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the Implementation Plan's delivery

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Deliverable 2.4 – Map of the
national R&I facilities

Lead beneficiary: CNR

Disclaimer of warranties



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About PV IMPACT

PV IMPACT will try out a variety of approaches to stimulate PV research, development and innovation initiatives in Europe. The first part of the project will focus on inviting companies to matchmaking events so they can find partners with whom to work on future projects under EU and/or national funding schemes. The project will also target two specific industrial companies: ENEL Green Power and Photowatt. Another important part of the project will be to monitor progress in PV. Data will be collected on public spending in the EU, on private spending, on the kinds of projects being funded and on the overall performance of PV technology. Forecasts for future spending will be made according to various scenarios. The project will track whether improvements in the performance of technology are keeping pace with expectations and will make recommendations to European funding authorities.

PV IMPACT Partners



Document information

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Dissemination level

PU	Public	X
RE	Restricted to a group specified by the Consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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1. Introduction

The Italian contribution to the SET Plan Implementation Plan on PV (PV ImPlan) was a coordinated effort of the whole Italian R&I community stretching from basic research (universities and public research institutions) to industrial research and demonstration (industries).

In order to execute and further develop the PV ImPlan, a national network of R&I stakeholders of the PV sector was established at the beginning of 2019 as a result of a coordinated effort by the Italian representatives in ETIP-PV, EERA PV-JP and PV-IWG (collectively defined as “Temporary Organising Committee”).

The goals of the network are:

1. to map facilities, equipment, know-how, active projects and collaborations across the national network of R&I labs;
2. to promote and monitor the execution of the SET IP at the national level;
3. to promote the formation of consortia for the participation in national and regional competitive calls for funding of R&I projects;
4. to monitor, trigger and coordinate technology-transfer actions from the public R&I labs to the Italian PV industry;
5. to prepare a white paper with the national R&I priorities for the next 5 years to be used as a strategic platform to advise national and regional R&I funding bodies.

This deliverable is directly related to the first goal of the network, that is the mapping of facilities, equipment and know-how on PV in Italy.

2. Objectives

The goal of this deliverable is to:

- map all Italian organisations (public and private) involved in R&I activities in the field of PV;
- collect detailed information about national facilities devoted to R&I activities on PV, in order to create and maintain a clear picture of the PV R&I landscape in Italy;
- monitor the overall investments for R&I in the two Italian national flagship initiatives foreseen in the PV Implan (Utility-scale PV and BIPV/PIP);

- make information available to the “Temporary Organising Committee” of the National Network, to facilitate the development of strategic national projects as envisioned in the PV ImPlan.

3. Target groups and stakeholders

The stakeholders addressed in the mapping exercise are all Italian public and private organisations actively engaged in R&I activities on PV. Both public research institutions and industries are included in the survey.

There is a strong agreement among national stakeholders about the need for this initiative. The main reason is the persistent and significant gap between the results of the R&D activities carried out with public resources and the actual R&I demand by the national PV industry. The most relevant issues are:

- the lack of facilities devoted to industrial prototyping activities (TRL 4-5 to TRL7-8). Even the most promising R&D activities stop short of TRL 5, that is at the entrance of the so called “death valley of innovation”. No individual organisation can usually find the resources to move further along the TRL scale.
- a very high level of fragmentation and duplication within public research both in terms of R&D topics and, most of all, in terms of lab facilities. The absence of both a coordinated action and a clear strategic plan, have so far undermined the impact of R&I on the national PV industry.

4. Methodology and Results

4.1 Methodology

The map of stakeholders was built upon a survey carried out in 2017 as a preliminary step for the preparation of the Italian contribution to the PV ImPlan. On this occasion all relevant PV stakeholder were first identified. The current mapping exercise was aimed to complement this dataset with detailed information about the facility and its equipment, R&I activities, resources and operating budget.

Relevant information were collected by means of a spreadsheet, which was preloaded with the preliminary information each stakeholder provided in 2017. The spreadsheet was divided in two worksheets asking different sets of information. The main worksheet gathered the following data:

1. Description of Equipment/Facility
2. Knot name (top level)
3. Lab Name
4. Lab Address
5. Position in Value Chain
6. Main PV Application
7. TRL of Main Application
8. Secondary PV Application
9. TRL of Secondary PV Application
10. Unique Selling Points (of facility): why is this equipment peculiar/unique with respect to standard equipment?
11. Machine-time Allocated to PV R&I activities
12. Definition of (main) Unit processed by the equipment (example: Silicon Wafer)
13. Max Unit size
14. Max Throughput

The second worksheet was aimed to gather key information about the organisation and its involvement in R&I projects on PV funded by either public institutions or private companies. These are the main fields:

1. Institution/Company Name (top Level)
2. Reference Person
3. Position
4. E-mail
5. R&I Priorities of the Institution (2017)
6. R&I Priorities of the Institution (2019)
7. Full Time Equivalent (person-months) allocated to PV in 2019
8. Total budget allocated to PV-R&I activities in 2019 (k€)
9. Share of the total budget devoted to BIPV/PIPV (Nat. Flagship 1)
10. Share of the total budget devoted to Utility-Scale PV (Nat. Flagship 2)
11. Contribution (% of the total budget) from Public National/Regional funds
12. Contribution (% of the total budget) from European (EC) funds
13. Contribution (% of the total budget) from Private funds

4 . 2 R e s u l t s

More than 250 lab facilities in about 30 different Italian sites have been mapped so far. Each facility is connected to a "primary" and a "secondary" R&I activity, and it is tagged with a specific "unique selling point" describing why and how the facility is different from a standard piece of equipment available on the market. Some basic but important specifications are also available, such as the maximum size of the "units" the facility can process or the maximum throughput (max number of units per day).

The potential availability of each lab facility for new projects is clearly defined and constantly updated.

The annual budget each organisation devotes to R&I in the field of PV is broken down according to the source of funding and the relevant national flagship initiatives.

4 . 3 A c c e s s t o t h e d a t a s e t

The following are the links to the dynamic PowerBI reports enabling access to the :

1) Map of the Italian R&I laboratories

Direct access

<https://app.powerbi.com/view?r=eyJrIjojODRhOWQ0MwYtZWVjMS00MDFjLTNmNzMtOTNmNGQ4ZWQ2MGZlIiwidCI6IjM0YzY0ZTlmLWQyN2YtNGVhZC1hMwYwLWZOTmMGM4NGY5NCIsImMiOjI9>

2) Detailed list of the lab facilities

Direct access

<https://app.powerbi.com/view?r=eyJrIjojZjQ5M2RkYjQtOTNmMi00OTExLWI3M2YtNzU3ZGY0NjFiYTA0IiwidCI6IjM0YzY0ZTlmLWQyN2YtNGVhZC1hMwYwLWZOTmMGM4NGY5NCIsImMiOjI9>

The complete dataset is maintained by the Temporary Organising Committee of the Italian PV Network. The bulk of these data is made publicly available, as an anonymised version of the dataset is made available on PV-Impact website (some sensible data are also omitted in the public version of the dataset). Also identified stakeholders are geo-localised in the web-based map available on PV-Impact website. Industries or other European stakeholders interested to receive more specific information may access sensible data only after the consent of the owner of the data is expressed in written. The procedure to gain access to these information is detailed on PV-Impact website.

5. Contacts

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