SunPower designs, manufactures and delivers the highest efficiency, highest reliability solar panels and systems available today. With over 10 years of large-scale systems experience and operating data, and more than 650 megawatts of large-scale, ground-mounted solar power systems operating or under contract, SunPower is a world leader for utility-scale solar power plants.

SunPower has selected Schneider Electric as EPC contractor (Engineering, Procurement & Construction) for the construction of a park near Rome in Italy. With an output of 15 MWp, this park is made up of 47,000 panels spread across 24 hectares of land. It will produce 21,7 GWh of electric power every year, which corresponds to the electrical consumption of about 18,000 inhabitants. A park of this type represents an annual saving of 12,000 tonnes of CO2.

SunPower wanted to optimise the park construction time (6 months), and called upon a reliable and competitive player that can offer attractive technical solutions.
Solution:
A turnkey contract, including:
- Preliminary and detailed design
- Design and installation of structures, panels and the electrical network between the solar modules and the grid, including Xantrex inverters
- Civil engineering studies
- Civil engineering & construction (fencing, internal roads, earthworks, drainage, electrical trenches)
- Direct current wiring system (prefabricated DC cable, array boxes)
- Overall project management and partner/subcontractor coordination
- Site safety
- Testing and commissioning of the power plant
- Monitoring system

Electrical network:
- 10 transformer substation de 1,260 MVA + 1 transformer substation 630 kVA, equipped with:
  - 21 Xantrex GT630 inverters, medium voltage cubicles, transformers
- 1 grid connection station 20 kV
- Direct current cables
- 126 array boxes
- Installation and commissioning of the complete electrical system

Site security system:
- An intrusion detection system using sensitive cable
- A video surveillance system with intrusion detection using embedded image processing
- A local and remote monitoring station

OTHER REFERENCES
- Ground-based arrays
  - Spain - Almería (7.76 MW)
  - Germany - Rote Jahne (6 MW)
  - France - Vinon Sur Verdon (4.2 MW)
  - France - Gabardan (20 MW)
  - Italy - Cellino San Marco AES (43 MW)
  - France - Les Mées 1 et 2 (2 X 12 MW)
  - France - St Clar (8.9 MW)

Monitoring system:
- Supervision and control of equipments
- Support for maintenance and exploitation activities
- Evaluation of availability
- Weather monitoring
- Data centralisation
- Elaboration of graphics and reports
- Data storage
- Management of remote and multiple access
- Power plant performance data management

- Buildings
  - Spain - Saragossa (10 MW)
  - Spain - Villacañas - Toledo (2.5 MW)
  - Spain - Molina De Segura - Murcia (300 KW)
  - Reunion & Mayotte Islands - 7 Casino stores (16 MW)