Photovoltaic design software

BlueSol is a software for the design of photovoltaic systems in every country in the world. It allows you to perform the entire process of designing a PV system, from the preliminary assessment of producibility to the realization of the project documentation. BlueSol is a product made with a standard Microsoft interface, very easy to use but at the same time manages every detail of the PV system.
Top features:

Model the PV system scheme

- Model the system scheme in every detail
- Use of wizards or direct editing
- Edit scheme tree via copying and pasting
- Easily achieve any system configuration
- Create templates of the system

Panels, cables and electrical components

- Calculate the voltage drops on the cables
- Checks on electrical components
- Automatic size of the electrical components
- Archives to store the most used components
- Bill of electrical components

Integrated CAD System

- Import planimetry background as a DXF, DWG or image
- Arrange modules and strings, cables, panels, inverters and connection to the grid
- Insert near obstacles
- Check the result in the 3D integrated
- Export to DWG

Layout 3D

- 3D visualization of layout
- Simulations of shading of near obstacles
- Assessments of irradiations on surfaces
- Export to DWG or to image

Electrical scheme

- Automatically created
- Edit using CAD tools
- Export to DWG

Wizards

- Dimensioning of the photovoltaic system
- Definition of the cables
- Dimensioning of electrical components
- Insertion of the modules
- Insertion of cables

World wide Location

- NASA-SSE world wide irradiations
- Insertion of new data of irradiation by the user
- Importing of the irradiations from PVGIS
- Internet maps support

Economic evaluation

- Detailed economic analysis
- Options to suit needs of different countries

Production of project documentation

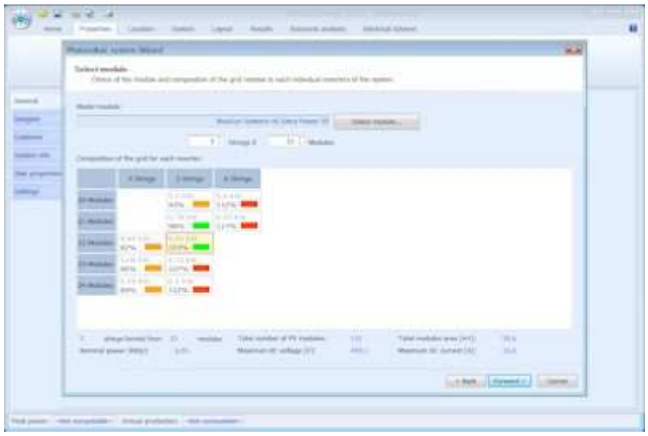
- Default and user templates of documents
- Integrated word processor

Different versions for all needs

- **BlueSol Express**: the base version for easily design
- **BlueSol Design**: advanced features for a complete project management

Screeshots

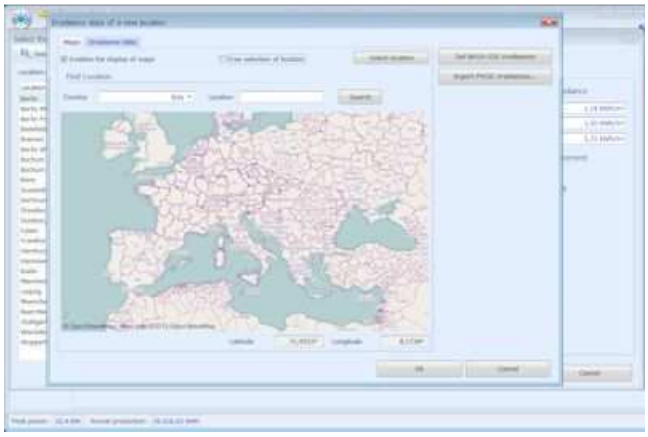
Wizard: arrangement of the strings in the photovoltaic field



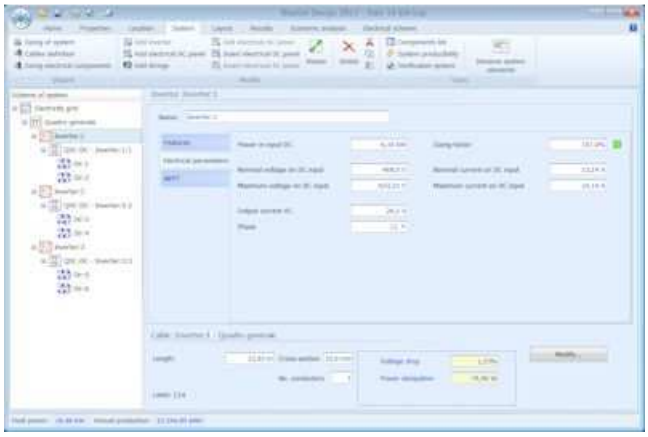
Wizard: choosing grid of the photovoltaic field

Location: average monthly irradiance

Location: far shading

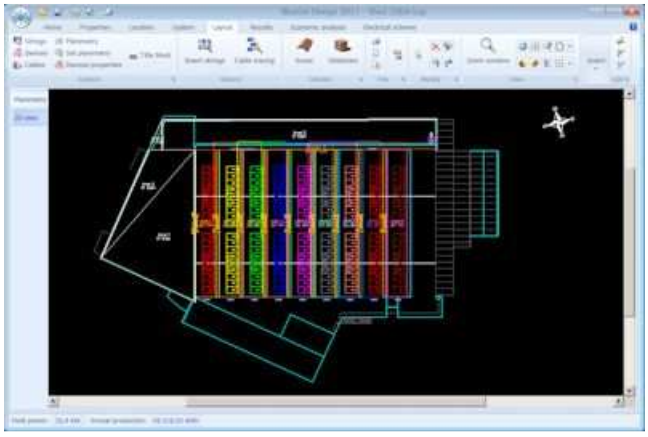


Location: choosing a new location by map

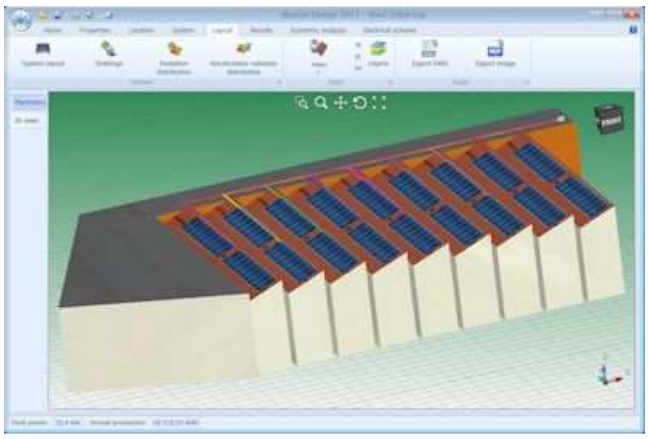


System: inverter properties

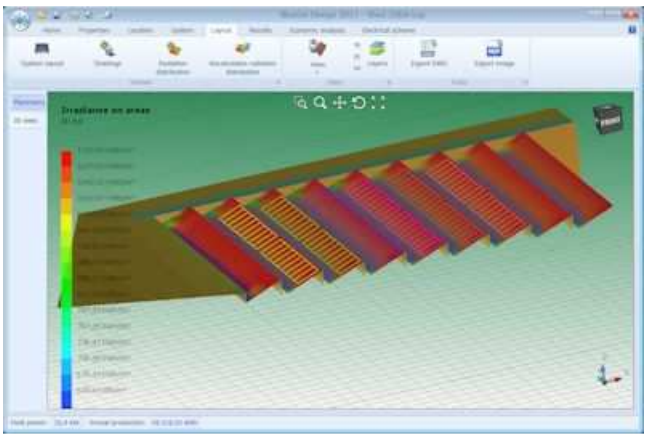
System: automatic sizing of electrical components



Layout: planimetry

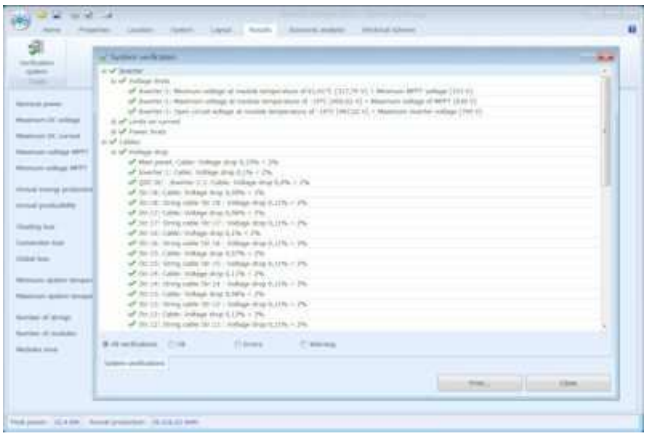


Latyout: 3D view

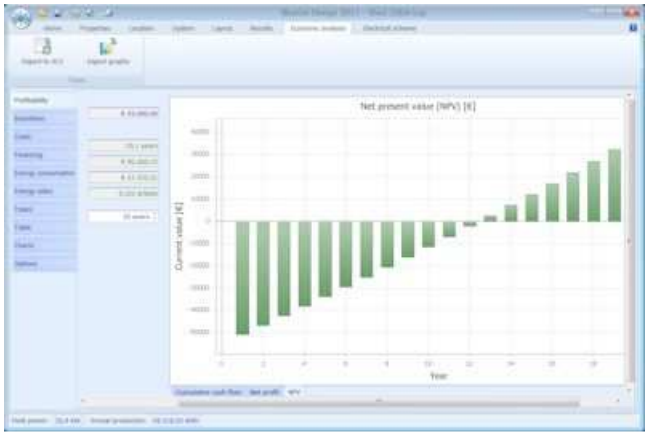


Layout: irradiance

Results: monthly production

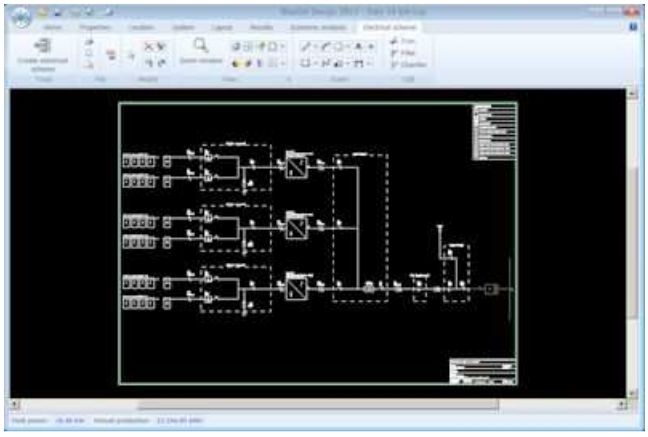


Results: system verification

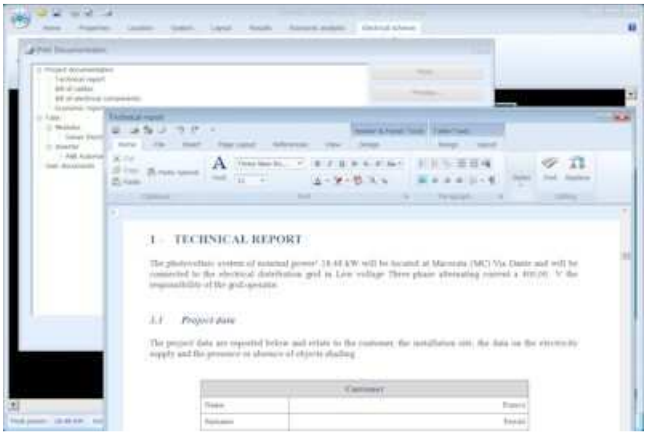


Economic Analysis: profitability

Economic analysis: detailed table by year



Electrical scheme generated by the program



Print documentation: detail of the Technical report

Product comparison	EXPRESS	DESIGN
Operating system		
Windows® 2000 Service Pack 3, XP, Vista, Windows 7 (32/64 bit), Windows 8	✓	✓
Projects		
Creating a new project using the wizard for the dimensioning of the photovoltaic system	✓	✓
Creating a new project from a template	✓	✓
Archives		
Archives of photovoltaic modules and inverters, data obtained from Photon, with more than 20,000 modules and more than 1600 inverters	✓	✓
Archive of photovoltaic modules, modifiable and expandable	✓	✓
Archive of the inverters, editable and expandable	✓	✓
Archive of cables and other electrical components managed by the user		✓
Archive for consumption of electrical devices	✓	✓
Archive consumption profiles	✓	✓
Project properties		
No limit to the power of the system	✓	✓
Data input: system, designer, customer, additional user data	✓	✓
Project Settings: system temperatures, sizing on power of the inverters, dispersions	✓	✓
Location		
Data tables for the average irradiation of locations most important	✓	✓
Insertion of new data of irradiation by the user	✓	✓
Importing of the irradiations from PVGIS	✓	✓
NASA-SSE world wide irradiations	✓	✓
Choice of locations and geographical coordinates with the aid of maps (requires internet connection)	✓	✓
Analysis of azimuth and tilt optimal. Possibility of differentiating the period of the year	✓	✓
Automatic insertion of far shading from digital images	✓	✓
Editing far shading	✓	✓
Possibility of multiple far shading on the same system	✓	✓
System		
Representation of the schema of the system in all its parts	✓	✓
Calculation of the irradiation on the plane of the panels	✓	✓
Calculation of the producibility of the photovoltaic system	✓	✓
Checks on the coupling between strings and inverters	✓	✓
Calculation of cables according to CEI-UNEL tables		✓
Determination of the voltage drops and the flow rates of the cables		✓
List of the electrical components of the system		✓
Management of MPPT		✓
Commands to cut, copy and paste the elements of the schema within the system schema	✓	✓
Selection commands by type of the elements of the system	✓	✓
Management of AC Panels connected to the main panel	✓	✓
Ability to explicitly specify the cable lengths		✓
Verifications of the electrical components		✓
Management of the electrical protection groups in the panels		✓
Dimensioning wizard of the photovoltaic system	✓	✓
Scheme of producibility of the sections of the system	✓	✓
Automatic rename of the system components	✓	✓
Wizard for the dimensioning of the photovoltaic system	✓	✓
Wizard for the definition of cables		✓
Wizard for the dimensioning of electrical components		✓
Layout		
Importing planimetry from DWG or image		✓
Inserting strings easy and automated		✓
Inserting Inverters, panels and counters		✓
Cables arrangement with measurement of the lengths, that will be used in the verification		✓
Editing and printing of the layout with advanced CAD capabilities		✓
Exporting to DWG and DXF		✓
Wizard for the guided insertion of strings		✓
Wizard for guided arrangement of cables		✓
Inserting the Title Block		✓

3D visualization of the layout		✔
Shadowing due to obstacles next to the system		✔
Distribution of irradiations over the areas		✔
Animation of shadings on the PV system		✔
Results		
Verifications on the inverter: limits on the voltage, limits on the current, limits on the power	✔	✔
Verifications on the inverter: calculation of the input voltage to the inverter calculated by reference to MPPT trackers		✔
Verifications on the cables: voltage drop, capacity, calculation of the maximum voltage drop in the system		✔
Verifications of electrical components		✔
Economic analysis		
Analysis of profitability of the plant with assessment of financing	✔	✔
Diagram of cash flow over the life of the system	✔	✔
Management of taxation	✔	✔
Management of incentive rates	✔	✔
Tools of analysis of the consumption and self-consumption of the system	✔	✔
Export in xls format of the summary tables	✔	✔
Electrical scheme		
Automatic generation of single-line electrical scheme		✔
Schema creation options: choice of layout. paper size. height of the character of the texts. display full or partial of modules and strings. The options for creating the schema are saved in the project		✔
In the regeneration of the electrical scheme the user can keep the primitives he had created		✔
Editing and printing of the electrical scheme with advanced CAD capabilities		✔
Exporting to DWG and DXF		✔
Print Documentation		
The technical documentation of the project is produced as editable Word documents obtained from customizable templates	✔	✔
Technical report	✔	✔
Economic report	✔	✔
Bill of cables		✔
Bill of electrical components		✔
User-created documents	✔	✔
Integrated RTF editor	✔	✔

BlueSol

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