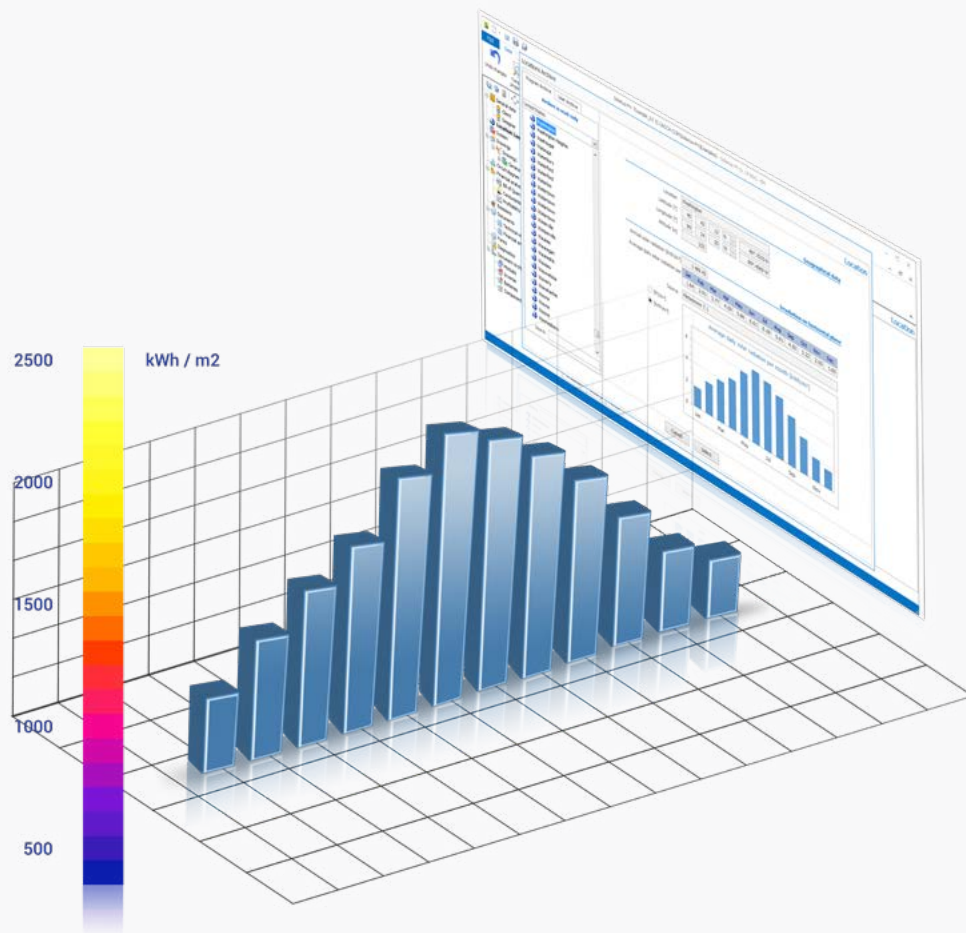


# Solarius PV

Solar Design Software

Solarius PV is the professional software for technical design and economic analysis for any type of photovoltaic system connected to national electricity grids (grid-connected).



Calculate solar irradiation data with  
METEONORM™ or PVGIS™ climatic data

Solaris PV estimates the photovoltaic solar energy production starting from specific solar irradiation data, provided by the main climatic data references available for locations worldwide:

- Meteonorm™ (integrated and free) for worldwide locations
- PVGIS™ for Europe, Africa, the Mediterranean and South-West Asia

Data import from PVGIS is automatic and can also be set starting from the location's GPS coordinates.

Create your personal archive of solar radiation data with the climatic data obtained from other databases or direct measurements.



Study the effects of photovoltaic shading directly on the solar diagram or from a panorama photo

Solarius PV takes into account solar shading caused by the presence of long-distance obstacles (mountains, hills, buildings, trees, etc) through a simple photographic survey and directly on the installation site's solar diagram.

Solarius PV also allows you to check the effect of shading projected on PV modules by nearby obstacles (chimneys, walls, antennas, etc) on the system layout as the solar path varies over an annual, monthly, daily or hourly periods.

Manage shadow projection between parallel rows automatically calculating the minimum module row spacing on any surface type (horizontal, vertical or tilted).

Quickly design and set up your photovoltaic system with a simple to use but powerful 3D BIM modeler



Solarus PV offers you the simplest way to design and size PV systems according to your specific needs: 3D/BIM modelling.

Design any type of photovoltaic system starting from scratch, either from an AutoCAD® DXF/DWG file or from an Edificius, Revit®, ArchiCAD® or IFC BIM model, etc.

With the Solarus PV 3D objects:

- quickly define the building footprint, surfaces and obstacles;
- use the dedicated objects for representing “Electrical switch-panels”, “PV generators” and “Inverters”;
- detail your PV system design by using objects available for free in the extensive online collection of 3D Models, import SketchUp®, OBJ, 3DS, etc. file formats.

The 3D modelling process allows you to identify installation surfaces for your photovoltaic modules with a simple click. Check the correct positioning of the photovoltaic field in real-time and in relation to the true conditions of the installation site (inclination, orientation, irradiation, shading, etc.).



## 3D objects input to design any type of photovoltaic system

With Solarius PV, use 3D objects to quickly model the building's volume footprint, define the PV field installation surfaces and the presence of any obstacles present (chimneys, roof dormers, pylons, etc.) even without any further graphical support.

It doesn't matter how complex the existing building is: using the "volume" and "inclined surface" objects you can easily model any type of situation directly in 3D even using AutoCAD® DXF/DWG file formats.

3D modelling offers you the advantage of being able to check your system layout and positioning in real time and for all periods of the year, according to the real conditions of the installation site (inclination, orientation, radiation, shading, etc.)

In the case of ground mounted installations, once the site is correctly schematized, easily enrich the project with various types of "3D Models" of canopies, shelters and other photovoltaic support structures. If you need specific objects, even import your own 3D Models into the project with full support for many widely used 3D model formats (SKP, OBJ, 3DS, etc.)

Complete the design with dedicated objects for representing "Electrical switch panels", "Photovoltaic generators" and "Inverters" inserting them in the 3D model with maximum freedom.

## Integration of the photovoltaic system with the BIM model and the architectural project

In addition to importing DXF or DWG drawings with Solarius PV you can also:

- import the project as a BIM model of the building or installation site directly as an IFC file produced with any BIM design authoring software such as: Edificius, Revit®, ArchiCAD®, AllPlan®, VectorWorks®, etc.)
- design the photovoltaic system directly on the imported model using the 3D parametric objects containing all the information necessary to complete the building information model.
- export the photovoltaic system BIM model as designed in IFC file format to continue the design workflow of the digital construction model as required by the BIM process philosophy

Solarius PV adopts the IFC standard by buildingSMART international, the only format that can provide assurance of correct file creation, management and data, documents and models sharing among all subjects involved in a given project.

If you need to reach a high standard of activity sharing with all collaborators involved in design, construction and maintenance of the photovoltaic system and the building, you can even integrate your Solarius PV project into the usBIM.platform collaborative platform.

## Assisted design of the photovoltaic field

With Solarius PV locate the photovoltaic installation surface with a simple click.

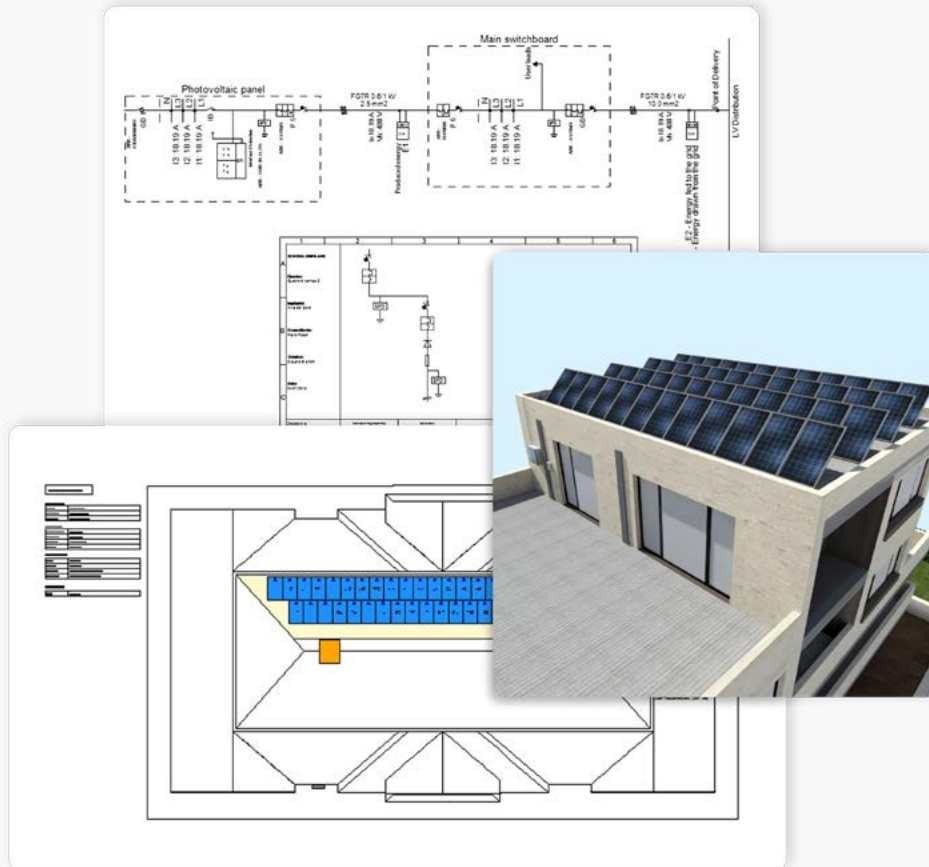
From the selected object, the necessary installation surface is extracted with the automatic recognition of orientation and tilt data.

The identified surface will be automatically filtered from any obstacles that may be present (including chimneys, dormers, balustrades, trusses, lighting poles or holes and obstructions) to obtain the correct positioning of the photovoltaic field.

Once the surface has been identified, the software helps you select the correct number of modules based on the defined design criteria. You can, for example, opt for a solution that maximizes annual production rates or simply go for maximum power output, etc.

Define more than one installation surface directly on the 3D BIM model (roof, shelter, canopy, flat roof, ground, etc.) on which to install multiple photovoltaic fields.

Component libraries and step by step wizards guide you through the various phases of design and sizing of all photovoltaic system elements



A dedicated wizard assists you in designing the switchboards together with the correct cable sizing according to the designed photovoltaic system configuration, for both the direct current (DC) or alternating current (AC) sides.

The system's single-line wiring diagram is drawn up automatically with easy-to-use customization tools to add electrical switch-panels (in AC/DC), circuit protection devices at both output or input or different types of cables, etc.

Quick photovoltaic system calculation and sizing with assisted design wizards and extensive component libraries of modules, inverters, batteries and accumulators.

An operational diagnostics tool alerts you in case of any anomalies or design errors and also checks that basic sizing prescriptions have been followed.

Extensive libraries of modules, inverters, batteries, consumption profiles and time slots, support you during every phase of the photovoltaic design process.

Advanced installation site photo-montage functions provide extra quality to your work with visual impact assessments and studies.

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### Guided configuration of the generator and panel with automatic cable sizing

Once the generator has been positioned and the compatible inverters checked, a dedicated wizard assists the user in designing the switch panel and in sizing the electric cables according to the photovoltaic system configuration, both in direct current (DC) and alternating current (AC).

Easily identify the optimal cable sections according to the chosen laying method, evaluate voltage drops to ensure system security and efficiency, choose the protection devices and automatically produce the single-line diagram.

Improve your solar PV system performance and increase its energy production with SolarEdge® power optimisers.

Cable sizing is determined according to the IEC 60364 standard.

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### Automatic single-line wiring diagram of the PV system

With Solarius PV, the single-line electrical system is generated automatically from the designed photovoltaic system.

You can customize the PV system at any moment by adding electrical switchboards (in A.C. and in D.C.), electrical protection devices connected to both input and output terminals, different types of cables, etc.

The PV system single-line diagram can be represented in a drawing model completed with general data, graphic symbol legends with detailed component type descriptions and can be easily printed or exported in many different formats (PDF, DXF, DWG, etc).

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### Component libraries supporting all design phases (modules, inverters, batteries)

Solarius PV is equipped with extensive PV component libraries in support of all system design phases.

- Complete photovoltaic modules, inverters (ENF Solar), batteries and component archives with the most common PV system relating items
- Consumer profiles libraries (electrical loads) with hourly analytical estimation of consumption by type of user (office uses, family, etc) or by type of appliance (PC, washing machine, oven, etc)

Component libraries are easy to consult and always customizable.

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### Rapid photo simulation for visual impact analysis

With Solarius PV specific photo-montage features allow you to simulate the designed photovoltaic system with high quality photorealistic images for visual impact analysis to show to your clients.

Simply load a photo (building or installation surface) and two measurements acquired on-site to quickly generate a photo-simulation of how your system will affect the installation surface (roof top, ground, porches, etc) by overlaying the designed PV system on your site photo.

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### Operational Diagnostics with alerts

Solarius PV assists your design with an interactive design diagnostics tool that continuously highlights any design errors.

The diagnostics tool pinpoints any design errors by dynamically linking the error message to the component or object while providing useful suggestions to solve the issue.

The diagnostic tool is active during all stages of the design phase continuously checking if any errors have been introduced of any previously highlighted errors have been corrected.



Simulate and calculate the photovoltaic system yield

With Solarius PV get professional financial analysis directly from the photovoltaic system project: photovoltaic system profitability, investment amortization and other indicators.

The financial analysis report is complete and detailed with:

- system construction cost estimates
- total annual system productivity even on an hourly basis
- electricity consumption rates arranged by time slots and daily load profiles
- possible financing , leasing , etc.

All analysis results are provided in standard and graphical form and can be exported in XLS, RTF, PDF, file formats, etc.



Automatically produce technical and economic reports, project drawings and documents directly from the photovoltaic project.

With Solarius PV, all construction documents, reports, forms and documents are automatically filled in from the project:

- Photovoltaic system technical report, with a complete and detailed description of the system's characteristics even in other languages such as Spanish, French and (Brazilian) Portuguese
- Financial Report (photovoltaic business plan) with all the main indicators (Payback Time, NPV, IRR, Cash flow, etc).
- Photovoltaic system diagram indicating surfaces area view, position of modules, inverters, electrical switchboard, cable etc.
- Photovoltaic system single-line diagram, indicating electrical switchboards, cables, protection devices, etc.
- Automatic Cost estimate/quotation of the designed photovoltaic system
- Working drawings (elevation views, area plans, cross-sections, cutaway drawings, etc.) and other details

All drawings, reports, models and documents are automatically filled in by the project, freely customizable and exportable in RTF, PDF, DXF, DWG, etc.



Overview, free trial and subscription

<https://www.accasoftware.com/en/solar-design-software>

Educational

<https://www.accasoftware.com/en/bim-educational-software>

Technical Support

<http://support.accasoftware.com/en/solarius-pv/>

System requirements

<https://www.accasoftware.com/en/system-requirements?prog=solarius-pv>