Energy efficiency
Monitoring of power production plants that use renewable sources
Home and building automation
SINAPSI was founded in 2004 as system integrator, and in its 10 years of activity the company has accumulated intense experience in the designing, configuration and installation of building automation services.

Using the experience and knowledge acquired during years of activity, the company started its activity of development and production of hardware devices and software for the world of home and building automation, renewable power, energetic efficiency and smart metering.

Several of the company’s solutions adopt KNX communication protocol, the open worldwide standard for home and building automation systems.

In 2011 SINAPSI launched its DATA SERVICE platform (SNPDS), through which it provides its clients with services with high technological contents in various fields of application, elaborating and analysing data originally from their own monitoring systems.

That year saw partnership agreements with the largest European and international manufacturers of home and building automation devices. SINAPSI devices are used in a wide range of situations and are renowned for their efficiency, reliability, wide range of functions and for being extremely easy to use.

Creative ideas and innovative functions are built in the devices and solutions, using the most modern technologies available. Other than internal research and development activities, SINAPSI has always developed close cooperation and synergistic relations with the most important Italian universities.

SINAPSI provides its own clients with specific personalised solutions in terms of products and technical services.

Confident of the experience acquired throughout the years in the field of building automation system integration, SINAPSI designs and executes communication gateways among different communication protocols, particularly following the technical and administrative procedures required to obtain the KNX certification.

To complete its services and activities, SINAPSI offers its clients an efficient assistance service, articulated in a range of solutions modelled according to the client’s needs. SINAPSI never neglects continuous training, offering a training programme at its Training Centre, equipped with a room for the classes, and at the premises of clients, partners and retailers.

In order to reach these goals, SINAPSI boasts a young and highly skilled staff, working in a dynamic organisation which constantly invests on research and development in new fields and markets, with the purpose of offering innovative solutions.

SINAPSI offers efficient and effective solutions for problems regarding:
- civil and industrial technological systems
- systems for the production of renewable power
- systems for the metering of power and resources and for the partition of consumption and relative costs

The company is focused on the research, development and trading of its own technological solutions and high added value in the fields of automation, monitoring and control.

SINAPSI follows the entire process for the development of a technological project, from consultancy during the feasibility studies up to final testing and including designing and constructing in the following areas of specialisation:
- home & building automation
- electronics
- electro technical
- thermoregulation
- renewable power
- energy efficiency
- power metering
- integration of installation management systems
- supervision systems

SINAPSI carries out several activities in the following sectors:
- supply of ready-to-use home and building automation systems
- feasibility studies for automation systems
- selling and installation of parts for automation systems
- installation management and final testing of technological systems
- integration of installation management systems with different communication standards
- development of solutions for energy efficiency
- development of OEM devices for automation systems

SINAPSI has been a KNX member since 2010 and a member of KNX Italia Group since 2005.

In 2010 it was acknowledged as KNX Training Centre authorised to offer Basic and Advanced certified KNX courses.

SINAPSI uses certified high quality standards, in accordance with UNI EN ISO 9001:2008

SINAPSI adopts international standards for the Management of IT Services ISO/IEC 20000.
EQUOBOX allows for the metering of the power and resources of a building, making it possible to share the operational costs, in conformity with standard UNI 10200. The architecture of this system is modular, and was conceived to house a wide range of devices that can communicate with the most popularly used standard protocols, such as M-BUS, KNX, ZigBee, RS485, impulse inputs.

EQUOBOX can simultaneously measure different sources of power and resources, such as: electricity, thermal and cooling energy, hot and cold sanitary water, grey waters, gas, solid urban waste.

EQUOBOX is a management tool for the building, shopping centre or office building administrator, for the Energy Manager who wishes to offer guarantees on consumption data in an accurate and detailed manner. EQUOBOX is a tool for sales companies in the energy and utilities market, providing users with perceived added value to power supply. EQUOBOX helps users become aware of their consumption, thus providing a starting point from which to pursue energy efficiency.

EQUOBOX is easy to consult thanks to a Web interface either locally or remotely, in a simple, intuitive manner. EQUOBOX integrates power metering to home and building automation systems, offering the visualisation of data collected on synoptic panels, display panels and touch screens of home automation systems.

Thanks to the services managed by SINAPSI DATA SERVICE (SNDPS), EQUOBOX can show users, in precise and punctual detail:
- Consumption information per period of time, with its respective amounts due
- Heat consumption share report based on parameter configurations defined by users, in compliance with UNI 10200
- Information on consumption history
- Configuration of consumption thresholds, with the automatic generation of signals and alarms
- Access to a personal archive of consumption documents, such as utility bills, reports, contracts, text messages, promotions and offers.

EQUOBOX can be consulted by users using the most commonly used consumer technologies: Web browser and smartphone apps.
FIELD HARDWARE
EQUOBOX

CPU
- Centralising device for the acquisition of data from RTU devices
- Configuration and consultation of data through integrated web interface
- Connection to RTU through a LAN network
- Data exchange between different RTUs (PLUS version only)
- Connection to the Data Service

RTU
- Acquires and memorises data from in-field meters
- Specific model for each type of installation (MBUS cable/rf, KNX cable/rf, RS485 cable)
- Stand-alone operation mode with data visualisation on interface Web and scheduling for the generation of reports on acquired data

LEVEL CONVERTER
- Physical interface for communication on MBUS with modularity with 60 devices
- Stand-alone operation mode with specific acquisition software or which can be used as slave module in an MBUS network for an extension with additional 60 devices.
- Real-time consultation of the data acquired by the meters using specific software
The most advanced device of the EQUOBOX family, this model centralises all data acquired by several RTUs connected to it through a LAN network.

Equipped with a web interface with which it is possible to remotely control all history data and on which users may elaborate and generate reports.

Connection to the Data Service for centralised management, at portal level, of several systems, even when located in different local areas.

The PLUS version allows the acquisition of data from in-field bus units, creating an interface with their respective RTUs and therefore working as a gateway.
Simple and immediate Consultation of consumption data

Useful and intelligent functions, such as management of relay outputs with logic, thresholds or remote controls, with relative e-mail warning

Automatic generation and sending of reports

Device for the monitoring and creation of a history record in the internal memory of all data acquired by meters on various communication bus units, such as MBUS, MBUS-rf, ZigBee, KNX, KNX-rf and RS485.

Equipped with digital inputs and outputs to allow for the remote monitoring of the system and the generation of alarms in the event of anomalies detected according to a pre-set logic.

Thanks to its Web interface, it allows for the local or remote real-time consultation of data as well as of the status of the system, which makes it possible to generate reports that can be e-mailed at pre-set intervals of time.

It uses LAN networks to communicate with CPU modules, for the centralised management of several parts of the same system.
LEVEL CONVERTER
EQUOBOX

Physical interface for communication on M-Bus for RTU modules or using an acquisition software. Capable of managing up to 60 M-Bus devices in Master mode or of extending an existing network by further 60 devices, if connected in Slave mode. Provided with USB interface to allow the acquisition software to read all meters from the grid in real time.
## Solutions

**Equobox**

### Functions

<table>
<thead>
<tr>
<th>Functions</th>
<th>SOLUZION BASIC</th>
<th>SOLUZION SMART</th>
<th>SOLUZION MASTER</th>
<th>SOLUZION CLOUD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocols</td>
<td>MBUS</td>
<td>MBUS KNX</td>
<td>MBUS KNX</td>
<td>MBUS KNX</td>
</tr>
<tr>
<td>Data logging</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Configuration</td>
<td>NO</td>
<td>Web interface</td>
<td>Web interface</td>
<td>Web interface</td>
</tr>
<tr>
<td>Recovering metering data</td>
<td>External software</td>
<td>Web interface</td>
<td>Web interface</td>
<td>Web interface</td>
</tr>
<tr>
<td>Consulting data</td>
<td>External software</td>
<td>File export</td>
<td>Online</td>
<td>Online</td>
</tr>
<tr>
<td>Integrated Web interface for the graphic visualisation of metering data</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Data exchange between in-field bus</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Centralisation, history logging, data reporting on DATA SERVICE</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>
This solution is dedicated to those who need to obtain real-time readings of the devices connected to an M-Bus grid, using a PC and an acquisition software, without the need for remote reading of the meters or for data history in regular intervals.
Solution for the monitoring of meters belonging to a single system and to the same in-field bus.

In the M-Bus version, which uses a Level Converter, it is possible to manage up to 240 logical devices, ensuring the acquisition and memorisation of data at regular intervals within a mass memory.

The presence of digital inputs and outputs allows for the monitoring of systems with the possibility of receiving via e-mail a warning of anomalies, with a pre-set logic. In the RS485 version, the RTU module communicates directly with the power meters, memorising the acquired values and generating scheduled reports. This solution is indicated for anyone who needs to remotely consult data and to generate reports for systems containing a single type of in-field bus.

This solution includes a connection to the SNPDS system, which allows for a centralised visualisation of data and of the status of systems in geographically different areas, connected to the central server via Internet.
MASTER SOLUTION
EQUOBOX

With the SNPDS centralised management system it is possible to fully manage the flow of information regarding the analysis and maintenance of consumption monitoring systems.

Who should use it
Administrators of apartment buildings, shopping centres and office buildings, energy managers, energy and utility companies, EPC contractors, construction companies, O&M companies, installers, final users

Components
EQUOBOX CPU/CPU GATEWAY, EQUOBOX RTU (level converter modules for the acquisition of data from MBUS meters)

Major features
Modular architecture, multi-compatible (MBUS, KNX, RS485), local/remote consultation via Web browser, integration of metering with H&B automation, app visualisation support, synoptic panels, touch screen, displays

SNPDS
With the SNPDS centralised management system it is possible to fully manage the flow of information regarding the analysis and maintenance of consumption monitoring systems.

This integrated solution uses all hardware devices to ensure maximum flexibility in terms of type of meter, bus, monitored dimensions and type of system. Thanks to its CPU, it can collect data from RTUs connected to different bus units or to different systems, also ensuring the possibility of exchanging information between different systems based on different communication bus units such as M-Bus, KNX or ZigBee. The connection to the centralised SNPDS system also makes it possible to immediately manage several systems and to generate advanced reports such as power metering and bill issuing.
This solution is suitable for those who need to manage several systems. It provides the centralised management and the generation of advanced reports and of utility bills, if required. Provides customisable visualisation of data with the possibility of Web, smartphone and Web TV access. This solution offers users the ability to control all fundamental data from their own systems, while companies can improve their image thanks to this technological and innovative additional feature.
ESOLAR is a family of products for the monitoring of photovoltaic systems.

The different needs of users, EPCs and final consumers open different scenarios, in which it becomes necessary to include modular and variable architectures, also in terms of different types and dimensions of the systems installed.

The eSolar family consists of the following devices:
- eSolar DUO, real-time stand-alone monitoring system with performance ratio calculation (standard EN61724)
- eSolar, real-time stand-alone monitoring system for medium/large systems. KNX compatible.
- eSolar LIGHT PLUS, real-time stand-alone monitoring system for systems of up to 200 kWp
- eSolar LIGHT, real-time stand-alone monitoring system for systems of up to 50 kWp
- eSolar MINI, universal monitoring system for residential systems

and by the following plug-ins:
- eSolar CENTRAL, plug-in for the centralised local or remote management of monitoring systems for eSolar photovoltaic systems

All eSolar devices ensure wide compatibility with inverters, string controllers and meters of different brands and models. With their modularity and simple installation and configuration, eSolar systems are extremely useful and high-performing solutions for the control of production in different types of photovoltaic systems, allowing the EPC to optimise maintenance processes and clients to verify their own investment, also monitoring the associated economical trend associated.

Using the SNPDS centralised management system allows for the full management of the flow of information regarding the analysis and maintenance of photovoltaic systems.
**HARDWARE AND ARCHITECTURE**

**eSolar DUO**

*eSolar DUO* is a real-time, stand-alone system for the monitoring and management, both local and remote, of photovoltaic systems. It contains a home automation motor which uses the KNX communication protocol, the only worldwide open standard for home and building automation, in accordance with standards CEI EN 50090 and ISO/IEC 14543.

*eSolar DUO* can communicate with and acquire electrical measurements from most photovoltaic inverters, string controllers and meters available in the market today, by means of communication ports RS232/RS485, Ethernet and impulse outputs. It can also manage groups of inverters in such a manner as to allow for a deep analysis of parts of the system, when different photovoltaic technologies are employed.

*eSolar DUO* can calculate the production of each section of the system, the performance ratio of the desired section (in accordance with standard EN61724), and verify the economic yield of each section. The data acquired in real time are logged in the machine as history. The data can later be visualised using a Web browser, connecting directly to the machine. It is also possible to visualise historical data other than real-time acquired data.

**eSolarDUO**

- Supports up to 100 devices (1 device = 1 inverter/1 string controller/1 meter/1 sensor)
- Supports multi-brand inverters, maximum 300 multi-brand strings, 10 multi-brand meters
- Local or remote management via integrated Web browser
- Remote management via SNPDS for the centralised monitoring of systems
- System section management module for the analysis of performance ratio in accordance with standard EN 61724
eSolar is a real-time, stand-alone system for the monitoring and maintenance management, both local and remote, of photovoltaic systems. It contains a home automation motor which uses the KNX communication protocol, the only worldwide open standard for home and building automation, in accordance with standards CEI EN 50090 and ISO/IEC 14543.

eSolar can communicate with and acquire electrical measurements from most photovoltaic inverters, string controllers and meters available in the market today, by means of communication ports RS232/RS485, Ethernet and impulse outputs. It can also manage groups of inverters in such a manner as to allow for a deep analysis of parts of the system, when different photovoltaic technologies are employed.

The data acquired in real time are logged in the machine as history. The data can later be visualised using a Web browser, connecting directly to the machine. It is also possible to visualise historical data other than real-time acquired data.

eSolar
- Supports up to 100 devices (1 device = 1 inverter/1 string controller/1 meter/1 sensor)
- Supports multi-brand inverters, maximum 300 multi-brand strings, 3 multi-brand meters
- Internal power supply unit (direct connection to 220 Vac supply via cable with VDE connector, supplied)
- 3 multi-brand meters
- Local or remote management via integrated Web browser
- Remote management via SNPDS for the centralised monitoring of systems
eSolar LIGHT PLUS is a system for the local or remote monitoring and management of maintenance of fixed or sun-chasing photovoltaic systems inferior to 200 kWp and/or with no more than 30 inverters.

eSolar LIGHT PLUS can communicate with most photovoltaic inverters/string controls/power meters, periodically tested meters or grid analysers currently available in the market, using serial communication ports RS-232/RS-485/Ethernet in order to acquire the measured parameters.

eSolar LIGHT PLUS collects, memorises and displays, in tables or graphs, daily, monthly and yearly history data for 10 years.

Thanks to its external sensor box, which must be purchased separately, eSolar LIGHT PLUS can acquire solar radiation, temperature of the photovoltaic module and, as an optional feature, wind speed and environmental temperature.

**eSolar LIGHT PLUS**
- Supports up to 30 devices (1 device = 1 inverter/1 string controller/1 meter/1 sensor) per communication port
- 60 multi-brand strings
- 3 multi-brand meters
- External power supplier - 5 VDC (included)
- Local or remote management via built-in Web browser
- Remote management via SNPDS for the centralised monitoring of systems
eSolar LIGHT is a system for the monitoring and management of maintenance, both local and remote, of photovoltaic systems.

eSolar LIGHT can communicate with and acquire electric information from most photovoltaic inverters, string controllers and meters currently available in the market, using communication ports RS232/RS485 and Ethernet.

eSolar LIGHT is a stand-alone device for the monitoring of a single system.
The data acquired in real time are logged in the machine as history. Data can be visualised through a Web browser by connecting to the machine. In addition, it is also possible to consult historical data, other than data acquired in real time.

eSolar LIGHT
- For the monitoring of small/medium systems (max 50 kW), with up to 10 single-brand inverters
- Supports up to 30 devices (1 device = 1 inverter/1 string controller/1 meter/1 sensor)
- 30 multi-brand strings
- 3 multi-brand meters
- External power supplier - 5 VDC (included)
- SIM for GPRS communication. Local or remote management via built-in Web browser
- Remote management via SNPDS for the centralised monitoring of systems
eSolar MINI is a UNIVERSAL, WIRELESS system for the monitoring and management of the maintenance, both local and remote, of photovoltaic systems.

eSolar MINI reads data directly from the production meter of the photovoltaic system by means of a patented Optical interface connected to a radio transmitter. The Optical interface registers the flashing of the meter, that is, the production data of the system. These data are transmitted through radio to the central unit, which records them and makes them available for consultation through the SINAPSI DATA SERVICE cloud service.

Communication with SINAPSI DATA SERVICE uses a SIM (SIN.4SIM).

The consultation of all data regarding the production of the system is made possible through access to the SINAPSI DATA SERVICE.

eSolar MINI
- Universal
- Wireless
- Easy to install
- Alarm visualisation: clean contact connected to the inverter or auxiliary magneto-thermal contact/System yield using solar exposure sensor (accessory)/Lack of production in the absence of data after 48 hours
- Monitoring of production meter
- SIM for GPRS communication
- SINAPSI DATA SERVICE multi-system monitoring server
eSolar CENTRAL is a plug-in for the centralised local or remote management of monitoring systems for eSolar photovoltaic systems.

eSolar CENTRAL provides an aggregated visual of several eSolars. Suitable for the monitoring of large photovoltaic systems, where the use of several eSolar monitoring systems is required.

eSolar CENTRAL provides users with an overall visual of the situation of the plant. Up to 10 eSolars can be analysed together.

**eSolar CENTRAL**
- Communication with in-field eSolar through Ethernet for the aggregated visualisation of real-time data and acquisition of history information as graphs and tables
- Overall performance analysis, without the need to install additional radiation sensors other than the ones already connected to the eSolars
- Consultation through any Internet browser using cellular and LAN networks, with the possibility of adding CCTV systems
- Support to the visualisation of production and environmental data on information LCD screens, outdoors LED displays (free Web app)
OVERVIEW
ESOLAR

Graphs
- Overall system visualisation per unit, such as power, energy, yield and power of photovoltaic modules
- Single-curve graph and table visualisation for each inverter
- Single-curve graph and table visualisation for each string
- Real-time graphic display for sensor status
- Management of groups of inverters and their visualisation

Economic analysis
- Graphic display of economic performance parameters for the system

System performance analysis
- Comparison between produced power and expected power
- Forecast of production for the current year
- Verification of system yield by means of the power produced by the plant with the solar radiation/temperature of the reference photovoltaic module

Management of KNX objects
- Remote activation of loads
- Verification of integrated system status (theft alarm, alarm central etc)
- Visualisation of data regarding physical parameters
- Definition of automation scenarios with the activation of loads in logic conditions defined by the user

Real-time visualisation of:
- IP video cameras
- Analogical video cameras (via video server)
- DVR with Web interface

Creates a history log and displays graphs and tables for the meters
- production energy meters
- imparted energy meters
- issued energy meters

Built-in meters communicate through RS232/RS485 impulse ports and TCP/IP gateways.
Alarm warnings:
- Web interface, e-mail, text message (using an optional GSM/GRPS modem)
- Sending of daily, monthly, weekly and yearly report through e-mail
- Use of the minimum threshold of sun radiation to send alarms of lack of production by inverters (requires the installation of a solar radiation sensor)
- Notifies performance reductions of the plant
- Reports any KNX event via e-mail
- Schedules automated KNX scenarios

Built-in diagnostic tool:
- Communication test for in-field devices, communication test for KNX bus, Internet connection test, local network

Built-in tool for exporting data in different formats:
- Excel (formatted/non-formatted)
- Csv
- Txt

Possibility of selecting a type of data to be exported (inverter, string controller, counters, sensors...) in a certain time interval

Sending of periodical system production reports

Backup automation on external USB memory with daily, weekly, monthly and yearly frequency

Manual backup from remote PC

System data and configuration may be saved for reset or in the event of redundant data
“Going green” is a dominant concern in the world of renewable power sources. eSolar carries this message through in different manners, as it can be customised according to the company’s conduct or the tastes of the final customer, offering support to visualisation on:

- LCD screens
- Customisable outdoor LED displays
- Web app (available for free and compatible with iPhone, iPad, Android and Blackberry)
<table>
<thead>
<tr>
<th>COMPARISON</th>
<th>ESOLAR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ESOLAR FAMILY COMPARED TO</strong></td>
<td><strong>eSolar LIGHT</strong></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
</tr>
<tr>
<td>Maximum number of inverters</td>
<td>10</td>
</tr>
<tr>
<td>Communication interface</td>
<td>1xRS232 1xRS485/RS422</td>
</tr>
<tr>
<td>Multi-inverter operation</td>
<td>--</td>
</tr>
<tr>
<td>Maximum plant size</td>
<td>50kW</td>
</tr>
<tr>
<td>Monitoring functions</td>
<td></td>
</tr>
<tr>
<td>Real-time data monitoring</td>
<td>*</td>
</tr>
<tr>
<td>Independent string monitoring</td>
<td>Max 30</td>
</tr>
<tr>
<td>Single inverter monitoring</td>
<td>*</td>
</tr>
<tr>
<td>Monitoring of inverter status/alarm/anomaly</td>
<td>*</td>
</tr>
<tr>
<td>Real-time display of communication quality with monitored devices</td>
<td>*</td>
</tr>
<tr>
<td>Display: power (AC/DC) - Energy - Yield</td>
<td>*</td>
</tr>
<tr>
<td>Consultation of daily - monthly - yearly history</td>
<td>*</td>
</tr>
<tr>
<td>Management of groups of inverters</td>
<td>--</td>
</tr>
<tr>
<td>Management of economic production</td>
<td>*</td>
</tr>
<tr>
<td>Comparison of kWh produced and installed peak kW</td>
<td>*</td>
</tr>
<tr>
<td>Comparison of produced power and expected power</td>
<td>--</td>
</tr>
<tr>
<td>Forecast of percentage production</td>
<td>--</td>
</tr>
<tr>
<td>Connection of environmental sensors with history records / graphic display/real-time data</td>
<td>Only on RS485</td>
</tr>
<tr>
<td>Management of power meters (production/exchange)</td>
<td>--</td>
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<tr>
<td>Video surveillance integration</td>
<td>--</td>
</tr>
<tr>
<td>KNX communication</td>
<td>--</td>
</tr>
<tr>
<td>Digital/analogical input/output management</td>
<td>--</td>
</tr>
<tr>
<td>e-mail and text message alarm</td>
<td>*</td>
</tr>
<tr>
<td>Expected yield</td>
<td>--</td>
</tr>
<tr>
<td>Calculation of efficiency</td>
<td>--</td>
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<tr>
<td>Built-in data export tool (formatted or non-formatted Excel, csv, txt)</td>
<td>*</td>
</tr>
<tr>
<td>Display</td>
<td></td>
</tr>
<tr>
<td>Built-in Web server</td>
<td>*</td>
</tr>
<tr>
<td>Integration/management of outdoors display</td>
<td>*</td>
</tr>
<tr>
<td>Visualisation on LCD panels</td>
<td>*</td>
</tr>
<tr>
<td>Customisable graphic interface</td>
<td>--</td>
</tr>
<tr>
<td>Web app support (compatible with iPhone, iPad, Android and Blackberry)</td>
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</tr>
<tr>
<td>General data</td>
<td></td>
</tr>
<tr>
<td>Supply voltage</td>
<td>230A VC supply Ext.</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10° / +50° C</td>
</tr>
<tr>
<td>Case</td>
<td>Metal</td>
</tr>
<tr>
<td>Multi-lingual (Italian, German, French, English, Spanish, Slovenian)</td>
<td>*</td>
</tr>
<tr>
<td>Support via SINAPSI DATA SERVICE</td>
<td>*</td>
</tr>
<tr>
<td>Storage</td>
<td></td>
</tr>
<tr>
<td>Storage precision</td>
<td>Average value in 15 min</td>
</tr>
<tr>
<td>Storage redundancy</td>
<td>(optional on USB flashdrive)</td>
</tr>
<tr>
<td>Local average capacity**</td>
<td>10 years</td>
</tr>
</tbody>
</table>

* (1 device = 1 inverter/1 string controller/1 meter/1 sensor/1 LED display)
** Last year in detail in increments of 15 minutes and daily summarised data history (base guaranteed regarding the advised or defined thresholds)
SINAPSI DATA SERVICE (SNPDS) is a cloud service provided in hosting. Designed for companies who work with Operation and Maintenance of installations, IT infrastructure and clients who are particularly interested in monitoring. The SINAPSI DATA SERVICE system offers centralisation, filing, management, analysis of data collected in field with customisable reports and visualisation in MULTISCREEN mode.

The system can be accessed through a Web browser without the need to install specific software. This access is multi-user and multi-profile, with privilege control for the different functions made available by the platform.

SINAPSI DATA SERVICE acquires the data contained in its own devices, such as eSolar, eSolar Light and EQUOBOX and those belonging to third parties, making a copy for consultation and backup.

Its modular structure offers much potential, from the single Web interface, for the management of systems in different fields of application, analysis and comparison between remote systems, alarm status monitoring, scheduling and creation of logs of in-system maintenance activities.
ANALYSIS AND COMPARISON
DATA SERVICE

Map/multi-system analysis module
Thanks to the geographic visualisation of the monitored systems it is possible to:
• Quickly visualise the fundamental characteristics of the system
• Visualise alarm statuses
• Customise the client’s logo for the selected plant
• Compare different systems as a function of a selected measurement

Economic analysis module
Analysis control for different economic flows associated to the different systems

Comparison modules
Visualisation of the different systems in terms of comparison.
It is therefore possible to analyse shifts and/differences on production and consumption of remote systems.
Finally, it is possible to obtain overall/aggregated data from the different plants connected to the SNPDS.
System alarm advanced management module
Module for the visualisation of alarms from all systems in centralised mode. More specifically, it offers:
- visualisation per alarm category
- details on alarm activation timing, device, alarm description

Scheduling/logging module for interventions on the system/list of contacts
Introduction of scheduled interventions or events considered necessary for the scheduling and creation of a history log. Introduction modes may be:
- related to a system in an indexed manner
- associated to certain users, who will be informed in real time of the actions which must be undertaken quickly for proper material management, as well as the necessary tools for the intervention in question.

Report and export module
A module for the generation and structuring for sending detailed reports, configurable by the client. A module for the centralised exporting of monitored data from the systems in the field, such as:
- generating and sending reports to certain users
- integrated repository of the reports generated, with the possibility of later consultation
- multi-format exportation, with the possibility of selecting the parameter which is to be exported in the period in question
DATA ORGANISER AND DEMO DATA SERVICE

Data Organiser module
Manages an integrated repository through which it is possible to file different types of documents to be associated to a single plant (contracts, data sheets, diagrams, images, videos etc).

Multiple-view module
Module for the quick consultation of systems connected to the SNPDS. Provides quick visualisation of macro information regarding the operation of the systems. Allows the configuration of customisable synoptic for Demo-type accesses.
SHARING AND SAFETY
DATA SERVICE

Multi-user access
The administrator can manage access information, enabling or disabling the visualisation of one or more modules or systems to any other user.

Remote backup
SNPDS does the backup of different devices with different acquisition optimisation policies, making reset possible in case a device is damaged or needs to be replaced.

Schematics management module
Allows the visualisation of the wiring diagrams on plan, with graphic representation of alarms and real-time data.

Data service exchange module
Allows the use of data contained in SNPDS with other data management systems. Allows for the integration with management systems belonging to third parties.
Data Service

- Cloud service for the centralised management of systems such as energy efficiency, photovoltaic, wind and geothermal plants
- Remote management using a Web browser; access can be customisable by the administrator for the different users
- Visualisation of plant status and operation with its geographic position and the monitoring of fundamental plant parameters
- Tools for the consultation of economic and forecast analysis
- Support instrument for O&M thanks to the possibility of quickly acquiring detailed, in-context information on the different systems and of verifying loss of performance
- Coordination of the activities and interventions on the system
- Document management and reporting
- Exporting of multi-format data to management platforms belonging to third parties through multiple modalities of data usage in different formats
- Provides customisable visualisation of data with the possibility of Web, smartphone and Web TV access. This solution offers users the ability to control all fundamental data from their own systems, while the company can improve its image thanks to this technological and innovative additional feature.