Plant Power: **892,400 kWp**
Plant Type: **Large Size PV Plant**
Year of realization: **2011**

CASE HISTORY
ES0007

LOCATION

Costigliole Saluzzo, Province of Cuneo.

PLANT FEATURES

The plant is divided into 6 main sections of variable power for a total of 892.4 kW. Each section refers to a different roof on which photovoltaic panels are installed even with different inclination.

PROJECT DESCRIPTION

The production is entrusted to N°6 BONFIGLIOLI inverters, located in different technical rooms (communication via RS485). In addition, ISKRA MT831 partial production meters (communication via RS485) and sensors of different types are interfaced. The interfacing of I/O modules on DUEMMEGI bus was required.

SINAPSI ROLE

PV System monitoring

Sinapsi's eSolar DUO system was chosen for monitoring the various "photovoltaic" devices interfaced (inverters and meters), performance and for remote management and maintenance.
eSolar DUO allows, thanks to the network of sensors, to evaluate the performance ratio of each single inverter/section of the plant in relation to its real irradiance situation, providing detailed parameters regarding the plant behavior.
Through the Virtual Meters function it has been possible to provide an integrated view of the plant production from the production meters point of view, in order to quickly generate reports for the end-of-day readings to be provided to the GSE.
In order to guarantee the interfacing of the DUEMMEGI bus, a dedicated plug-in has been developed that allows the supervision of alarms coming from each technical room.
An additional plug-in allows the calculation of the availability of each single inverter per quarter of an hour.

MONITORING SYSTEM

- Monitoring of all BONFIGLIOLI RPS 420-140TL inverters installed in the field
- Real time and daily production data reading
- Calculation of the availability of each individual inverter per quarter of an hour
- Monitoring of ISKRA MT831 partial production meters installed in the field
- Monitoring of temperature sensors (modules / environment / technical rooms), solar radiation, wind speed
- Monitoring the status of switchgear circuit breakers, transformer rooms, inverter disconnectors and UPS to support the monitoring system itself

Nome	Pot. Nom. [kW]	En. Totale [kWh]	Pot. Ist. AC [kW]			Rp
Inverter R1 Nord Ovest	130,000	668.198,0	39,600	573.50	52.50	0.567
Inverter R2 Nord Ovest	150,000	1.051.418,0	66,300	546.90	48.00	0.840
Inverter S1 Sud Est	130,000	747.251,0	39,900	494.50	44.50	0.589
Inverter S2 Sud Est	143,000	1.147.230,0	60,600	551.5	48.00	0.873
Inverter T1 Mix	173,000	1.219.149,0	60,500	573.50	52.50	0.589
Inverter T2 Sud Est	167,000	1.112.567,0	67,300	494.50	44.50	0.760

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PHOTO GALLERY

DATI | VALORI | GRAFICI

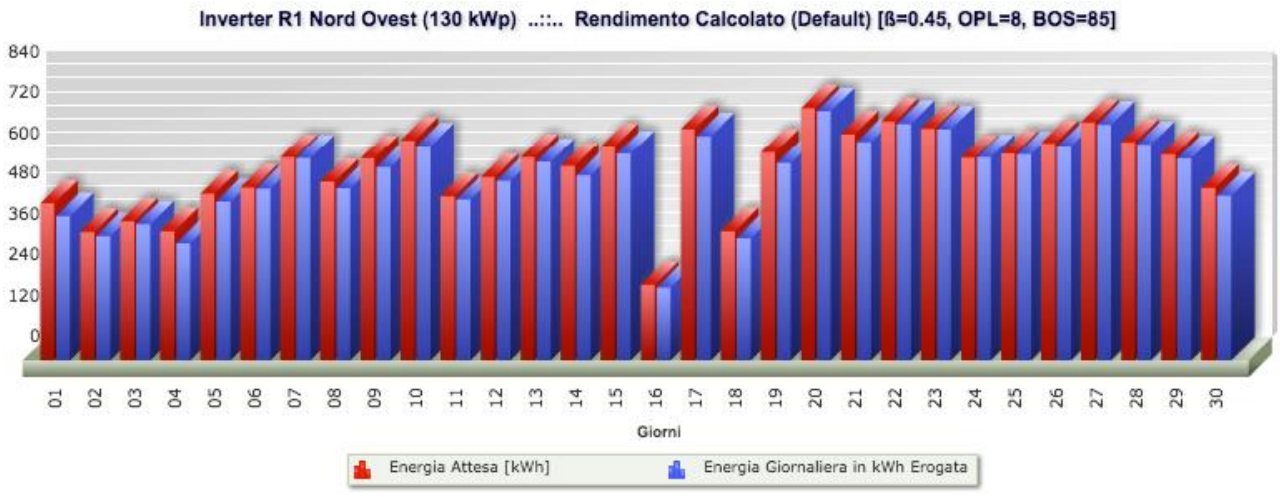
Periodo : 01/07/2016 ... 03/07/2016 ... Visualizza

AL = [(AL1*pn1)+...+(AL2*pnx)] / (pn1+...+pnx)

Data	Vh (min)	Th (min)	AL Impianto	AL | Disponibilità Inverter R1	AL | Disponibilità Inverter R2	AL | Disponibilità Inverter S1	AL | Disponibilità Inverter S2	AL | Disponibilità Inverter T1	AL | Disponibilità Inverter T2
03/07/2016	690	0	100.0%	100%	100%	100%	100%	100%	100%
02/07/2016	690	0	100.0%	100%	100%	100%	100%	100%	100%
01/07/2016	720	0	100.0%	100%	100%	100%	100%	100%	100%

Calculation of plant availability - Values

Calculation of plant availability - Graphs



Performance analysis - Expected monthly production

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CASE HISTORY
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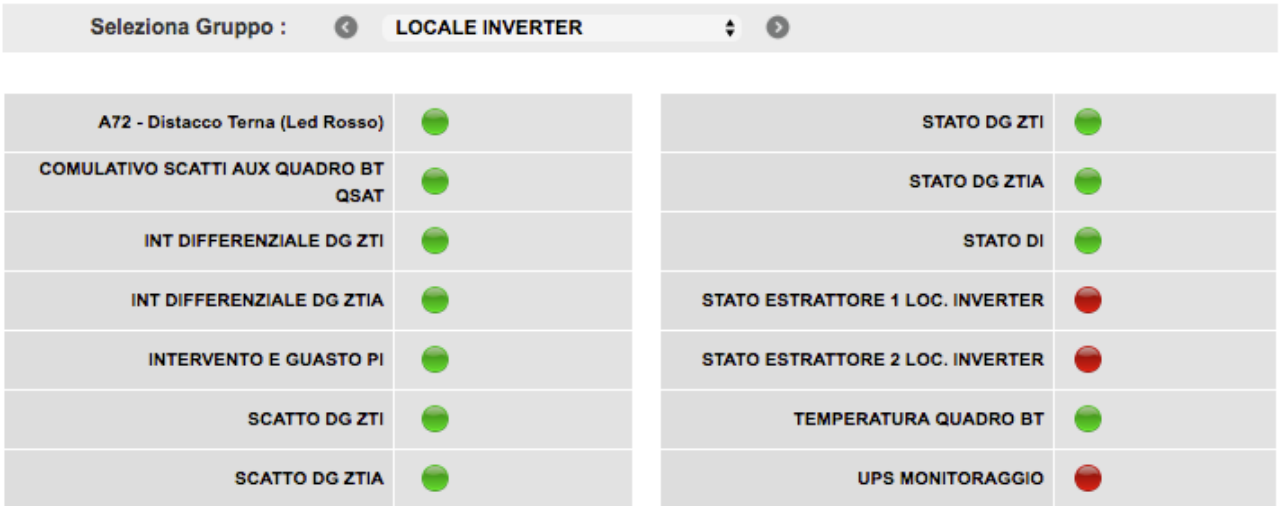
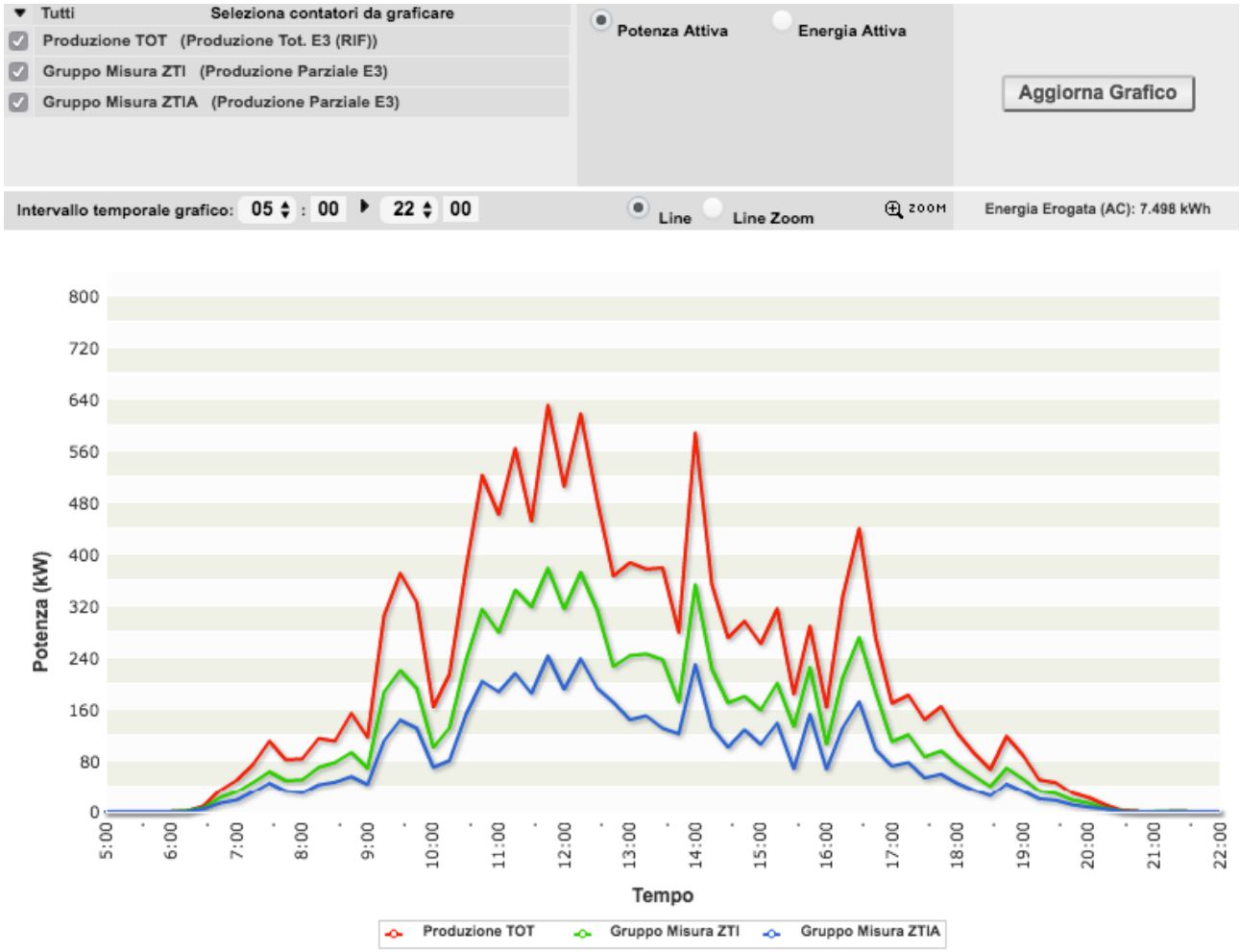
PHOTO GALLERY



I/O Devices



Energy meters - Charts