

MAIN FACTS

Client:

Renault-Eiffage-Gestamp Solar

Location:

France

Date of commissioning:

February 2012

Type of Installation:

Largest PV power project in the automotive sector

Market Segment:

Renewables & Infrastructures

BACKGROUND

Renault, in collaboration with Gestamp Solar, who took over the project for construction after Eiffage concluded engineering and consulting services, is developing the biggest photovoltaic project in the world for the automotive industry by equipping its 6 French factories with multi-megawatt PV generating systems. The projects are being developed in French localities: **Douai, Maubeuge, Flins, Batilly, Sandouville and Cleon**. This power upgrade comes as a response to a major increase of energy demand in Renault's installations and a progressive solution for these needs.

Ultimately, it is a 450.000 m² surface of solar panels, which is the equivalent area of more than 63 football fields, for a total installed capacity of 60 MW, the annual electricity consumption of a town with 15,000 citizens.

THE CHALLENGE

Design and construction of any large scale PV plant is always challenging for all players involved in the process. Equipment manufacturers are expected to provide their customers with safe, reliable and cost efficient solutions in order to full fill their needs. From a technical point of view the complexity and size of this particular installation required

Further info:

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“Almost 91% (55 MW of 60 MW) of installed capacity in the largest photovoltaic project in the world for the automotive industry by equipping 5 of 6 French RENAULT factories”

Ormazabal to carefully coordinate protection of the electrical system and pay special attention to the ventilation designs due to temperature rise in transformers and inverters. From an operational point of view this project had to be managed according to a multi-region supplier program; concrete substations were manufactured in France and Spain, MV switchgears and distribution transformers in Spain, inverters from Italy, solar panels from China while assemblies and factory testing was done in France and Spain.

ORMAZABAL'S SOLUTION

55MW of installed capacity is using Ormazabal's equipment. We provided a complete range of Medium Voltage (MV) solutions:

- 43 **PFU-7** Photovoltaic Substations:

TRANSFORMERS

- 41 reduced losses oil transformers - 1250 kVA
- 2 reduced losses oil transformers - 630 kVA

LOW VOLTAGE BOARDS

SOLAR INVERTERS FROM SANTERNO

- 84 Three-phase solar inverter
 - PV field peak power: 719 kWp
 - Rated DC input power: 575 kW

- 43 **CMS-17** Switching Substations:

CGMCOSMOS-multiple functional units

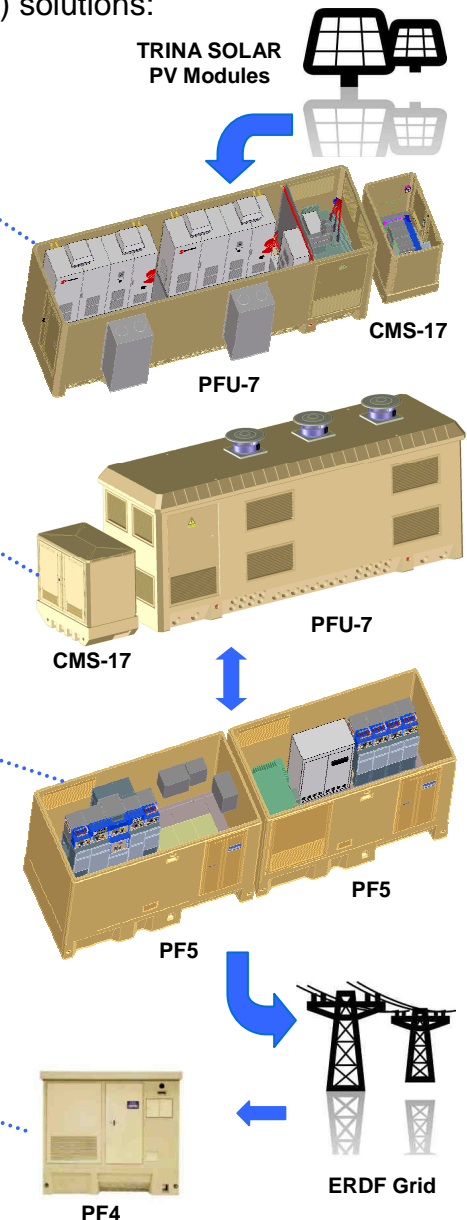
- 43 GIS switchgears - 24 kV

- 5 Interconnection Substations for ERDF's MV distribution network:

- 9 **PF5** Switching Substations with
- 4 ACTIVE FILTERS**
- CGMCOSMOS-multiple functional units**
- 5 GIS switchgears-24kV

(ERDF agreement according to NFC-13100)

- 5 **PF4** Substations connected to ERDF grid for the auxiliary supply of the PV plants.



CUSTOMER BENEFITS

- Highly safe and reliable energy supply.
- Turnkey Project with short delivery deadlines.
- Tailor made solution based on a broad experience:
More than 600 PV stations installed worldwide.

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