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SERENDI PV

D10.6 Report on the first Advisory Board meeting

T10.3 Monitoring, reporting and communication with the EC

Grant Agreement nº:	**953016**
Call:	H2020-LC-SC3-2020-RES-IA-CSA / LC-SC3-RES-33-2020
Project title:	**Smooth, REliable aNd Dispatchable Integration of PV in EU Grids**
Project acronym:	SERENDI-PV
Type of Action:	Innovation Action
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Project coordinator:	Fundación TECNALIA Research & Innovation
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Summary

The present deliverable contains the report of the first Advisory Board meeting aimed to provide qualitative advice to SERENDI-PV partners regarding the requirements, project objectives, impacts, standardization, exploitation and dissemination.

This deliverable is an output of task T10.3

Document Information

Title	Report on the first Advisory Board meeting
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10/10/2022	V1.0	Javier del Pozo	TECNALIA	Eduardo Román	Submitted to the EC

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1 EXECUTIVE SUMMARY

1.1 Description of the deliverable content and purpose

The present deliverable contains the report of the first Advisory Board meeting aimed to provide qualitative advice to SERENDI-PV partners regarding the requirements, project objectives, impacts, standardization, exploitation and dissemination.

It includes information on the agenda used for the meeting., the list of attendance, information on the presentations used in the meeting and finally the questions, recommendations and feedback provided by the International Advisory Board experts.

1.2 Reference material

The presentations used in this first AB meeting were based on the presentations prepared for the first Review Meeting held in June 2022 in Brussels.

1.3 Relation with other activities in the project

This report uses only the information provided during the meeting:

- the PPTs presenting the current status of the different WPs
- The questions, recommendations, feed-back provided by the experts and the answers provided by the WP leaders.

1.4 Abbreviation list

Table 1.1: Abbreviation list

Code	Product
AB	Advisory Board

2 MEETING OBJECTIVE AND AGENDA

2.1 Meeting Venue

Meeting Organizer: **TECNALIA**

Meeting Date & Time: **22nd September 2022**

Meeting Type: Teleconference (MS-Teams)

2.2 Meeting Objective

This first meeting was organized to present to the AB experts the **objectives** of the project Work Packages and the **developments made so far**, and get from them **feedback and recommendations** to consider in the future months, as it is described in the Grant Agreement:

*International Advisory Board, comprised of external experts with strong experience in the field, who will give their **advice** and **feedback** on the main arising issues. The IAB will play a key consulting role in the project, providing **feedback on results** and future expectations in other sectors. Physical meetings will be organised at international conferences or fairs. Whenever possible, these meetings will be organised as virtual workshops.*

2.3 Meeting Agenda

Allotted time	Items	*Presented by*
10:00-10:05 (5 min)	**Welcome + Agenda**	**Javier del Pozo (TEC)**
10:05-10:10 (5 min)	**Project Overview – SERENDI-PV in a nutshell:** ✓ project objectives & project WPs	**Javier del Pozo (TEC)**
10:10-10:20 (10 min)	**Round the table presentation:** ✓ Expertise of the AB experts & ✓ WP leaders	**All**
10:20-10.35 (15 min)	**WP1 - Global perspectives on PV reliability, performance and grid integration and transversal assessments:** ✓ PowerPoint presentation: ○ WP objectives ○ WP progress: short description of tasks progress ○ Significant results and main achievements ✓ Q&A / Recommendations / feedback	**Monica Alemán (BI)**
10:35-10.50 (15 min)	**WP2 - Simulation & modelling for PV systems and components:** ✓ PowerPoint presentation: ○ WP objectives	**Ismaël LOKHAT (CYT)**

	○ WP progress: short description of tasks progress ○ Significant results and main achievements ✓ Q&A / Recommendations / feedback	
10:50-11.05 **(15 min)**	**WP3 - Monitoring and data analytics for fault diagnosis and O&M:** ✓ PowerPoint presentation: ○ WP objectives ○ WP progress: short description of tasks progress ○ Significant results and main achievements ✓ Q&A / Recommendations / feedback	**Ricardo Alonso (TEC)**
11.05-11.20 **(15 min)**	**WP4 - On-site testing equipment and procedures for quality control:** ✓ PowerPoint presentation: ○ WP objectives ○ WP progress: short description of tasks progress ○ Significant results and main achievements ✓ Q&A / Recommendations / feedback	**Iván Lombardero (QPV)**
11.20-11.35 **(15 min)**	**WP5 - Power forecasting:** ✓ PowerPoint presentation: ○ WP objectives ○ WP progress: short description of tasks progress ○ Significant results and main achievements ✓ Q&A / Recommendations / feedback	**Tomas Hruska (SGIS)**
11.35-11.50 **(15 min)**	**WP6 - High PV integration into utility grids and markets:** ✓ PowerPoint presentation: ○ WP objectives ○ WP progress: short description of tasks progress ○ Significant results and main achievements ✓ Q&A / Recommendations / feedback	**Basem Idlbi (THU)**
11.50-12.05 **(15 min)**	**WP7 Collaborative modelling & monitoring platform:** ✓ PowerPoint presentation: ○ WP objectives ○ WP progress: short description of tasks progress ○ Significant results and main achievements ✓ Q&A / Recommendations / feedback	**Jonathan Leloux (LUC)**
12.05-12.20 **(15 min)**	**WP8 - Demonstration:** ✓ PowerPoint presentation: ○ WP objectives ○ WP progress: short description of tasks progress ○ Significant results and main achievements ✓ Q&A / Recommendations / feedback	**Ioannis Tsanakas (CEA)**
12.20-12.30	**WP9 - Exploitation, communication and dissemination (exploitation results)**	**Monica Alemán (BI)**

(10 min)	✓ PowerPoint presentation: ○ Task's objective ○ Short description of task progress ○ Significant results and main achievements ✓ Q&A / Recommendations / feedback	
12.30	**Meeting summary**	**Javier del Pozo (TEC)**

3 LIST OF ATTENDANCE

3.1 SERENDI-PV partners

List of SERENDI-PV WP leaders presenting in the meeting:

Partner name	Attendant - Name	Attendant - Email	Project Role	Attend First Advisory Board?
01-TEC	Javier del Pozo	javier.delpozo@tecnalia.com	Project Manager - WP10 Lead	1
01-TEC	Eduardo Roman	eduardo.roman@tecnalia.com	Project Co-ordinator - WP1 Lead	1
01-TEC	Ricardo Alonso	ricardo.alonso@tecnalia.com	WP3 Leader / Technical co-manager	1
02-CEA	Ioannis Tsanakas	ioannis.tsanakas@cea.fr	WP8 Leader / Technical co-manager	1
04-BI	Monica Aleman	m.aleman@becquerelinstitute.org	WP1 lead	1
05-QPV	Iván Lombardero	i.lombardero@qpv.es	WP4 Lead	1
07-LUC	Jonathan Leloux	jonathan.leloux@lucisun.com	WP7 Lead	1
08-SGIS	Tomas Hruska	tomas.hruska@solargis.com	WP5 Lead	1
09-CYT	Ismael LOKHAT	i.lokhat@cythelia.fr	WP2 Lead	1
14-THU	Basem Idlbi	basem.idlbi@thu.de	WP6 lead	1

3.2 International external experts

List of International Experts that attended the meeting:

	Expert - Name	Expert - Email	Role/Expertise	Attend First Advisory Board?
	Marie Latour	marie.latour@outlook.be	Coordinator of ETIP SNET and former project director at EPIA	1
	Hector de Lama	dtecnica@unef.es	Technical Director of UNEF, Spain	0
	Pierre-François Drouin	pf.drouin@syneria.eu	Director of solar energy, Syneria, France, Technical Advisor (TA)	1
	Benjamin Wilkin,	bwilkin@energiecommune.be	APERe[1] Director, Belgium - NGO/citizen	0
	Guillaume Declève,	gdecleve@sun7.eu	Sun7 Director, Belgium - Residential PV installer	0

	Angele Reinders	Reinders, Angele (UT-ET) <a.h.m.e.reinders@utwente.nl>	Teacher in University of Twente, Netherlands, Coordinator EU COST project Pearl PV	1
	Tom Rommens	tom.rommens@vito.be;	Coordinator of H2020 project CIRCUSOL, researcher at VITO	0
	Patricia Darez	patricia.darez@350renewables.com	Managing Director, 350Renewables, Chile, Technical Advisor (TA)	1
	Dr. Sebastian Schreck	sebastian.schreck@siemens.com	Siemens AG Corporate Technology Research in Energy and Electronics	1

4 MEETING SUMARY

The meeting starts on time, at 10.00 the 26th of September, and follows the scheduled topics of the agenda for this meeting.

Welcome + Agenda

Javier del Pozo (TEC) welcomes all the attendees to this meeting (WP leaders and experts) that have joint by TEAMs.

Briefly presents the agenda for the meeting and the main objective of this meeting:

- to present **objectives** of the project Work Packages and the **developments made so far**, and
- get from them **feedback and recommendations** to consider in the future months

Project Overview – SERENDI-PV in a nutshell

This is the first meeting with the Advisory Board. Therefore, in order to became more familiar with the project, Javier del Pozo (TEC) continues with the presentation of the Project Overview, giving a very short project summary including:

- What? - Project Challenges and Objectives
- How? - Overall structure of the WPs
- Objectives of the different reporting periods (M1-M18; M19-M36; M37-M48)
- Project Achievements: Milestones
- Project Achievements: List of deliverables and deliverables submitted so far.

No questions appeared at the end of this short introduction

Round the table presentation

After this short introduction, the Work Package leaders introduces themselves. After that, the international experts attending the meeting introducing themselves, focusing on their main expertise domain with regard to the SERENDI-PV project:

- **Marie Latour**: Worked for European Photovoltaics Industry Association (now Solar Power Europe) for 11 years. Worked in Brussels for Zabala, a Spanish consulting company, that coordinated for 7 years the European Technology and Innovation Platform (EITP). She worked as strategic advisor for the Smart Network for Energy Transition (EITP SNET, former ITP smart grids) which gave her the opportunity to work with the European energy players and in particular looking at long term vision for deployment of the renewable energies and integration into the grids. She was the former project director at EPIA. She has expertise in Dissemination and Communication in many research projects. Also, she has expertise in project management.
- **Patricia Darez**, she is the Managing Director of 350Renewables, a technical consultancy company based in Chile that woks for many companies in South America. She is the vice-president of the Chilian Renewable Energy and Storage association.
- **Pierre-François Drouin**, technical advisor in Syneria (a company based in France and soon will be in Asia). Co-founder of his company and responsible of the PV department. His company is involved mainly in energy companies for project financing and project / companies' acquisition. Also, they provide engineering services. He has 15 years' experience in the field.
- **Angele Reinders**, Teacher in University of Twente, Netherlands. Coordinator EU COST project Pearl PV.

- **Sebastian Schreck**, Research in Energy and Electronics in Siemens AG (R&D department). Working in the Infrastructure Operation group, looking for all kind of optimization models for infrastructure. Previous experience in PV data analysis, data revision from satellite images in German Aerospace. Interested in advanced forecasting.

WP1 - Global perspectives on PV reliability, performance and grid integration and transversal assessments

After that, Monica Aleman (BI) starts with the presentation of the WP1. Her presentation contains the following items:

- WP1: Objectives & breakdown
- WP1 highlights
- Short description of tasks progress:
    - T1.1 – Assessment of KPIs on state of the art for PV reliability, performance, profitability and grid integration
        - Main Results – KPI assessment
        - Main Results –Relevant factors affecting PV production
        - KPI assessment at project start – example PR evaluation
    - T1.2 – Assessment of the European PV fleet capacity and regulatory environment
        - Key Results & achievements
        - Key Results – EU PV Fleet
    - T1.3 – Specifications on future financial challenges related with high PV penetration – Main Results – Grid financing
    - T1.4 – PV in the digital era: data collection, specifications, standardization, database, transfer protocols, data privacy and distribution and IP
    - T1.5 – Follow-up on KPIs progress on PV Reliability, Performance and Profitability and grid integration
    - T1.6 – Specific Key Sustainable Indicators (KSI) based on LCA for high PV penetration scenarios - Main Results - State-of-the-art review
    - T1.7 – Roadmap for high PV penetration levels in Europe and most promising scenarios – RESULTS - OVERVIEW

The questions that appear during and after the presentation are:

- **Pierre-François Drouin:**
    - Where are located the 2 floating PV plants used in the project?
        - They are located in France, and belongs to our project partners AKUO and CNR
    - And the bifacial PV plants?
        - They are located some in France, and some in Spain
    - And how old are those bifacial PV plants?
        - In Spain, one PV plant was 2 years old, and the other one 1-2 years old. They have historic data. But now we have to replace those PV plants for other ones that will be provided by the new partner we are selecting to replace the one leaving the project.
    - And regarding the Ground Mounted PV plants (GMPV), the 44 PV used in the WP1, are they located all over the world?
        - We need to differentiate between different roles (or uses) of the PV plants in the project. One thing is the PV plants used for the demo (in WP8). Those PV plants are specially selected from the partners (AKUO, CNR, COBRA) portfolio to test and

demonstrate the innovations developed during the project. During the project these partners will provide data that will serve to develop the innovations, and at the end they will serve to test the innovations. Besides these project partners provided data from many other PV plants of their portfolio (used only for developing, but not for testing). Also, the developers got PV data from third party companies that they have business contacts.

- All the 44 PV plants are located in Europe as this is requested by the EU commission: France, Austria, Germany, Spain (all the European climate).
- In our project we focus on large PV plants (centralised production), but also on small-medium, PV on houses and companies' roofs (decentralised production), BIPV or BAPV.

WP2 - Simulation & modelling for PV systems and components

After that, Ismaël LOKHAT (CYT) starts with the presentation of the WP2. His presentation contains the following items:

- WP2 overview: Objectives & Main relationships with other WPs
- WP2 Tasks breakdown and Planning
- Short description of tasks progress:
  - Task 2.1: Definition of needs from industry, evaluation of simulation tools and models:
    - work done, deliverables, papers, main achievements so far
  - Task 2.2 Modelling of energy losses due to soiling, snow and degradation:
    - work done, deliverables, main achievements so far
  - Task 2.3: Modelling of new technologies: bifacial, floating PV and BIPV
    - work done, deliverables, main achievements so far
  - Task 2.4: PV system level considerations: solar resource, long-term trends, performance losses, performance uncertainties, etc
    - work done, deliverables, main achievements so far
- Next steps: worked planned for next months

The questions that appear after the presentation are:

- **Sebastian Schreck:**
  - Snow coverage detection. Is there already any published paper on this topic detailing information?
    - SGIS will publish something. They had planned to have done it, but there is a lot of preparation work before the publishing, so still there is not available the paper. For sure they will publish in next months.
  - Are the software APIs that will be developed in the project only for internal use (private) or will be open source?
    - In general, we did not plan to publish the software developments, but rather the contrary to integrate those developments into the already existing commercial tools that belong to the partners.
    - SGIS will implement the algorism into their SGIS commercial toolbox
  - Are the KPIs defined in the project public available?

- Yes, the KPIs identified to measure the project improvements are public. However, the results of applying those KPIs to concrete PV plants are private (sensitive information).

WP3 - Monitoring and data analytics for fault diagnosis and O&M

After that, Ricardo Alonso (TEC) starts with the presentation of the WP3. His presentation contains the following items:

- WP3 Objectives
- WP3 alignment with SERENDI-PV General Objectives
- Relationship among WP3 Tasks
- Relationship with other WPs
- Short description of tasks progress:
  - T3.1 Review of the current status in monitoring, data assessment and data analytics: progress review (work done, main achievements so far)
  - T3.2 Specific data analytics for new technologies: bifacial, floating PV, BIPV, and analysis of trends: progress review (work done, main achievements so far):
    - T3.2.1. Data analytics for Bifacial
    - T3.2.2. Data analytics for Floating
    - T3.2.3. Data analytics for BIPV
  - T3.3 Fault diagnosis toolbox for improved O&M in large PV plants and aggregations: progress review (work done, main achievements so far):
    - T3.3.1. Element-wise fault characterization
    - T3.3.2. Failure detection and diagnosis toolbox
    - T3.3.3. Field data toolbox complementation
  - T3.4 Fault diagnosis toolbox for improved O&M in medium size commercial, residential PV plants and aggregations: progress review
  - T3.5 Data analytics based on image acquisition with UAV/drones: progress description: progress review
  - T3.6 Digital twins of PV components: progress review
    - T3.6.1. PV inverter digital twin
    - T3.6.2. Battery digital twin

The questions that appear after the presentation are:

- **Pierre-François Drouin:**
  - Availability and Performance ratio. Are the objectives that appear results measured?
    - The numbers that appear (20% OPEX reduction and KPIs for Performance Ratio and Energy Availability) are the target numbers (our objectives) that the project wants to achieve with the innovations developed. We are discussing how we are going to demonstrate the impact of the different innovations to achieve those targets. We will need to obtain information from the maintenance book.
    - Currently we can detect failures based on the supervision of the PR with an uncertainty of 1-2%. With the new tools that will be developed in our project, with the capability and sensibility of the new tools we will be able to detect failures that

has lower impact in the PR, so we will detect earlier the failures and be able to correct those failures and gaining 1% in the Performance Ratio.

- Energy Availability is more related with the Digital Twin of the inverter. We will work with the data sets from Ingeteam PV plants, and we will be able to detect problems, to anticipate problems in the real world has led to a blackout of the PV system, we consider that we will improve the Energy Availability and we can demonstrate it this way.

- The numbers are project objectives but still are quite high objectives.

WP4 - On-site testing equipment and procedures for quality control

After that, Iván Lombardero (QPV) starts with the presentation of the WP4. His presentation contains the following items:

- WP4 Overview – Objectives
- Short description of tasks progress:
  - T4.1 – Definition of new needs: work done, main achievements so far
  - T4.2 – Field and lab testing equipment and procedures for soiling, degradation, ageing:
    - 4.2.1 - Field and lab testing equipment and procedures for soiling
    - 4.2.2 - Field testing equipment for ageing, degradation and LeTID at PV module and string/system level
  - T4.3 – Field and lab measurements for new technologies: bifacial, floating PV
  - T4.4 – Field and lab testing for inverters: efficiency curves vs power, voltage, phi; THD, phase balance, frequency
  - T4.5 – Field testing for batteries/storage
- Next steps: worked planned for next months

The questions that appear after the presentation are:

- **Pierre-François Drouin:**
  - Field measurements. How long will be the period of the measurements?
    - It depends. If we talk about modules it takes nearly nothing.
    - For soiling, the sensors will be installed on a permanent basis, so we will have data from different seasons, and hopefully for different years so we will try to see if there is any pattern.
    - For degradation, we do not expect to see any degradation on the duration of the project. This is why QPV has contacted some of their clients to re-measure some measurements they have made some years ago. For inverters we need at least 10 years to appreciate some degradation.
  - Will you do the same for the degradation of the PV modules?
    - Yes, the same, for some strings of some clients.
  - And soiling you need minimum of 1 year, is that right?
    - Yes, it depends on the PV plant, but in the PV plants we have installed the soling kit we will have more than 1 year.
  - How many PV plants will be used for measuring soiling?
    - 5 overall: 3 from QPV and 2 from CEA
  - In which environment will they be installed?

        - San Pedro de Chile, desertic area; QPV facilities is en Madrid; Mali is desertic; and south of France
    - Any northern European countries for measuring the soiling?
        - Not yet, but there is a possibility for one of the soling kits
    - And degradation is in the same plants?
        - No degradation will be, for the moment, in Spain. It will be in PV plants that have been previously measured some years ago, in plants that QPV has good relationship with the clients to allow QPV to re-measure it

WP5 - Power forecasting

After that, Tomas Hruska (SGIS) starts with the presentation of the WP5. His presentation contains the following items:

- WP5 purpose and objectives
- WP5 relationships with other WPs
- Short description of tasks progress:
    - T5.1 Improved short-term forecasting and nowcasting of aggregated PV power
        - T5.1.1 –forecasting model increasing accuracy specifically for D0 ("intra-day") and D1 ("day-ahead")
        - T5.1.2 – increasing nowcast accuracy by merging satellite data with sky-cameras and distributed ground measurements
    - T5.2 Forecasting in presence of dust / soiling, snow and fog:
        - T5.2.1 –forecast models for dust / soiling
        - T5.2.2 – forecast models for snow
        - T5.2.3 –forecast model for fog
    - T5.3 Specific features of forecasting for bifacial, floating and BIPV technologies
        - T5.3.1 –forecasting for bifacial PV
        - T5.3.2 – Forecasting for floating PV
        - T5.3.3 – Forecasting for BIPV
    - T5.4 Uncertainty reduction and cost trade-offs in forecasting for different spatial averaging and PV power plant aggregation
- Significant results and main achievements for WP5
- Next steps: worked planned for next months

The questions that appear after the presentation are:

- **Sebastian Schreck:**
    - Evaluation of the models. You will have different approaches, including different sites and whatever kind of modules. Sebastian advises to keep a dataset unmodified until the end of the project for validation (demonstration)
        - Yes, this is the plan, and we will have test data sets only for testing the final performance of the models, so we are going to apply "classic" Machine Learning approaches here
    - Sebastian is very interested in seeing the outcomes there.
    - Are you looking at the pure forecast or are you looking at probabilistic forecast?

- We were thinking also in probabilistic forecast, but we do not have infrastructure ready for that, so maybe in the future but not now. SGIS has some employees that have knowledge on this field, but still, SGIS do not have infrastructure for that.

WP6 - High PV integration into utility grids and markets

After that, Basem Idlbi (THU) starts with the presentation of the WP6. His presentation contains the following items:

- WP6 purpose and objectives
- Overview on the contents of WP6
- Time Plan
- Short description of tasks progress:
  - T6.1 Technical constraints for high contribution of PV to the power network
  - T6.2: Economical and legal constraints and opportunities for high profitability of PV
  - T6.3: Digital solutions for reliable PV data integration in DSO/TSOs smart grid IT infrastructure (medium size commercial and residential PV)
    - T6.3.1: Assessment of general framework for PV data modelling
    - T6.3.2: Adaptation of PV interface to standard protocols
    - T6.3.3: Implementation of automatic PV data integration algorithms for SCADA
    - T6.3.4: Implementation of automatic PV data integration algorithms for meta-data registry
    - T6.3.5: Implementation of automatic PV data integration algorithms for other smart grid IT systems
    - T6.3.6: Evaluation & Documentation
  - T6.4: Technical solutions of network analysis and operation for high contribution of PV (medium-size commercial - residential)
    - T6.4.1: Planning's tools for PV integration in DSOs networks
    - T6.4.2: Real-time state estimation (digital twin of the power networks)
    - T6.4.3: Grid operation (e.g. cellular grid operation)
    - T6.4.4: Congestion management
    - T6.4.5: Standardized interfaces for coordination of DSO-TSO interaction
    - T6.4.6: Utility-friendly strategies to increase PV penetration
    - T6.4.7: Aggregated services from PV (e.g. Flexibility market)
  - T6.5: Innovation for hybrid PV storage operation for high reliability and improved performance (medium size commercial and residential PV)
    - 6.5.1 : Preliminary planning, state of play, plan for duration of task (in progress)
    - 6.5.2 : Innovation and developement
    - 6.5.4 : Preparation for demonstrations as part of WP8
  - T6.6: Operation and planning of PV for the provision of ancillary services to the grid operators (large commercial)

The questions that appear after the presentation are:

- **Marie Latour:**
  - The solutions you are developing is aiming to facilitate the integration of the PV into the grids. Which interaction did you have with the DSOs so far in the project? What type of actions are foreseen to exchanges the solutions you are developing? How are the DSO are going to use the solutions?
    - In this project we have originally a DSO as a partner but unfortunately the DSO left the project. Now we have an Austrian partner that has a good cooperation and agreement with a DSO. These systems that we are developing here will be implementing as a field test in Austria and in Hittisteten (Germany). Ulm University that has good cooperation with the local grid operator. The systems developed in SERENDI-PV will be tested at the DSO level. We will install measurement systems in Hitistetten and based on these measurements we will communicate with the experimental control centre and get the response from the system (curtailment, for example). These topics are very important for the DSOs.
  - Have foreseen any workshop in a latter stage of the project to make sure other DSOs (apart from the ones that participate in the project) take over the solutions you are proposing?
    - Yes, we have foreseen some workshops at WP level with a grid operator in Austria and also in Ulm.
    - A challenge is that the DSO uses the new standard, and not the old one that are currently using that is not suitable for distributed energy systems. The old standards are not good enough and we are trying to convince the DSO to migrate to the new standard, not only in this project but also in another projects. The experimental control system that THU has in the University of Ulm has this new standard (more flexible and modern). It has better communication capabilities.
    - Also, we promote the installation of measurement systems (smart meters), that are mandatory for large PV systems, but they are not common for small PV systems, due to DSO´s lack of knowledge: So, we promote the use of these smart meters among the DSOs.
    - We will do some workshops by the end of the project where we will present the project main results to different audiences and, indeed, the results of this WP6 combined with the cost assessment of the DSOs will be presented in a workshop to different DSOs. It will be organized by the end of the project
  - It is very important to exchange with a number of DSOs from different geographic to make sure that they are familiar with the results, and they use this new standard

WP7 Collaborative modelling & monitoring platform

After that, Jonathan Leloux (LUC) starts with the presentation of the WP7. His presentation contains the following items:

- Objectives of WP7
- WP7 tasks
- Summary of the content of D7.1
- Main entry point website
- Needs identified so far in the solar energy community
- Expected challenges for the collaborative platform
- Proposed strategy for the collaborative platform

- Potential first collaborations
- Pioneer projects with established collaboration
- Public resources of interest for the solar energy community
- Potential projects for later

No questions appear after the presentation of this WP

WP8 - Demonstration

After that, Ioannis Tsanakas (CEA) starts with the presentation of the WP8. His presentation contains the following items:

- WP8 objectives
- WP8 Tasks and involved partners
- Progress summary
- Short description of tasks progress:
    - T8.1: Demonstration of modelling, diagnostics and field testing of large PV plants
        - T8.1.1 Detailed technical design of monitoring activities
        - T8.1.2 Implementation of monitoring plan and data collection
        - T8.1.3: Implementation of quality control procedures and assessment (WP4 developments)
        - T8.1.4: Implementation of advanced diagnostics and assessment (WP3 developments)
        - T8.1.5: Assessment of modelling software (WP2 developments)
        - T8.1.6: Demonstration of PV inverter predictive maintenance based on digital twin (T3.6 developments)
    - T8.2: Demonstration of diagnostics of medium-scale commercial and residential PV plants
        - Task 8.2.1 Detailed technical design of monitoring activities
        - Task 8.2.2 Implementation of monitoring plan and data collection
    - T8.3: Demonstration of advanced forecasting techniques and predictive control for ancillary services by large PV plants
        - Task 8.3.1: Configuration of power forecasting to predict ancillary services in large PV plants
        - Task 8.3.2: Demonstration of BESS power forecast for ancillary services in large PV plants
    - T8.4: Demonstration of automated PV data registration, grid digital twin and live control of medium-scale commercial and residential PV plants for higher integrability:
        - Task 8.4.1 Preparation and coordination for installation in demo site

The comment that appears after the presentation are:

- **Pierre-François Drouin:**
    - He would like to thank all the speakers for the interesting presentations. So many interesting topics. It is a bit frustrating to have not more time for questions & answers and discussions on the different topics.
    - He is looking forward to seeing the results

- Answer: Thanks to all the experts for their time. This is the first AB meeting out of three. For the next meeting all the experts will be more familiar with the project, and we will focus the meeting on the results. Besides que will dedicate more time, and if possible, we will organize a face-to-face meeting

WP9 - Exploitation, communication and dissemination (exploitation results)

Due to the delay in the previous presentations, we agree that the presentation of the Exploitable results will be presented in detail in the next AB meeting, dedicating some extra time for that.

Meeting summary

Javier del Pozo, as project manager, thanks all the participants attending the meeting and informs that the next AB meeting will be organized within 1 year.

We will consider organizing it in a face-to-face meeting or hybrid if possible. Next meeting will be a bit longer 3-4 hours.

Dr. Sebastian Schreck proposes to do parallel meetings, one per WP. We will consider this possibility although we think that to understand the over project is very important and we will lose the overview making the separated meetings.

5 MEETING MATERIAL

All the material (MS-PowerPoint presentations) used during the meeting and the video of the meeting were uploaded in the project SharePoint and all the experts received a link to the material so they can review it and provide further comments or recommendations if required.

However, the link is not included in this report as it is only available to the meeting participants, and this is a public report.