms of improved #forecasting and operational performance as well as better maintenance, and hence higher #profitability of photovoltaic systems.

SOLARIS includes development, testing and demonstration of:

📍 Comprehensive forecasting tool and AI-based energy trading tool (by @UBIMET Group and @ Tekniker)

📍 Solutions against soiling (by @ Tekniker)

📍 Wind load sensing and novel impedance sensing and design for power electronics (by @Tekniker and @emazys ApS & @Aalborg Universitet)

📍 Autonomous drones' inspection (by @DTU - Technical University of Denmark, @air6-systems & @Università degli Studi di Genova)

📍 Online IoT platform (by @Elliot Cloud)

📍 PV asset management software (by @Heliocity; Add-ons from @DTU - Technical University of Denmark & @Aalborg Universitet)

📌 4 ***pilot sites***: 1️⃣ Floating PV plant in 🇩🇰 Denmark lead by @DTU - Technical University of Denmark 2️⃣Rooftop PV in 🇦🇹 Austria lead by @Wirtschaftsagentur Burgenland Forschungs- und Innovations GmbH 3️⃣ Ground-mounted park and AgriPV in 🇮🇱 Israel lead by @Eilat Eilot Environmental Unit4️⃣PV plant in 🇬🇷 Greece lead by @PPC S.A.

We would like to thank our Project Officer @Pablo Vincent Laiglesia from @CINEA, for his support in the start of this project and are looking forward having him as our Project Officer!

🚀Stay tuned for more information about the project and in the meantime read more here 👉 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/org-details/999999999/project/101146377/program/43108390/details

The project has been funded under the @Horizon Europe programme of the @European Commission.

Our partners:

@DTU - Technical University of Denmark | @Aalborg Universitet | @air6-systems | @CIEMAT | @Eilat Eilot Environmental Unit | @Elliot Cloud | @emazys ApS | @Euroquality - Tinexta Group | @Heliocity | @PPC S.A. | @UBIMET Group | @Università degli Studi di Genova | @Tekniker | @Wirtschaftsagentur Burgenland Forschungs- und Innovations GmbH

#Solarisproject #horizoneurope #EUfunded #CINEA #photovolatic #greenenergy #solarenergy

How to help communicate on social media?

- Follow the account above with your organisation's and your own accounts
- Share the posts from SOLARIS account to maximise impacts of the posts
- Propose your own content and remember to also use your local language: By posting with your social media account and tagging SOLARIS account so that we can share your post as well;
- By directly proposing content (article, infographics, surveys etc.) to SOLARIS social media team by email (EQY) so that we can prepare a post or support you in designing/writing the content.

- Invite colleagues and LinkedIn contacts to like and follow SOLARIS account

How can we support you?

- Help you write an article about a workshop, an event or any initiative related to the project that will be added on SOLARIS's website
- Design visual and graphics to be used in posts or printed as brochures

Participation to events

Relevant upcoming events are listed on SOLARIS C&D tracker: SOLARIS_Dissemination and Communication tracker.xlsm

Before attending, we ask you to:

- Inform the coordination and communication team (DTU/EQY) of any participation to events you expect to attend where you will (re)present SOLARIS
- Ask for support to communication team (EQY) to get visuals (rollup banner, flyers etc.). Some are already available on 2. Communication materials.
- If you need to prepare a presentation, use the template Solaris-Presentation-Template.pptx. If you need help ask us so we can provide you with slides explaining the project.

During the event, communicate on it while tagging SOLARIS.

After the event, please:

- Report your participation on the form providing content, pictures, minutes…

Publications

A publication strategy will be included in the update of the Communication and dissemination plan. You can refer to it for good practices.

Please also make sure to check the one-pager about the open-source requirements for the publications.