Who we are

ST Engineering is born in 2005 by the will of the Eng. Simone Tarantini, electronic engineer, with the strong passion for the renewable energies. Since then active in the field of photovoltaic system, we have designed and realized more than six hundred installations mainly in the South of Italy.

The know-how acquired during our decades of experience has enabled us today to operate in a strategic sector as delicate as is that of the analysis and the maintenance of large-scale renewable energy installations. Our specialized analyses carried out with sophisticated electronic instrumentations are offered to the public and private clients who want to have a valid support on the territory for the study and the analysis of the technical problems found on their own photovoltaic installations due to breakdowns or components deterioration.

Mission

Our mission is to offer an advanced technical analysis services based on the issues related to the photovoltaic installation such as faults and performance deteriorations and we offer simple and complete check-up of all the electric and electronic installation components (including modules and inverters).

Long been engaged in the alternative energy installation design, we are now focused on the research and development and on the study of the main problems such as the PID (Potential Induced Degradation) through instrumental measurement campaigns carried out by highly skilled technicians. Our work experience and the applications on the field are for us source of continuous study and in-depth technical and allow us to achieve a greater degree of awareness of problems related to the large-scale of alternative energy installations.

Our engineering firm is able to perform the following instrumental checks on photovoltaic installation:

- Performance analysis of the modules with I-V curve tracer and series resistance (Rs and Shunt) measurement
- Detailed thermal analysis modules, also with the drone, survey of manufacturing defects and hot-spot
- Measuring the insulation resistance of DC and AC on electrical panels, electrical lines, photovoltaic modules, inverters and photovoltaic modules strings
- Electroluminescence on strings and modules for relief cell cracks, PID and broken bypass diodes
- Complete photovoltaic installation testing according to the Norm CEI EN 82-25
- Performance measurement of centralized inverters (PR%) for large photovoltaic installations
- Analysis of the parameters of AC power supply (detection of disturbances, voltage spike, holes etc.)
33,78 MWp PLANTS (BASILICATA, MOLISE, MARCHE, ABRUZZO, PUGLIA)

- Analysis of photovoltaic modules efficiency and I-V curve tracer (IEC/EN60891)
- Photovoltaic installation test and electrical/functional check - inverters performance ratio measurement (PR%)
- Thermography on photovoltaic modules with thermal defects, hot-spot and PID detection
- Electroluminescence Analysis (P.I.D., Cell Crack, Diodes)

3.5 MWp PLANT (MONCALIERI - MC)

- Analysis of photovoltaic modules efficiency and I-V curve tracer (IEC/EN60891) and DC insulation resistance (CEI EN 62446)
- Visual inspection of the photovoltaic plant
- Plant test by PRp% (Power Ratio %) measurement (CEI 82-25)
- Thermography on photovoltaic modules with thermal defects, hot-spot and PID detection
- MT Transformer and inverters thermography
3,37 MWp PLANT (ASCOLI PICENO - AP)

- Analysis of photovoltaic modules efficiency by I-V curve tracer (IEC/EN60891) and DC insulation resistance (CEI EN 62446)
- MT transformer thermography and connection inspection
- Plant test by PRp% (Power Ratio %) measurement (CEI 82-25)
- Thermography on photovoltaic modules with thermal defects, hot-spot and PID detection

6,2 MWp PLANT (VALMONTONE - RM)

- PID effect study (Potential Induced Degradation)
- Analysis of photovoltaic modules efficiency by I-V curve tracer (IEC/EN60891) and DC insulation resistance (CEI EN 62446)
- Night Electroluminescence in field
- Thermography on photovoltaic modules with thermal defects, hot-spot and PID detection
4 MWp PLANTS (LENTINI - SR)

- Analysis of photovoltaic modules efficiency by I-V curve tracer (IEC/EN60891) and DC insulation resistance (CEI EN 62446)
- Visual inspection and Thermography of modules and DC string-box
- Plant test by PRp% (Power Ratio %) measurement (CEI 82-25)
- Overall plant performance evaluation by complete Due Diligence

3.7 MWp PLANT (NARDO' - LE)

- Plant test by PRp% (Power Ratio %) measurement (CEI 82-25) on n.13 inverters of 250 kWp
- DC string-box, first and second parallel box insulation resistance measurement and DC connection to inverters test
- Thermography on photovoltaic modules with thermal defects, hot-spot and PID detection
- Analysis of photovoltaic modules efficiency by I-V curve tracer (IEC/EN60891)
4.6 MWp PLANT (LIZZANO - TA)

- PID effect study (Potential Induced Degradation)
- Night Electroluminescence in field

4.0 MWp PLANT (POGGIORSINI - BA)

- Compliance to Law 21-June- 2017, n. 96, art. 57-quater
- Electrical continuity and connection between modules verification - Check the grounding of masses and unloaders
- Visual inspection of the photovoltaic plant - Insulation of the electric circuits from the masses and unloaders verification
- Strings Working current measurement – Strings Short circuit current measurement
15 MWp PLANT (FOGGIA - FG)

- Plant test by PRp% (Power Ratio %) measurement (CEI 82-25) on n. 13 inverters of 250 kWp
- DC string-box, first and second parallel box insulation resistance measurement and DC connection to inverters test
- Thermography on photovoltaic modules with thermal defects, hot-spot and PID detection
- Analysis of photovoltaic modules efficiency by I-V curve tracer (IEC/EN60891)

7.5 MWp PLANTS (TERAMO - TE)

- Plant test by PRp% (Power Ratio %) measurement (CEI 82-25) on n. 13 inverters of 250 kWp
- DC string-box, first and second parallel box insulation resistance measurement and DC connection to inverters test
- Thermography on photovoltaic modules with thermal defects, hot-spot and PID detection
- Analysis of photovoltaic modules efficiency by I-V curve tracer (IEC/EN60891)
1,97 MWp PLANT (CALTANISSETTA - CL)  
SURVEY OF SERIAL NUMBERS WHICH ARE SCREEN PRINTED – OCR PROCESSING METHOD

- Survey of 20,750 serial numbers of photovoltaic modules with OCR processing method  
- OCR processing of the screen-printed serials without Bar Code or QR Code  
- Geo localization with exact position for any serial numbers in photovoltaic plant

18,2 MWp PLANT (ROMA - RM)  

- Survey of about 75,000 serial numbers of photovoltaic modules with Bar Code optical scan processing method
- Use of proprietary software for real-time processing on servers for serial code interpretation
- Geo localization with exact position for any serial numbers in photovoltaic plant
OUR “SMART” WEB PLATFORM PV-SCAN

PV-SCAN is the Smart platform for Photovoltaic Performance analysis, Reporting, Measurements data processing, Energy production prediction and Due Diligence web cloud, for O&M Company and Owners. Use PV-SCAN for monitoring performance trend of your PV plant park. Join PV-SCAN on www.pv-scan.com!