

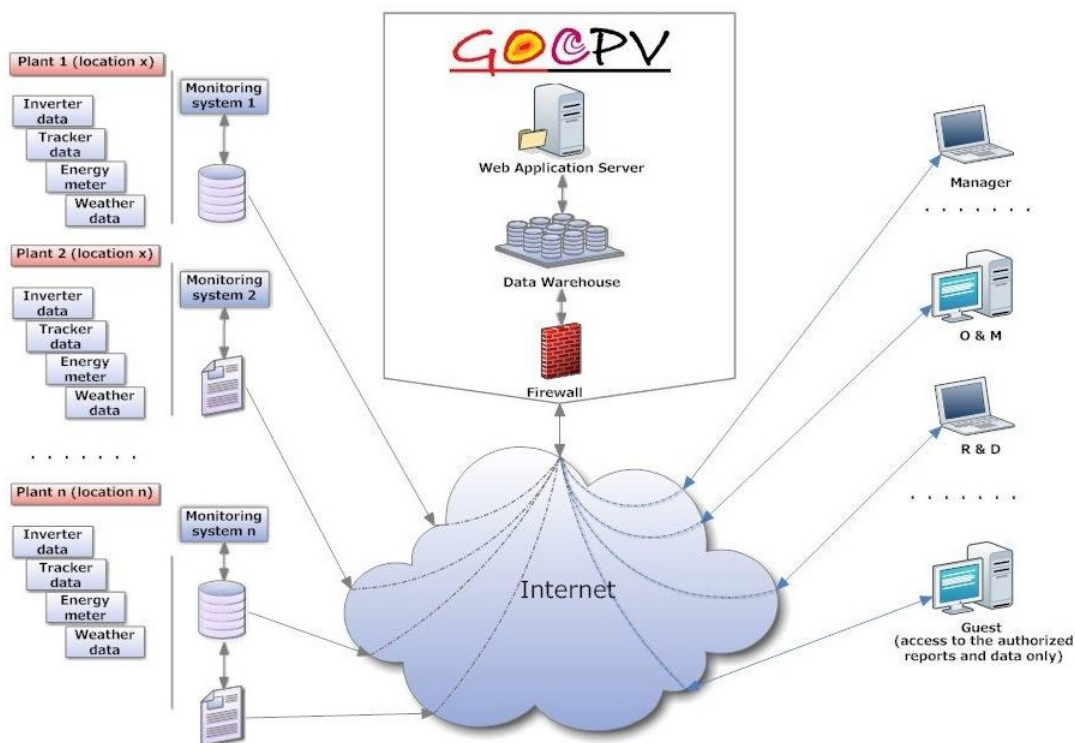


➤ What is GOCPV?

GOCPV is a management and information system that permits the centralisation of all the information related to Concentration Photovoltaic (CPV) plants in a single system, for its study and analysis.

The vast majority of CPV suppliers provide a monitoring software together with their CPV plants; but those systems are not specifically designed for carrying out detailed studies of plant performance. With GOCPV it is possible to carry out studies and comparisons of all the information received from the plant components (energy-meters, inverters, trackers, weather stations, etc.), independently from the plant technology and its location.

Consequently, as all the information is integrated in the same system user can focus on the data analysis starting from the reports generated by the application. Those reports will include the main aspects of the plant as well as the main sector business indicators (KPI indicators). In addition, GOCPV will be a very useful tool for your R&D department because it allows a quick and easy access to any variable of your system whenever you want.



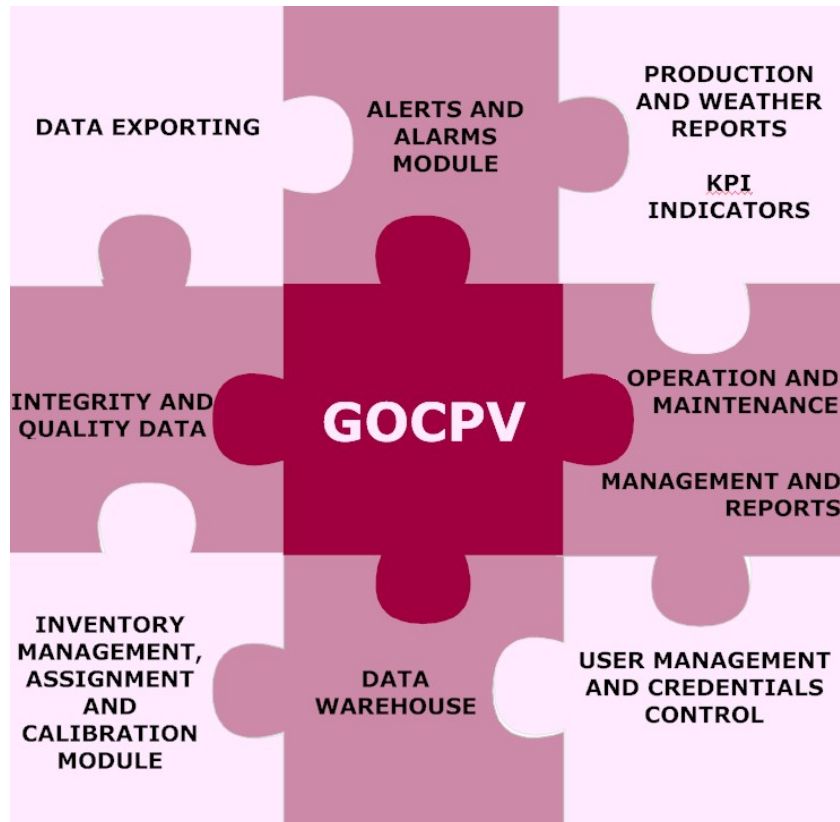
➤ How does GOCPV come up?

GOCPV comes up as a result of the ISFOC long-term experience in CPV technologies, obtained through the analysis of plenty of CPV systems. It comes up as a solution for a crucial issue: capture, compilation, analysis, comparison, and emission of conclusions supported by data from different CPV systems (different suppliers, different locations...), coming from several and non-homogeneous origins.

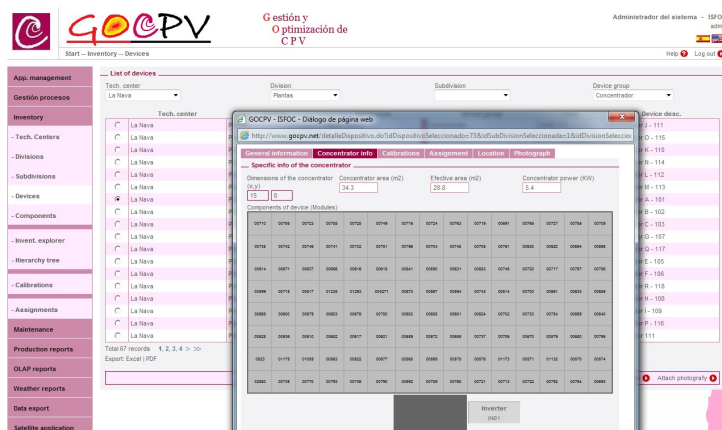
This software application has been 100% developed by ISFOC; therefore, it is mainly orientated to the study and evaluation of the CPV plants performance from the point of view of a researcher. GOCPV is continuously updated to cover the new emergent technologies; this is possible thanks to the R&D department effort and the feedback received from the Operation and Maintenance team of our CPV plants.

➤ GOCPV Modules

GOCPV not only centralises the production data of the plants in a single system, it has been structured in a modular way, so users can have an absolute knowledge of their installations as well as maintaining the plants under control through the following modules:



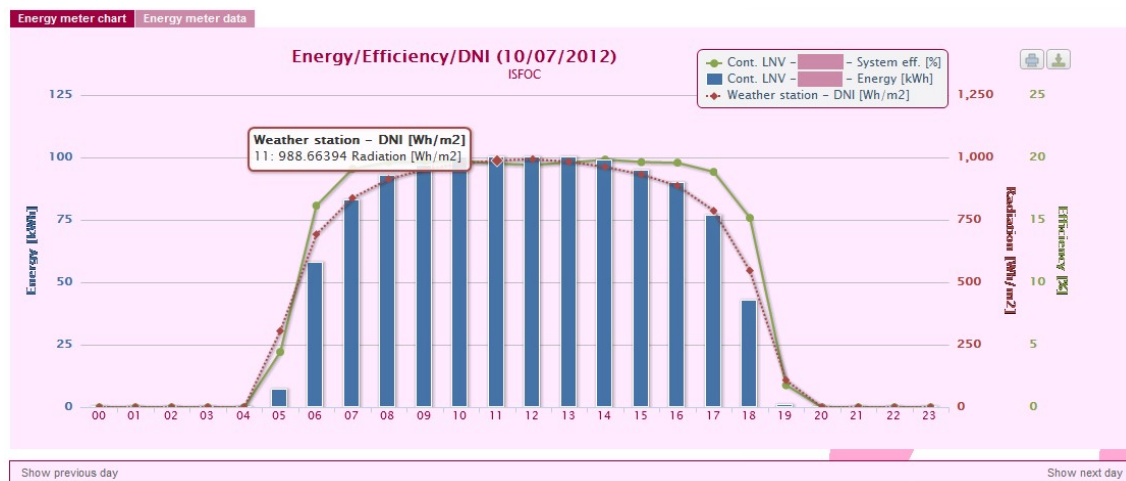
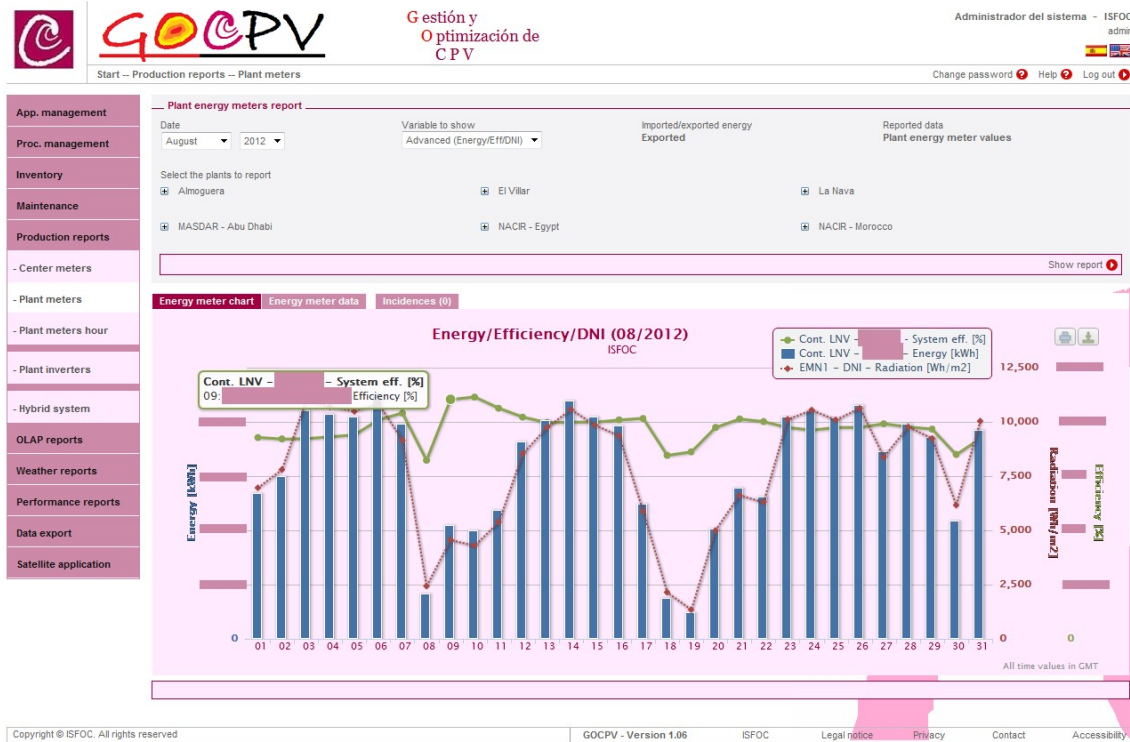
- User Management:** The User Management Module allows the creation of several users, specifying in each case data access and permissions on each application screen. Therefore, with GOCPV you can create, apart from your business user accounts, as many guest user accounts as you need.
- Device Inventory:** With this module you can manage and register the inventory of all of your installations. All the management, information and functional system of the application is supported by this Inventory; so as a result, data and reports will be parameterized in accordance to this.

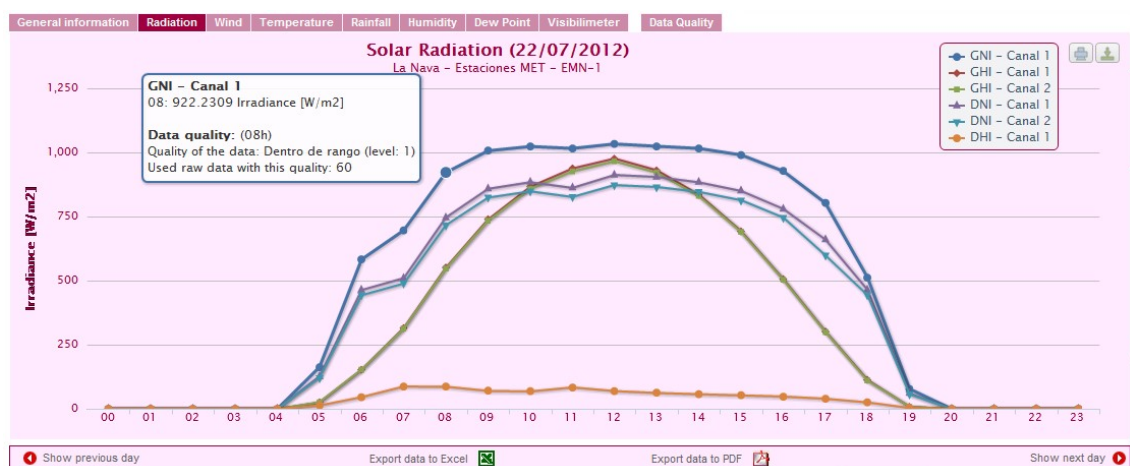
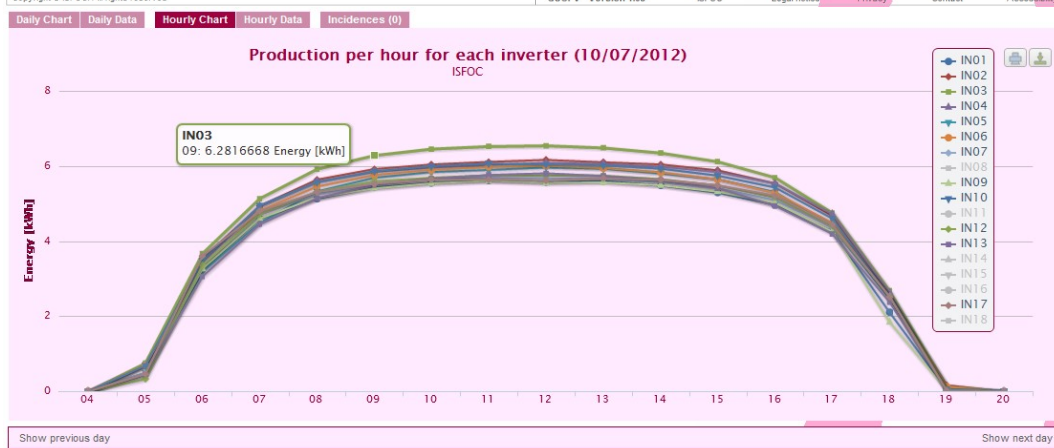
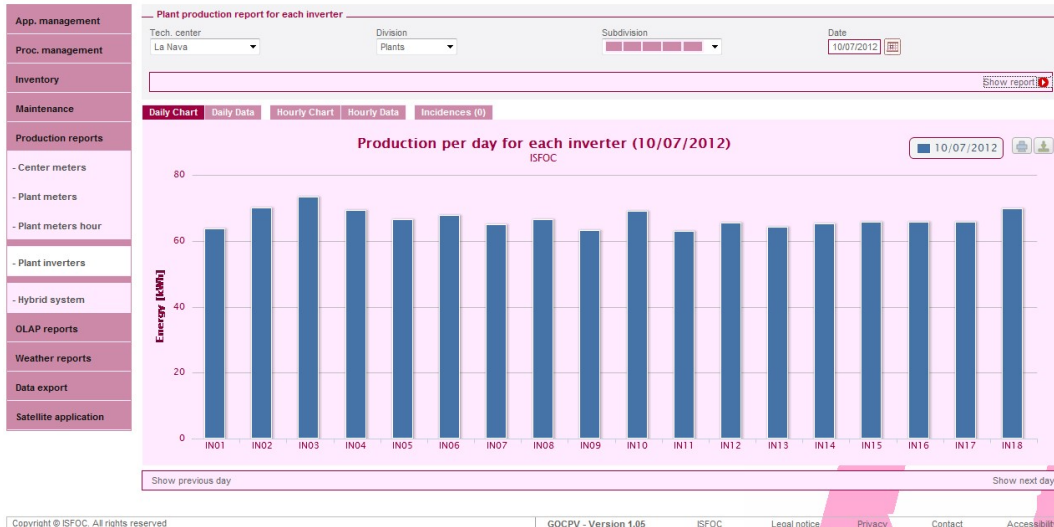


Besides making the inventory of the plant components, if the Operation & Maintenance tasks are a part of your business you will also be able to manage your equipments and/or tools, controlling as well calibrations and assignments.

- **Production, weather, etc. reports:** GOCPV is prepared with a varied set of reports that allow users to have an absolute knowledge of the status of their plants, covering the energy production or even the weather conditions of the site.

Moreover, GOCPV allows a quick and easy access to the main sector business indicators (efficiency, equivalent number of hours, reduction on CO₂ emissions, amortization, financial briefing, etc.).





Our effort is to maintain the application in continuous improvement, so you can ask ISFOC for new types of reports, accordingly to your business requirements.

- **Data Exporting:** Through this module, your R&D team can easily export whatever registered data, in the period and frequency required. GOCPV will assist you by indicating the available information on the system so you can select the required data.

Therefore GOCPV solves the problem of obtaining reliable data, fact that improves the results of your R&D team because they can focus their efforts on the analysis and forget about the issues related to the data origins and the relations between them.

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- **Integrity and Quality:** GOCPV checks the integrity and quality of the data uploaded to the system through this module.

The Integrity is checked by reviewing if all the expected data from the plant devices have arrived and if the accumulated values have been properly generated. The Quality is checked by ensuring that data value of the data is correct; it is help by applying rules to the data analysing the correspondence between variables of different origins.

The result of executing these processes is reported to the responsible in charge, identifying any possible irregularity in the data. Consequently, this quality will be reported together with the rest of data, in different reports as well as in data exportation, allowing a full control of the status of the information in the system.

Number of results: 864 * (1 records created and established as null) ** (1 returned incidences)

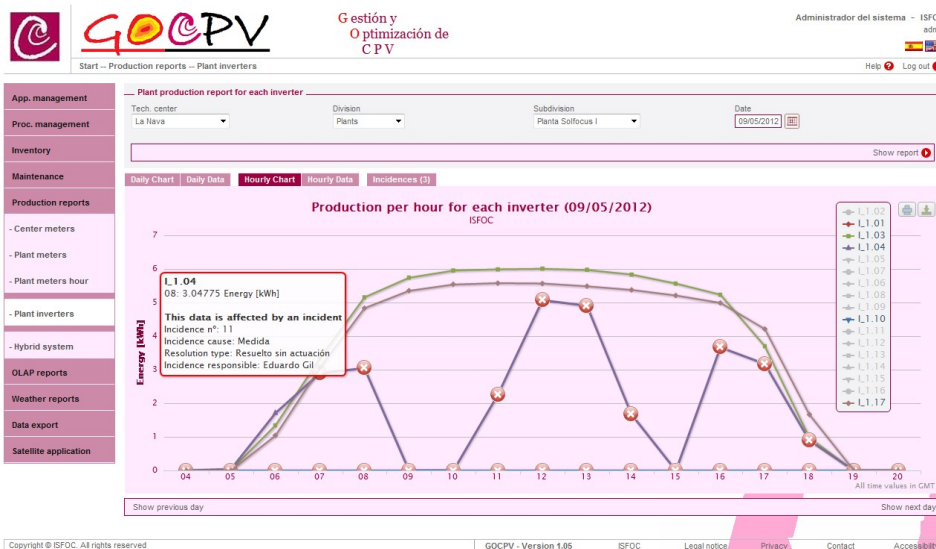
- **Plant Maintenance:** GOCPV includes an Incidence Management Module. This module allows the management of the plant incidences as well as your available resources for their resolution. From those data, this module also generates reports including the main sector business indicators which will allow you to carry out R&D Studies with the Operation and Maintenance of CPV plants.

This module includes the Maintenance results with any other report or data exportation, so the incidences associated to Maintenance issues can be filtered from the data in any analysis.

GOCPV also helps in the maintenance of your plants, as it will be aware of any anomaly through the Integrity and Quality Module. Some results of the Integrity and Quality Module could generate incidences which will be registered automatically as well as notified to the responsible in charge.

The screenshot shows the GOCPV web application interface. The top header includes the ISFOC and GOCPV logos, the title 'Gestión y Optimización de CPV', and user information 'Administrador del sistema - ISFOC admin'. The left sidebar contains a navigation menu with categories like 'App. management', 'Gestión procesos', 'Inventory', 'Maintenance', 'Production reports', 'OLAP reports', 'Weather reports', 'Data export', and 'Satellite application'. The main content area is titled 'Incidence management' and shows a list of resolved incidents with columns for ID, Status, and Close date. A detailed view of an incident is displayed, including 'Opening incidence data', 'Incidence devices', 'Fotografías', 'Acceptance data', 'Course start data', and 'Resolution incidence data'.

Finally, GOCPV automatically joins the production data with incidence data base, in this way, it highlights the affected data by incidences and allows consulting the incidence details in any report or export process.



- **Alerts and Alarms Module:** As a complement of the previous module, the system can be parameterized to notify via e-mail or SMS any event occurred at your installation; therefore, you will be permanently informed of the status of your CPV plants.

➤ Do I need any specific software or hardware to use GOCPV?

GOCPV is based on the Cloud Computing philosophy; therefore, it is not necessary to purchase any specific software or hardware, even more, there is no need to have any IT resource for running the application. Users will just need an Internet connection and a Web navigator for accessing to all the GOCPV advantages.



On the other hand, the system daily will access to the raw data generated by your plant devices. That data will be automatically uploaded, processed, structured and filtered according to the specifications of your installations. So, at first time in the morning, the data will be accessible via GOCPV for analysis.

➤ More info

Please, do not hesitate to contact us if you may require any further information:

Instituto de Sistemas Fotovoltaicos de Concentración SAU- ISFOC
Poligono Industrial La Nava III (Ctra. N-420 km 155,7)
C/ Francia, 7
13500 Puertollano (Ciudad Real) - Spain



Phone: +34 926 441673
Fax: + 34 926 429142
e-mail: info@isfoc.com
www.isfoc.net