sinapsi
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Plant Power: **66 KWp**
Plant Type: **Medium Size PV Plant**
Year of realization: **2014**

CASE HISTORY
ES0008

LOCATION

San Benedetto del Tronto, Province of Ascoli Piceno.

PLANT FEATURES

The photovoltaic system installed on the roof of a building of the Water & Soap chain, has a total power of 66kW. The production is entrusted to No. 4 inverters. The will of the customer is to optimize the self-consumption of the system in relation to the behavior of the installed cooling/heating system.

PROJECT DESCRIPTION

With the installer, integration needs have been highlighted, in terms of management, in order to allow an automated management of the system (especially for everything related to thermoregulation) always and in any case modifiable in relation to the specific needs of customer affluence conditions/environmental comfort. Finally, the system had to allow the measurement of energy flows and therefore the self-consumption efficiency achieved.

SINAPSI ROLE

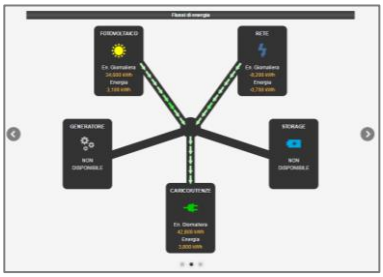
PV System monitoring

The eSolar CUBO LIGHT KNX system has been chosen for the possibility to interface all the devices "photovoltaic side" (solar radiation sensor/temp. PV module, inverter, production meter, bidirectional meter) and "KNX side" at the same time. The latter bus system has been chosen as the European reference for building automation. Through a KNX backbone are interfaced sensors for external temperature measurement, actuators for load/activation control, DAIKIN units (via suitably configured gateways) and finally a chronothermostat from which it is possible to manage locally the working mode of the heating / cooling system, modify/plan setpoints.
eSolar CUBO LIGHT, thanks to its logic management tool, allows to create automated behavior scenarios to increase the self-consumption of the system in relation to the production regimes of the photovoltaic system.

MONITORING SYSTEM

- Monitoring of all field installed inverters (ABB TRIO 20.0 - RS485)
- Real time and daily production data reading
- Monitoring of all meters installed in the field (production SIN.EM21 meter, bidirectional SIN.EM24 - RS485 meter)
- Monitoring of module temperature, solar radiation (RS485), outdoor/indoor temperature (KNX) sensors
- DAIKIN Cooling/Heating System Interface (KNX)
- Control/automation temperature control and lighting system (KNX)
- Automated scenario management for self-consumption optimization

Wh KNX I/O D/A



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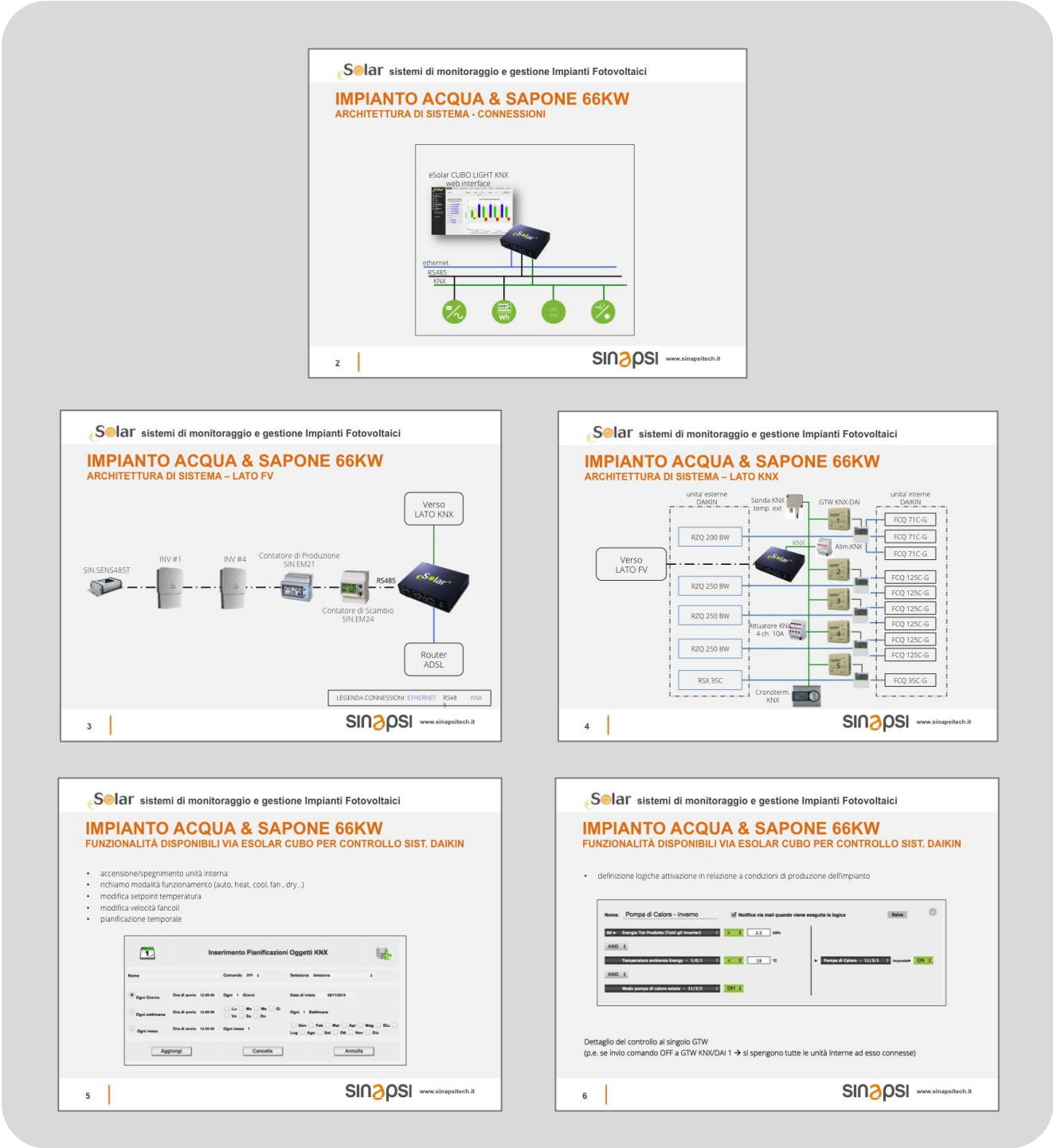
SYSTEM ARCHITECTURE



Acqua & Sapone 66Kw System Architecture