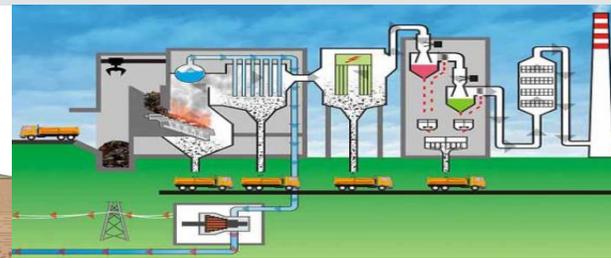
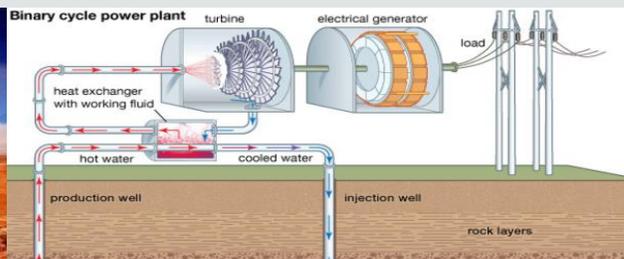




PV Solar Power Plant-Light to Energy

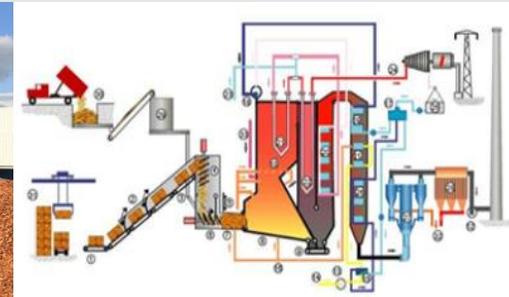
Story of INESING S.p.A.

- ❑ INESING S.p.A. is a Joint stock company founded in 2012 by the Eng. Sami Sejdaj, a graduated in Electrical Engineering.
- ❑ The company's main activities are production of Switchgears, Package Substations, Mobile Substations, design, installation, commissioning and site testing of solar and wind power plants and even as a system integrator providing services for the different promoted devices.
- ❑ With a new and fast-growing business unit (named "Power System Solution - PSS") INESING is also offering consultancies and specialized diagnostic services to Power Plants and T&D Utilities, on transformers, generators, motors, cable and overhead lines. Both in Italy and abroad.
- ❑ INESING has adequate engineering capacity and experience for providing automatic energy management systems.
- ❑ INESING has also an Energy System Division which coordinates projects as a Global EPC Contractor for power plants (renewable and traditional energy) and substations .
- ❑ INESING S.p.A. is an ISO 9001:2015 and OHSAS 18001:2015 company, certified by **Lloyd Register**.



Business of INESING S.p.A.

- ❑ The “**Area Elettrica**” business unit of INESING offers a wide range of instrumentation and systems for electrical measurements and test, including -- HV testing rooms and on-line monitoring solutions. This business unit includes the Turn Key Projects division, responsible for construction of HV Substations, Wind Farms, Photovoltaic Power Plant , Hydro Power plant and in general Power plants pertaining to Renewable Energy. Within the same BU Ampere is also developing the System Integration activities for Protection Relay and Plant Automation, providing well tailored SCADA solutions for monitoring and control. We are approaching both domestic and export market.
- ❑ The “**Area Processo**” business unit of INESING provides measurement’s solutions for process industry and has specialized skills and experience to sell, install and manage leak detection and monitoring systems for oil and water pipelines. We are promoting Sub Systems to perform process functions for the Food and Pharma industries, , Chemical Process, Up-Stream, Midstream and Downstream, Steel Plant with E.A.F. Arc Furnace and L.F. Furnace, and more applications.
- ❑ The “**After Sales Service**” of INESING is based on a well fitted in-house electronic laboratory for the repair, overhaul and calibration of instruments; as well as for the assembly of customized systems. In-field installation, commissioning and repair services are also offered by Ampere to its customers all over the Country and also outside of Italy.
- ❑ INESING “**Turn-Key Projects**” division is responsible for the Feasibility Study , Engineering , Procurement , Construction and Commissioning of the plants . This activity can be developed by internal resources or through sub suppliers’ integrators able to grant the highest quality level and high professional skills on each and every field of the required Engineering.
- ❑ INESING “**Mobile Substations** ” are special solutions suitable.



INESING, Your best partner for Your energy projects

- ❑ **INESING** business activity in **renewable energy production**, is focusing on developing, building and operating renewable sources power plants.
- ❑ **INESING** is active in the **Technology Research and Development field**, and supports any step of project development, including feasibility study, environmental impact evaluation study, project financing, basic and detailed engineering, fuel supply, handling and storage, up to plant operation and management through third party specialized companies.
- ❑ **INESING** activities in Renewable Energies are focused on:
 - . **Biomass** to energy processing
 - . **PV plants** by using latest generating technology
 - . **Solid Waste** and special wastes processing
 - . **Wind Farm** implementing different kinds of Wind Generators
 - . **Thermal Power Plants** with "*Fresnel*" solution technology
 - . **Geothermal Power Plants** and similar
- ❑ **INESING** areas of activities also includes :
 - . High Voltage /Medium Voltage Electrical Substation on AIS , Hybrid and GIS Technology for Big Industry
 - . Steel Plant & Melt Shop Power Plant
 - . Plants for Municipalities in charge to manage Electrical Energy.
 - . Cement Factories Plants
 - . Pulp and Paper Industry



PV Solar Plant: INESING full range of services from planning to maintenance

We provide our customers with a full portfolio of services for implementing photovoltaic installations of any size. As a general contractor, we select suitable properties and assume responsibility for all aspects of project planning and construction. To ensure maximum yields, our services also include plant operation and monitoring. Our customers can fully rely on our support for the entire duration of the project.



Detailed project planning for every phase

As soon as we have found a suitable location for your installation, we will introduce the next project steps: these include negotiating a contractual agreement with the land owner, who may be either a (co-)operator or a lessor, as well as obtaining approvals from the local authority.

In addition we will organize and settle any formalities with the regional utility company. Designing and calculating the installation, as well as accurately planning its construction and operation, are core elements in the planning phase.

Together, we will draw up an investment, financing and cost plan. Profitability calculations, which include a yield simulation, will provide you with a solid basis for deciding whether or not to proceed.



Plant construction

Top-class technical system design and high-quality components from renowned manufacturers guarantee superior systems which furnish the highest yields. We assign tasks to experienced subcontractors from various trades with whom we have already completed numerous successful projects. In addition to providing plants which are both functional and profitable, INESING aims to design roof-top installations which are aesthetically and architecturally sophisticated, and free-standing systems which respect the environment and protect nature.



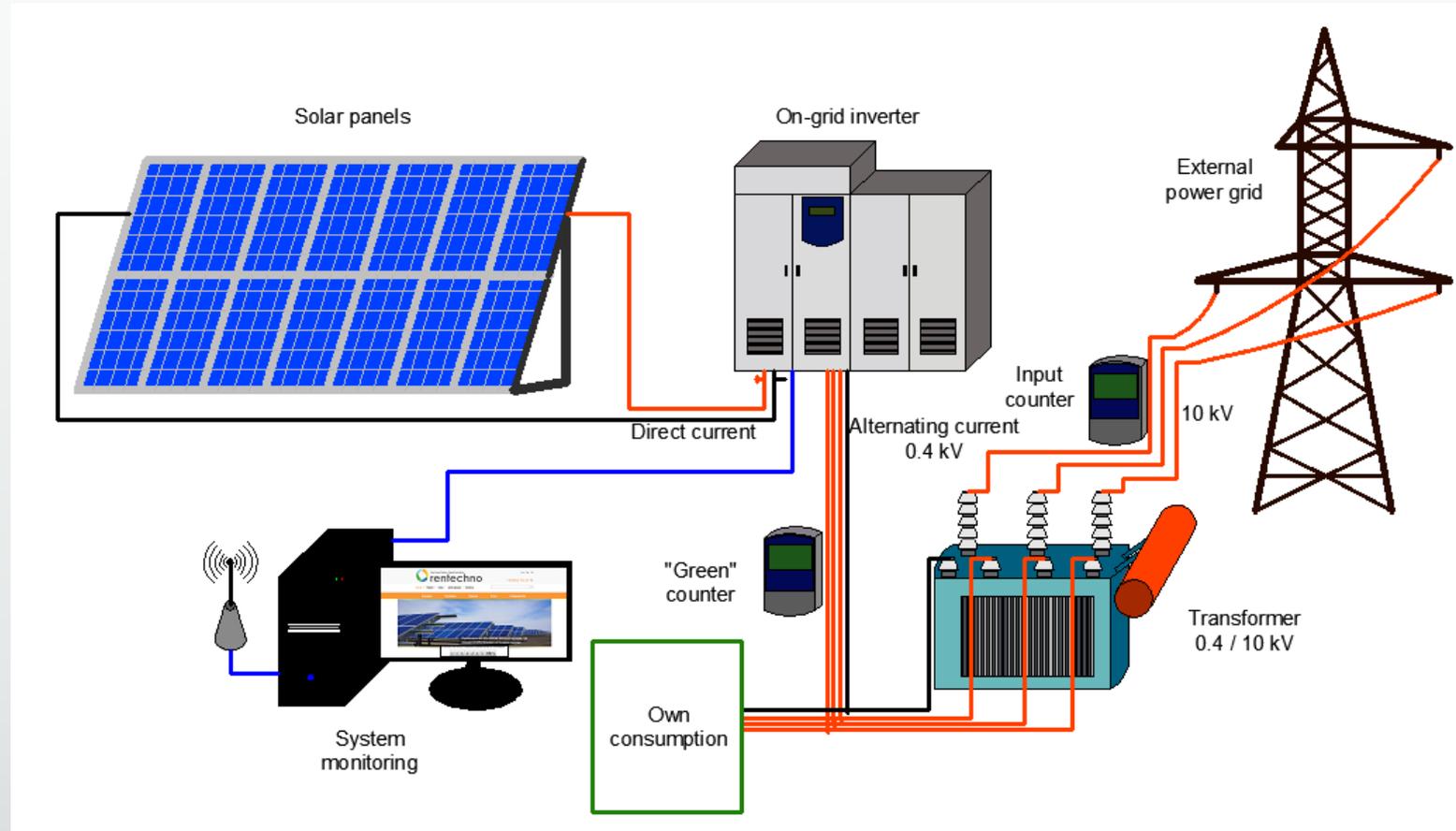
Monitoring and servicing guarantee yields

- We monitor and record the yield of your installation with the aid of a tried and tested solar monitoring system, thereby ensuring that your investment will remain profitable for 20 years or more. We also carry out regular maintenance, and have the capacity to respond quickly in the event of faults, meaning that smooth operation is guaranteed.



The PV Solar Plant

- PV generator (solar modules)
- substructure (mounting frame)
- direct current cabling (DC)
- generator junction box (GJB)
- inverter
- alternating current cabling (AC)
- monitoring system
- grid connection point
- Energy storage (optional)



Substructure (mounting frame)

- An experienced of professional solar mounting systems, INESING offers a variety of fasteners for photovoltaic modules. Our systems combine optimum structural dimensioning, short mounting times, economic efficiency and maximum durability, all at attractive prices.

The PV-mounting system is a modular-unit assembly system comprising universally applicable, quality components (aluminum / stainless steel), facilitating the installation of any module on almost any site. The system, already comprising components proven for quality over many years, is subject to continuous improvement through the enhancement of existing elements and the development of new products.



Direct current cabling (DC)

Solar cables for use in all photovoltaic systems for cabling of the solar modules and as a connection to the AC/DC inverter.

To help meet renewable and clean energy objectives, particularly the solar industry the PV a cable used by INESING provides a durable, high-performance interconnection solution between photovoltaic (PV) panels and from panels to the “inverter” which transforms solar power into usable AC electricity.

These cables are designed to meet the rigours of the outdoor application environment and provide long term durability and flexibility, combined with ease of installation.



Generator junction box (GJB)

The modules are connected in series to form a string. The cumulative voltage of the individual modules gives the string voltage, which must be calibrated to the system voltage of the inverters. Strings of equal length are then connected in parallel to make up the PV generator, where the output power of the strings is cumulative. Multiple string cables from the PV generator are consolidated using Y-adapters or joined in a GJB.

The GJB is located close to the modules and connects several strings in parallel, meaning that only one positive and one negative cable – albeit with large cable cross sections – must be laid from each junction box to the downstream inverter. It can also perform additional safety related functions, such as those of string fuses or overvoltage conductors. If thin film modules are used which are not reverse current proof, blocking diodes must also be employed. In addition, there are certain components which may be positioned in several different locations within the system. For example, the main DC switch could be a part of the GJB or could be integrated into the inverter.



PV Inverter

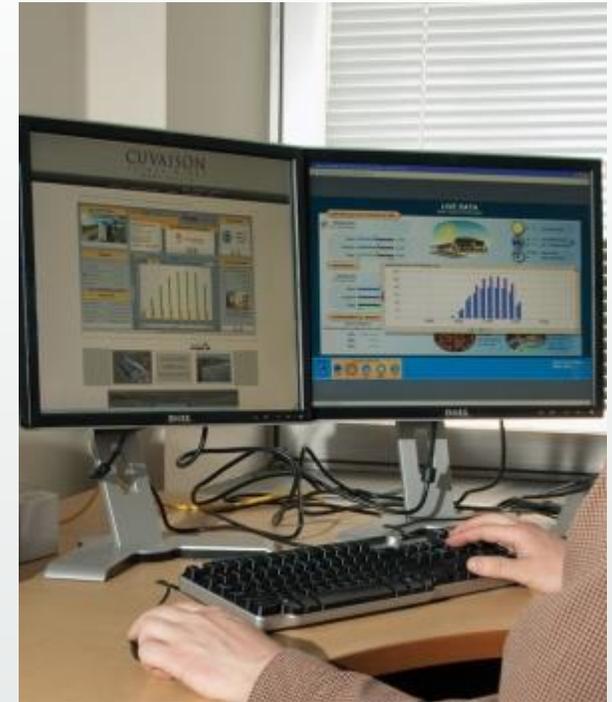
- An inverter is a power converter which converts the DC supplied by the PV generator into AC that has the same voltage and frequency as the grid. If required, this conversion can occur with a specified phase shift, in order to feed reactive power into the grid (e.g. in the event of grid failure) and lend it support. Thanks to state-of-the-art power electronics, converting DC into AC now only incurs minimal losses. The term “grid-tie inverter” is also used for the device, as it is specifically geared toward the requirements of the public grid.
- In order to ensure that it always feeds in the MPP (Maximum power point), which is dependent on the current insolation and temperature, the inverter automatically searches for the PV generator’s optimal operating point, or MPP. The MPP must be continuously tracked to achieve optimum yields.



PV monitoring system

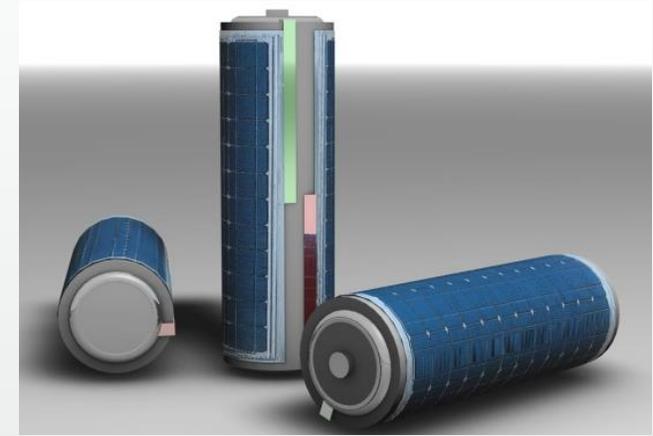
The main purposes of a monitoring system are to follow up on the energy yield, to assess the PV system performance and to timely identify design flaws or malfunctions. Large PV systems use analytical monitoring to prevent economic losses due to operational problems.

A commercial scale monitoring system is capable of quickly alerting the responsible party to systems outages and system underperformance. Data monitoring tools are also essential to capture historic production data, and management of revenue grade data for production/REC payments.



Energy Storage (is not provided in this project)

- The use of energy storage systems (ESS) in PV power plants allow an optimal performance in all PV systems applications. For power plants oriented to the self-consumption, ESS allows minimize the exchange with the grid, increasing the percentage of energy used from photovoltaic generation. Depending on local regulation, this self-consumption increase can give extra profits in the power plant operation. In this case, the ESS allows to use the extra energy not used during the day. Battery discharge will depend on the customer consumption, so high capacity batteries are needed; optimal sizing would be close to the total plant energy production during one regular day. However, a big discharge energy is not necessary.



Project Services:

- Design /specification: Our detailed design packages include design specifications, drawings, procedures, requirements, quality assurance requirements and material requirements.
- Project management: We will develop a realistic comprehensive plan and provide the leadership to implement the project within budget to a viable schedule.
- Mechanical engineering: INESING provides expertise in all areas of structural and mechanical engineering relating to the power plant.
- Electrical engineering: We support all electrical design needs for the generation, transmission and distribution of electrical power.
- Control systems: Design and implementation of control systems for automation, plant monitoring and special equipment synchronization



INESING Staff

Our team of design and field professionals including electrical engineers, mechanical engineers, computer scientists, physicists, mathematicians, and technicians embrace each project with enthusiasm and great anticipation.

The skilled staff of the Engineering, Procurement, Construction and Commissioning group has expertise in the following technical areas:

- Analytical analyses of process
- Performance optimization
- System reliability
- Operating data monitoring and reduction



The Project Overview

BUSINESS PLAN

PRE-FEASIBILITY STUDY

PV SYSTEM DESIGN

PERMISSION PLANNING

SELECTION OF SYSTEM / SUPPLIER

SYSTEM INSTALLATION

MANAGEMENT OF THE INSTALLATION

END-LIFE OF THE INSTALLATION

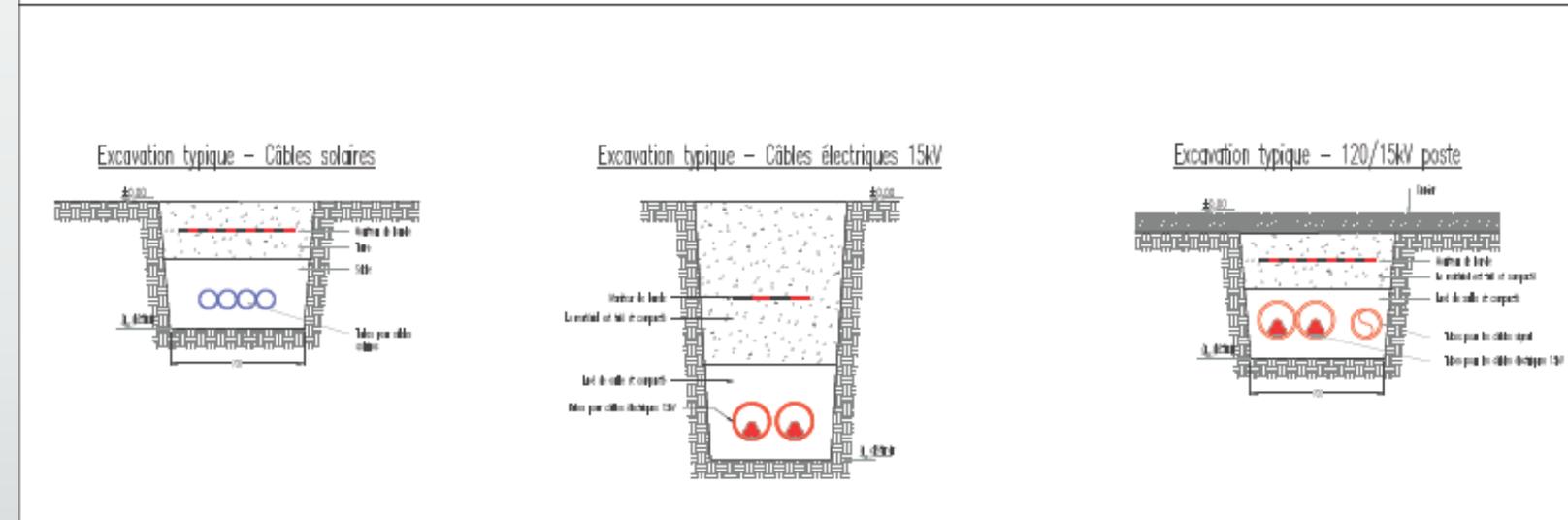
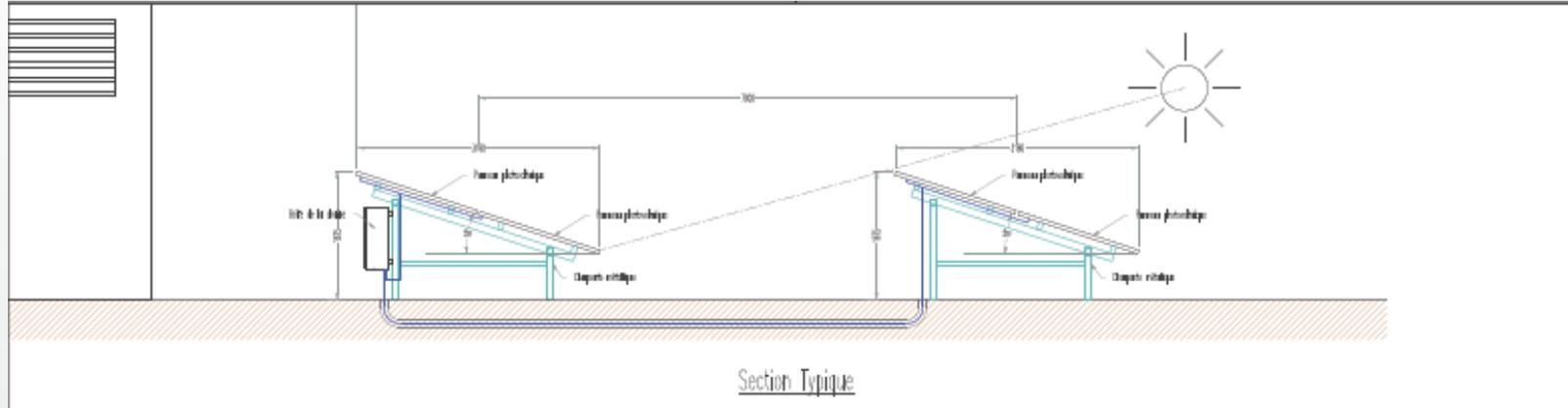
The Project Location



The Project



The Project



Light to energy

PHOTOVOLTAIC POWER PLANT



transforming light into Power all around the World!!!