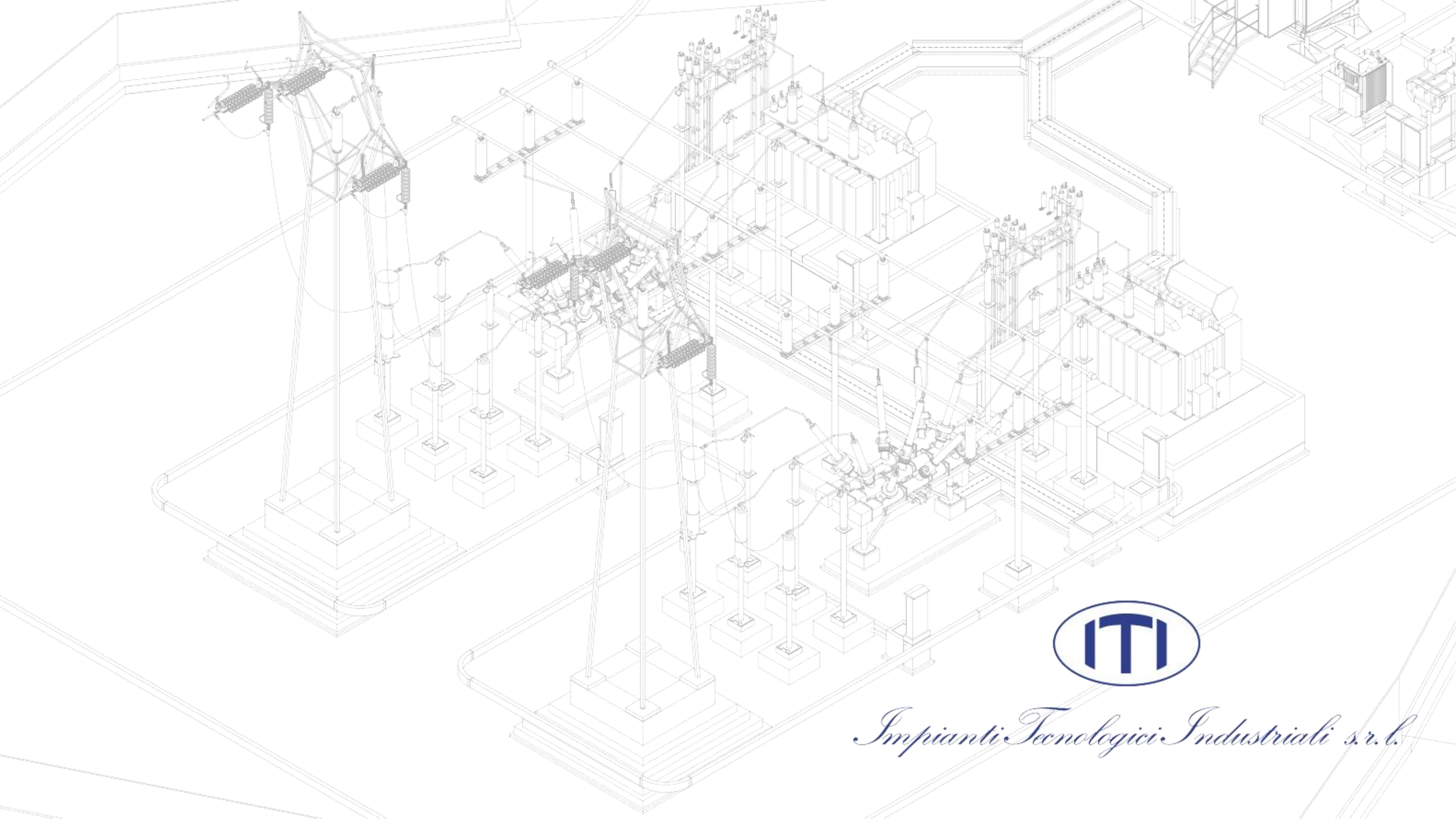
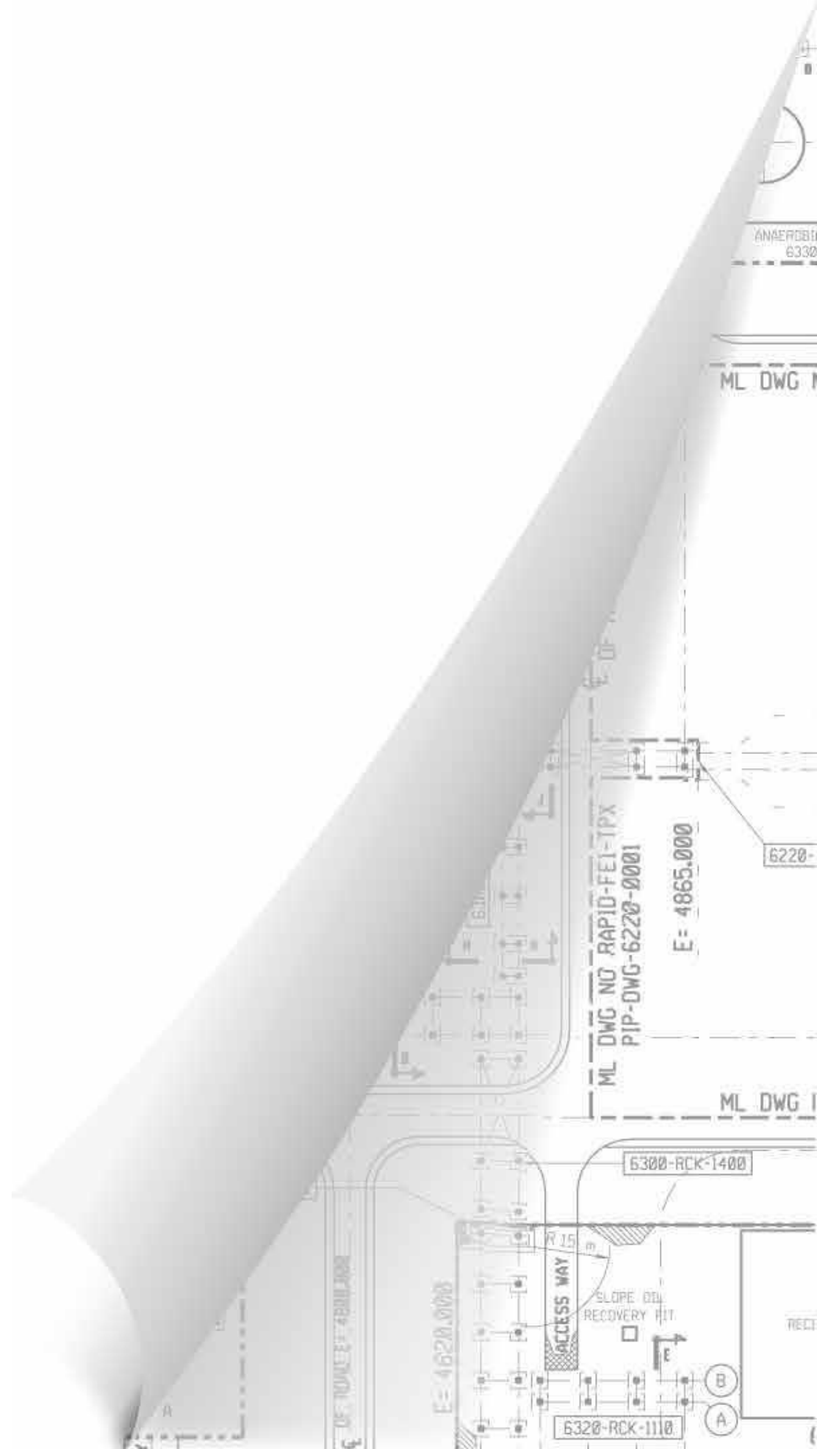


ITI

Impianti Tecnologici Industriali s.r.l.

TABLE OF CONTENT



LEGAL AND OPERATIONAL OFFICES

ITALY

Via Dora 2, 00198 Roma
Tel. +39 06.8416187
Fax. +39 06.8554695
itisrl@iti-srl.com
www.iti-srl.com

SLOVAKIA

Michalkà , 7 – 801101 Bratislava

Number of employees

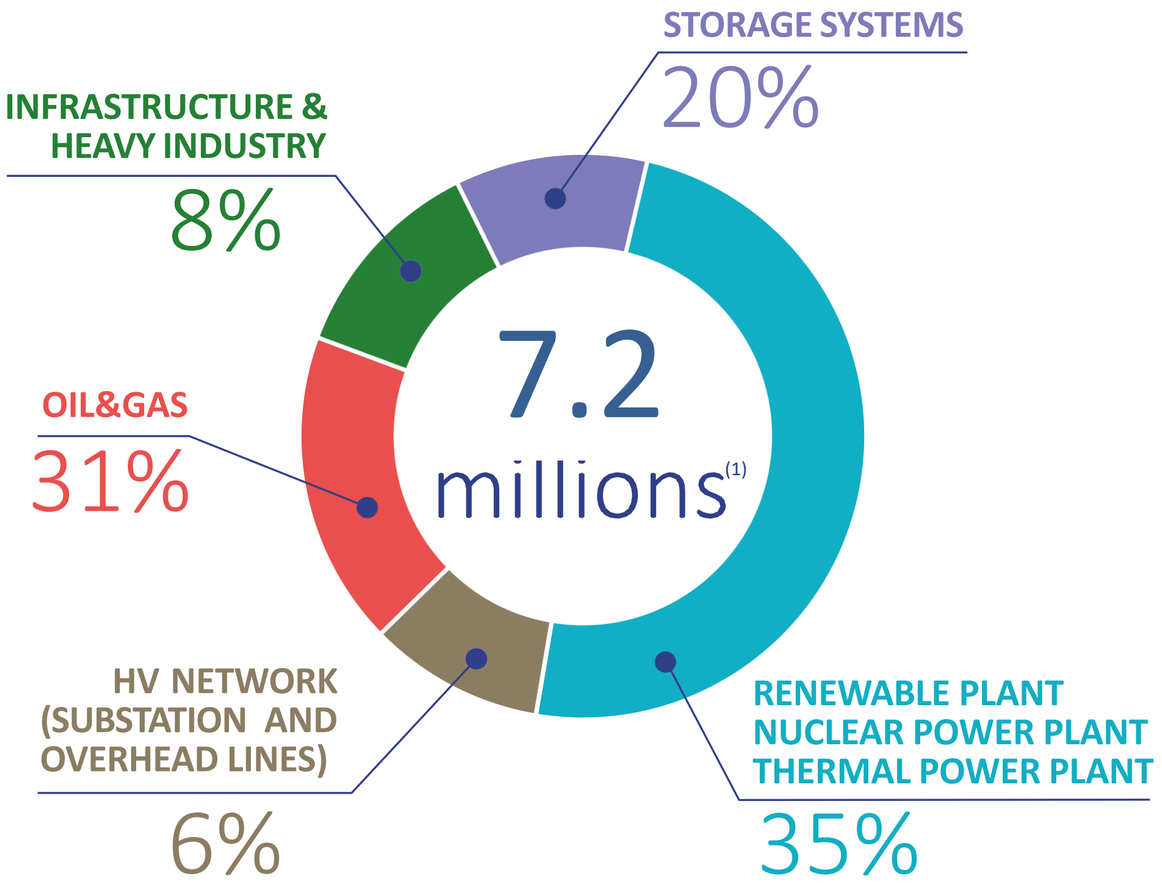
38

Number of developed projects in the last 25 years

95

Total engineering capability per year

82,000 hours



Graduated employees

40%

Avarage experience of engineers

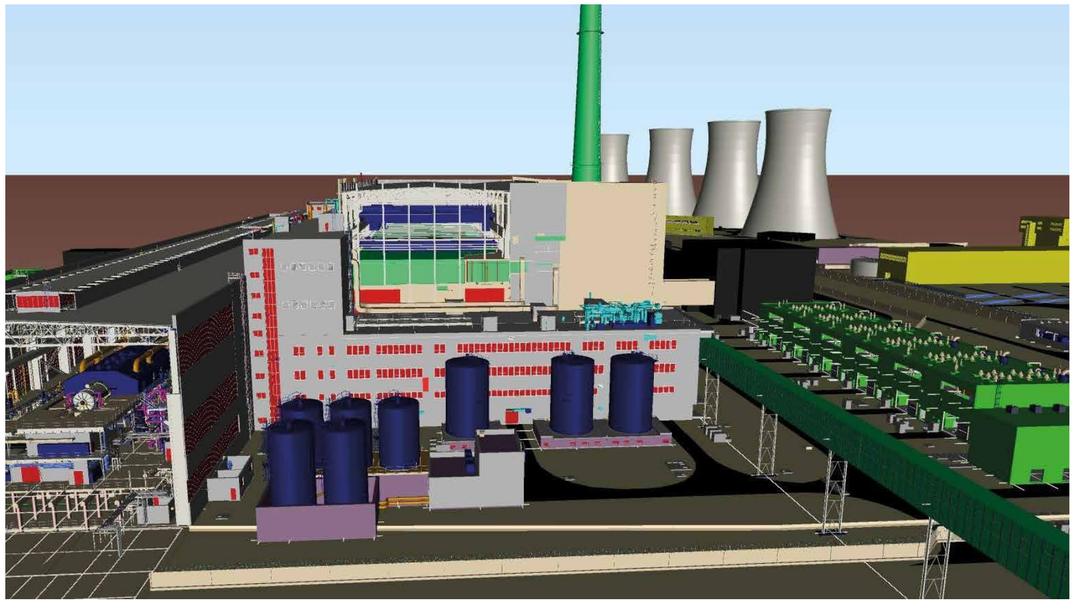
15 years

Site engineering capability per year

3,000 hours

Note: Average value in the last 3 years; all the indicated values are expressed in euro.

The ITI Engineering is a professional multidisciplinary engineering company headquartered in Rome (Italy). The company was founded in the 1980 from the experience gained by the founding quotaholders in the field of electrical and automation engineering especially oriented in energy transmission, power, refineries and petrolchimical plants.
The project born to create a structure with the ability to provide qualified multidisciplinary engineering services and construction, precommissioning, commissioning and startup supervisioning, taking advantage of the peculiar combination of high technical expertise gained over the years.



Over the years the business strategy leads ITI to make strong relations with the major companies, both national and international, become one of the landmarks of this field of activity.

POWER PLANT 35%


NUCLEAR PLANTS


THERMAL PLANTS

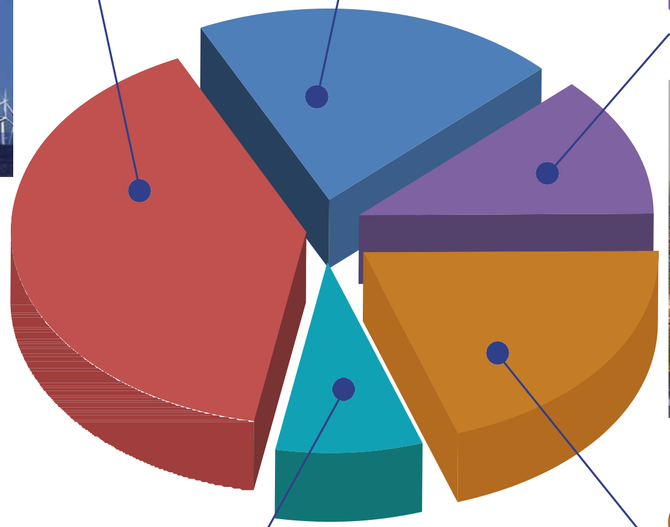

PV PLANTS


WIND PLANTS

STORAGE SYSTEM 20%

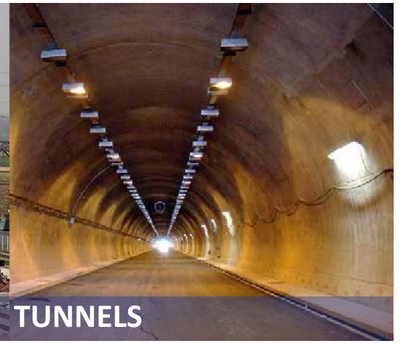

ENERGY INTENSIVE


POWER INTENSIVE



INFRASTUCTURE &HEAVY IND. 8%


RAILWAY ROUTES


TUNNELS

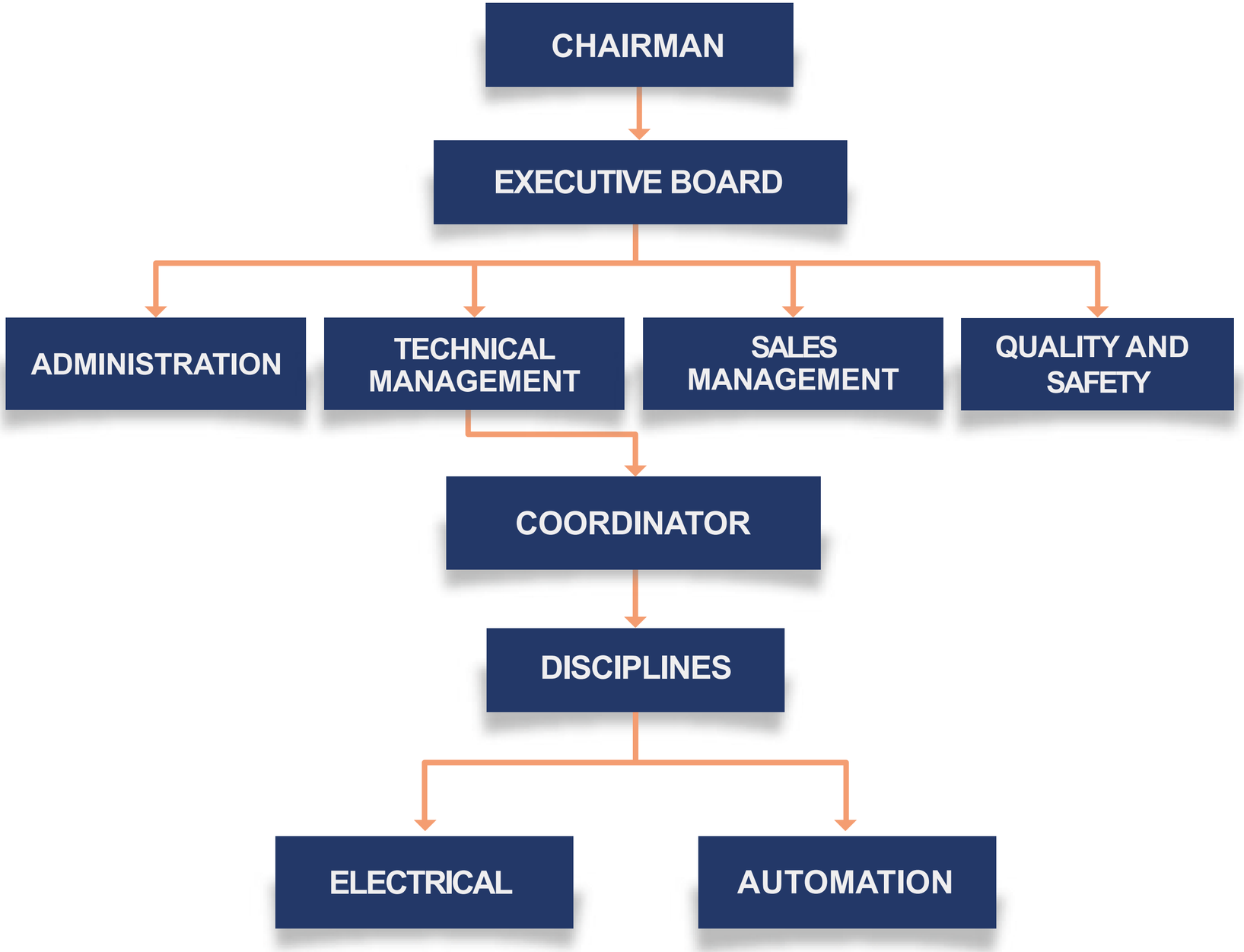
HIGH VOLTAGE NETWORK 6%

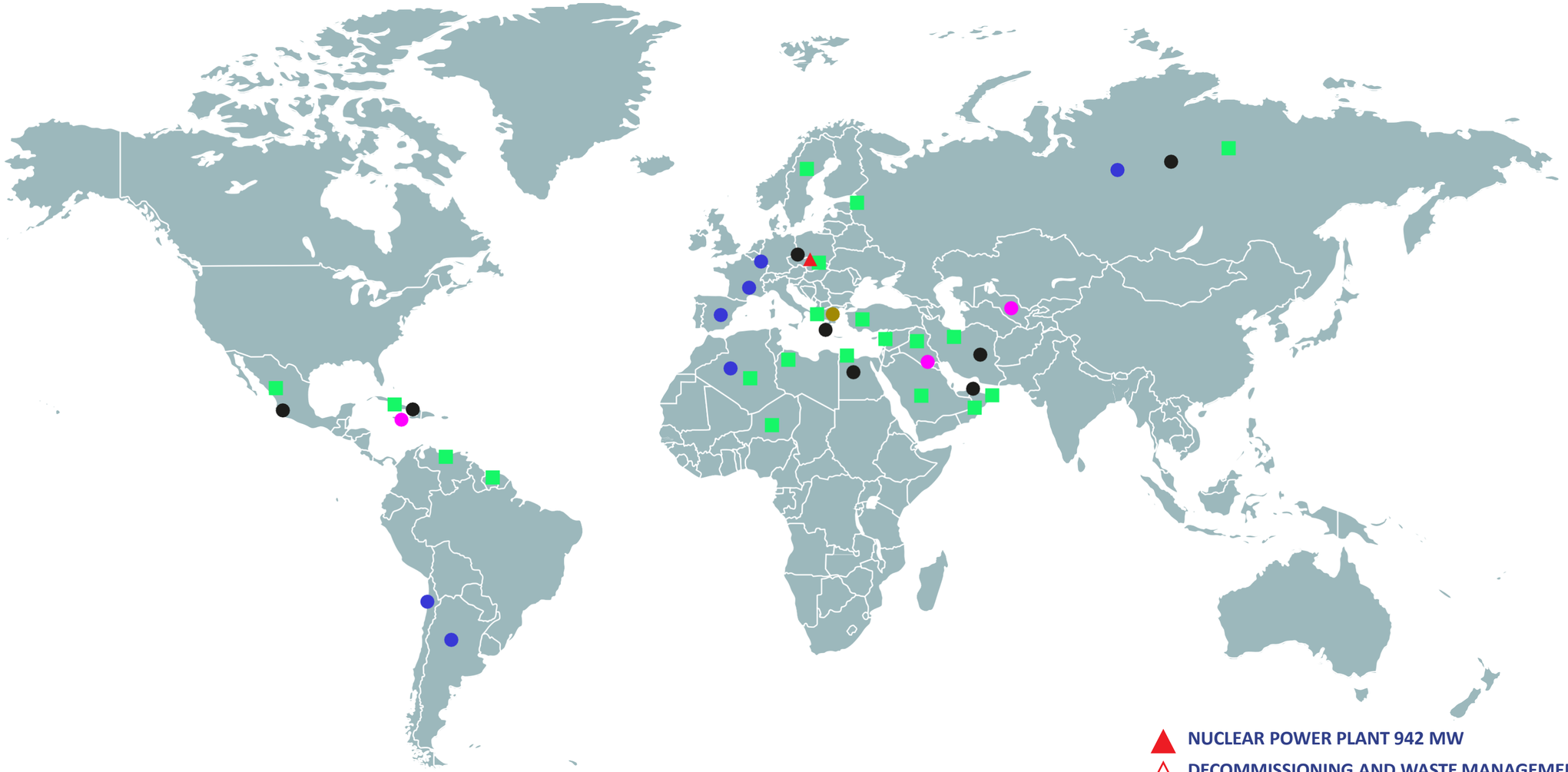

OVERHEAD LINES


ELECTRICAL SUBSTATION GIS&AIS

OIL&GAS 31%


ONSHORE & OFFSHORE PLANTS


CHAIRMAN
EXECUTIVE BOARD
ADMINISTRATION
TECHNICAL MANAGEMENT
SALES MANAGEMENT
QUALITY AND SAFETY
COORDINATOR
DISCIPLINES
ELECTRICAL
AUTOMATION



- NUCLEAR POWER PLANT 942 MW
- DECOMMISSIONING AND WASTE MANAGEMENT
- THERMAL POWER PLANT
- WIND PLANTS
- PHOTOVOLTAIC PLANTS
- OIL & GAS PLANT
- STORAGE PLANT
- HV ELECTRICAL SUBSTATION
- HV OVERHEAD LINES

19 COUNTRIES

1,000,000.00 ENGINERING HOURS DEVELOPED ON POWER PLANTS

Note: All data reported on this page are referred to the last 15 years.

- THERMAL POWER PLANT
- DECOMMISSIONING AND WASTE MANAGEMENT
- HV ELECTRICAL SUBSTATION
- WIND PLANTS
- PHOTOVOLTAIC PLANTS
- HV OVERHEAD LINES

Note: All the data reported on this page are limited only to the main projects carried out.

9. COMPETENCES

	BASIC DESIGN	DETAILS DESIGN	AS BUILT DOCUMENTATION	3D MODEL AND MODEL REVIEW	SITE ENGINEERING CONSTRUCTION SUPERVISIONING COMMISSIONING SUPERVISIONING
ELECTRICAL	•Network and equipments sizing calculation. •Specification of long lead item. •Development of tender documents. •Cost estimation.	•Design of HV/MV/LV/Electrical system and electrical networks. •Functional design(logic and schematic diagram). •Electrical equipment sizing calculation. •Electrical networks calculation (load flow, power balance, short circuit, motor starting). •Drafting of Purchasing specification. •Technical Bid Evaluation and vendor drawing follow-up. •Factory acceptance test (FAT).	•Project final review for "as built" including all modification performed during the construction and commissioning phases.	•3D modelling of structure, equipment and cable ways and interface with other disciplines for the clash detection. The main software utilized are: - Aveva PDMS - SmartPlant 3D - Navisworks Review - SmartPlant Review - Autocad 2D/3D - Microstation 2D/3D	•Engineering activity in order to define solutions to allow the installation of electrical and I&C systems in according to detail design and applicable international standards. •Subcontractor management. •Supervisioning on all system installation. •Interface with site engineering during the erection. •Space management and clash resolution. •Subcontractor activities scheduling and reporting. •Cost control. •Resolution of the non-conformities arisen during the erection works (NCR).
INSTRUMENTATION & CONTROL (I&C) **TELECOM**	•Design of I&C and Telecom systems. •Functional specification. •Instrument specification. •Development of tender documents. •Cost estimation.	•Design of control and safety systems (architecture, I/O list and specification). •Instrument hook up. •Instrument layout and cabling. •Design of F&G systems •Design of Telecom Systems •Drafting of Purchasing documentation. •Technical Bid evaluation and vendor drawing follow-up. •Design of segregation of instrument process connection (impulse pipe). •Factory acceptance test (FAT).			•Solving of possible documents issue. •Drafting of functional test procedure and test reports. •Interface with site engineering departement. •Activities scheduling. •Site acceptance test (SAT).

ENERGY TRANSMISSION OVERVIEW

Core business of **ITI Engineering** is the development of projects related to the transmission and distribution of energy.
Thanks to his experience gained during the years, the company became leader in the consulting and engineering activities working with **TSOs, DSOs, International financial institute** and **Development banks** in both domestic and international scenario.
Most of his activities are carried out mainly in the following kind of projects:

- **HV/MV/LV electrical substations (GIS & AIS).**
- **HVDC electrical interconnection.**
- **HV/MV overhead lines.**
- **Standardization of projects.**

ITI Engineering has contributed to the realization of its customers projects in a wide range of context:

- **Network feasibility studies for the increase of realibility, availability and quality of the grid.**
- **Construction of new substations and overhead lines.**
- **Extension and/or modernization of existing substations.**

DISTRIBUTION NETWORK MODERNIZATION - UZBEKISTAN

PROJECT OBJECTIVE

The overall object of the project is to support Uzbekistan's accelerated development while preparing the sector for the next phases of electricity transformation (digitalization, smart transformation and renewable penetration).
In this scenario, ITI Engineering has been selected by the customer to be involved in this wide project in order to give an high specialist engineering consulting service through a join venture (JV) together with CESI Italy.
The awarded contract provided for ITI Engineering efforts to carry out the following main activities:

- **HV network feasibility study for Samarkand, Tashkent and Syrdarya areas.**
- **HV/MV/LV feasibility study for Tashkent City.**
- **Specification of HV/MV overhead conductors and HV/MV/LV equipments.**
- **Specification of control, protection and monitoring system for primary stations.**

CLIENT: **UZBEKENERGO**
COUNTRY: **UZBEKISTAN**
CONTRACT TYPE: **ENGINEERING SERVICES**
AVERAGE ENGINEERS INVOLVED: **5** STARTING

HVDC INTERCONNECTION PROJECT – ITALY / FRANCE

PROJECT OBJECTIVE

The project, developed by Terna, consists of the merchant portion of the Italian part of the HVDC cable link connecting France and Italy (Grand-Ile – Piossasco) for a bipole nominal capacity of **600MW**.
ITI Engineering carried out consultancy services aimed to acting as Independent Engineer (IE) performing a Technical Due Diligence (TDD) in the interest of the Lenders (Banca IMI, Cassa Depositi e Prestiti, Credit Agricole Corporate and Investement banks) involved in the funding evaluation of the project for the merchant line.
In this framework, **ITI Engineering** carried out for his customers a view of key technical and economical risks providing the following analysis:

- **Technical design evaluation.**
- **Procurement evaluation.**
- **CAPEX and OPEX evaluation.**
- **O&M strategy and capability evaluation.**

CLIENT: **RINA**
COUNTRY: **ITALY**
CONTRACT TYPE: **ENGINEERING SERVICES**
AVERAGE ENGINEERS INVOLVED: **4** STARTING

ELECTRICAL SUBSTATION MAGENTA 380kV - ITALY

PROJECT OBJECTIVE

Scope of work of this project was the realization of a new 380kV electrical section in the existing electrical substation located in Magenta.
The customer's need was to increase the realibility, safety and flexibility operation of the grid in the north area of the country (between Turbigo e Baggio).
ITI Engineering has been awarded engineering services contracts related to the design of:

- **380kV overhead lines.**
- **220kV and 132kV underground conductors.**
- **380kV AIS electrical section and related voltage transformation.**

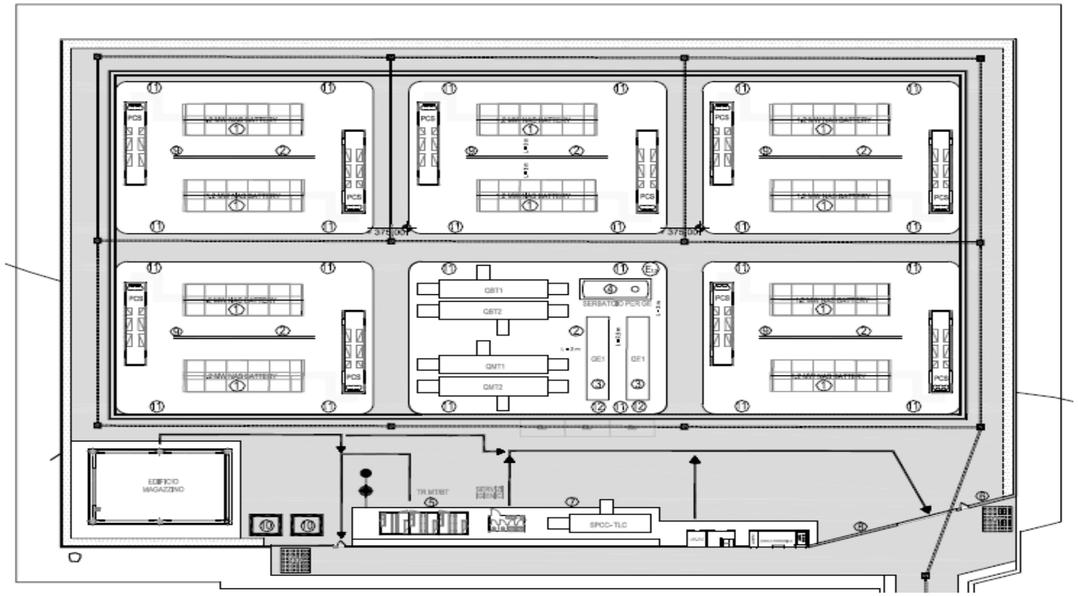
Based on the specific customer's requests, the company has been involved in the study for the optimization of the routes related to the new underground conductors for about 6km and the identification of the high environmental impact overhead lines to be dismantled for about 7km.

CLIENT: **TERNA S.P.A**
COUNTRY: **ITALY**
CONTRACT TYPE: **ENGINEERING SERVICES**
AVERAGE ENGINEERS INVOLVED: **6** STARTING

STORAGE PLANTS OVERVIEW

In 2013, **ITI Engineering** started the collaboration with italian national transmission system operator (TSO) for the realization of **three battery energy storage plants** for a total power installed of **35MW**.
These plants are directly connected to the national grid and their main purposes is:

- **Resolution of grid congestion**
- **Primary frequency regulation**
- **Secondary frequency regulation**
- **Grid Voltage support**



Currently the company has been chosen for the developing of the following activities also:

- **Operation and maintenance (O&M)**
- **Evaluation of plants performance**
- **New storage technology installations**
- **Additional software functions**

GINESTRA/ FLUMERI/ SCAMPITELLA - ITALY

PROJECT OBJECTIVE

The national authority for electrical energy and gas instructed the national TSO for the construction of experimental battery storage plants in the south of the nation where the renewable energy production is intensive.

Thanks to the continuous diversification in the industrial plants design, **ITI Engineering** was selected by the TSO and from battery manufacturer as unique specialist consultant able to join this project.

The following activities has been entrusted to the company:

- **Specification for equipment purchasing.**
- **MV/LV plant design.**
- **Vendors project alignment with international standards.**
- **Construction supervision.**
- **Commissioning & start-up.**

CLIENT: **TERNA (TSO) AND NGK INSULATORS LTD**

COUNTRY: **ITALY**

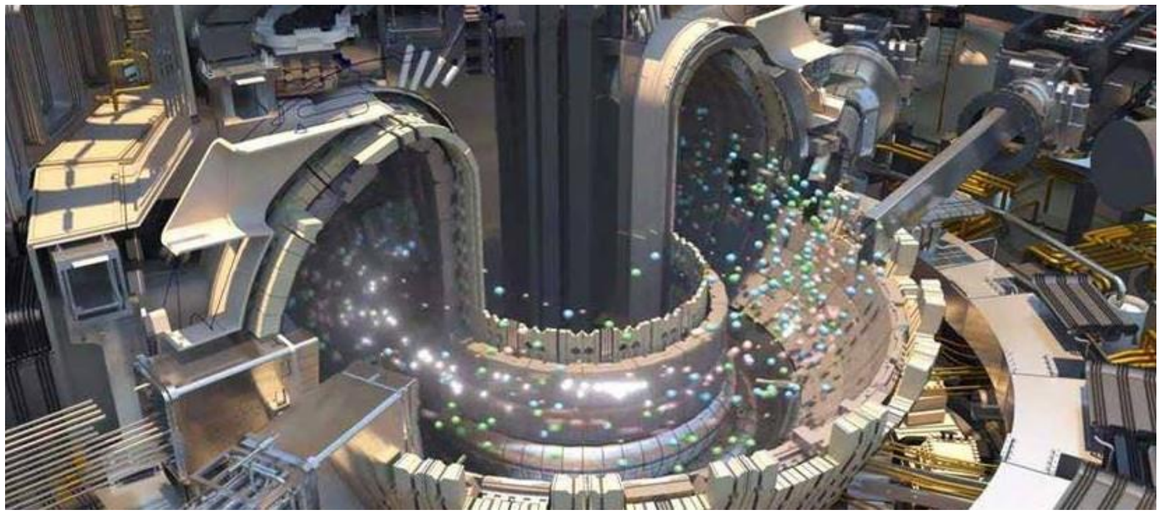
CONTRACT TYPE: **ENGINEERING AND CONSTRUCTION SUPERVISIONING SERVICES**

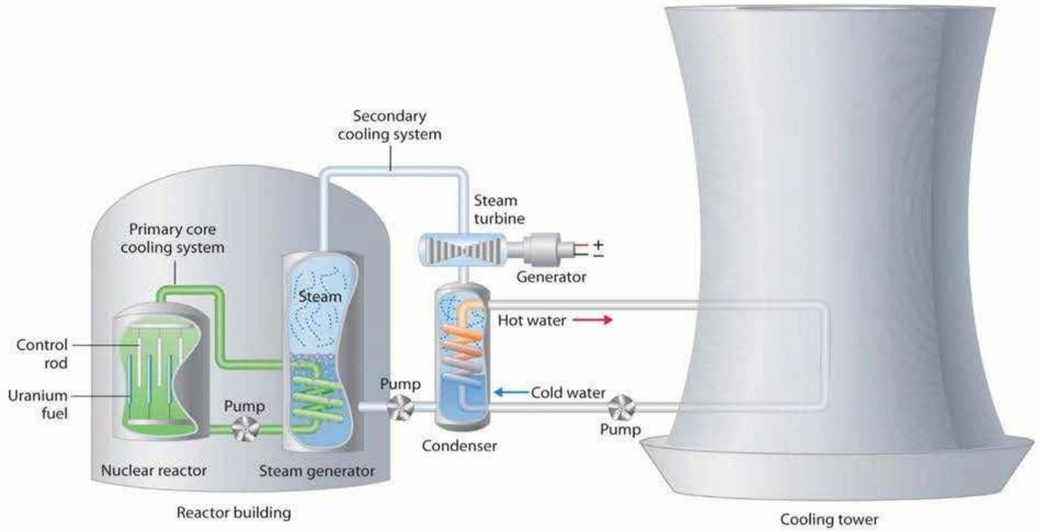
AVERAGE ENGINEERS INVOLVED: **10**

NUCLEAR POWER PLANT OVERVIEW

ITI Engineering operates in the domestic and international nuclear markets, managing the entire business from its headquarter and operation office in Rome (Italy), directly and through the foreign branche.
ITI provide engineering services for the following business lines:

- **Nuclear New Build**
- **Decommissioning and waste management**





By the disciplinary sinergy of our professional team and through the experience gained on nuclear power plants, ITI Engineering is able to support his customer in all the project phases:

- **Basic design**
- **Detail design**
- **Site engineering**
- **Construction supervision**
- **Commissioning supervision**
- **As built documentation**
- **3D modelling and model review**

MOCHOVCE UNIT 3 & UNIT 4 - SLOVAKIA

PROJECT OBJECTIVE

The scope of work includes the realization of two new production units based VVER technology (water-water energetic reactor).
Each of these nuclear units will produce 471 Mwe increasing the total power of the existing plant of 942 Mwe.
ITI srl has been awarded contracts for engineering services relating to the technical supervision of the electrical executive design and document surveillance services for the construction of the conventional island, the nuclear island, and the auxiliary system for both units.

CLIENT: **ENEL ENGINEERING AND SLOVENSKE ELEKTRARNE**
COUNTRY: **SLOVAKIA**
CONTRACT TYPE: **ENGINEERING AND CONSTRUCTION SUPERVISIONING SERVICES**
AVERAGE ENGINEERS INVOLVED: **20**

MOCHOVCE UNIT 3 & UNIT 4 - SLOVAKIA

KEY PROJECT FEATURE

CONVENTIONAL ISLAND (CI)

ITI Engineering team played a significant role in the development of the following conventional system:

- Turbine hall
- Feed water plant
- Secondary circuit internal piping
- Conventional electrical equipment
- HV and MV station
- Main building I&C
- Comm. and data network
- HVAC building
- Essential and fire water pumping
- No essential and fire water pumping
- Diesel generator station
- HP compressed air station
- Chilled water plant
- Fire extinguishing system
- Fire detection system
- External cabling
- Common diesel station

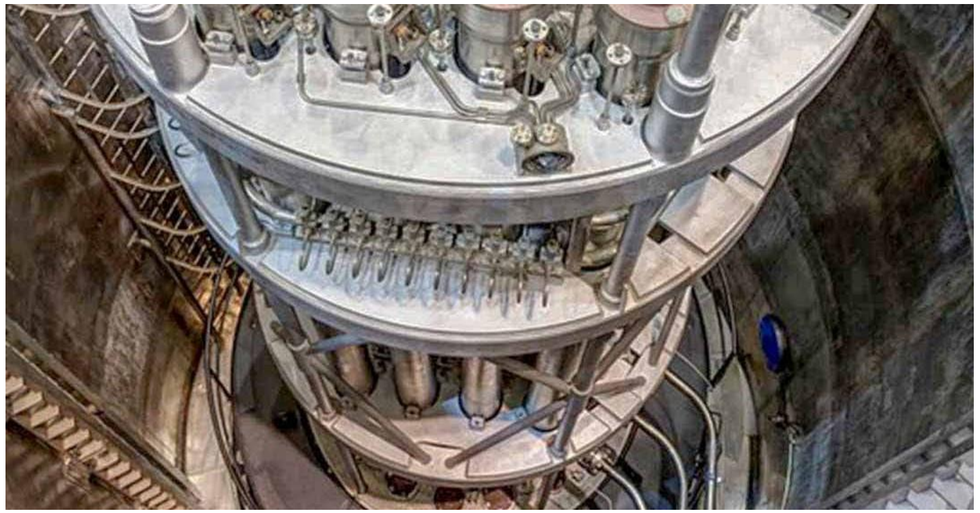
MOCHOVCE UNIT 3 & UNIT 4 - SLOVAKIA

KEY PROJECT FEATURE

NUCLEAR ISLAND (NI)

A selected group of ITI's engineer was involved during the design and site engineering of the following nuclear system:

- Primary circuit
- Nuclear auxiliary system
- Primary circut internal piping
- Radiation monitoring system (RMS)
- Emergency core cooling and spray
- Intermediate cooling system in reactor building
- HVAC reactor building
- Closed circuit TV system (CCTV)
- Security system equipments
- Auxiliary building
- Mobile diesel generator



OIL&GAS AND PETROCHEMICAL PLANTS OVERVIEW ONSHORE & OFFSHORE

ITI Engineering is one of the most important Italian company in the execution of multidisciplinary engineering and construction supervisioning for Oil&Gas plants and Petrochemical plants with over **30 years** of international experience.
The company is able to support his customer both for new plants and for modernization/expansion of existing plants in the following business lines:

- **Gas treatment and liquefaction (LNG/LPG)**
- **Gas to Liquids (GTL)**
- **Oil refining (refining, hydrogen and sulphur units)**
- **Onshore pipelines**
- **Petrochemicals (ethylene, olefins, polymers and fertilizers)**
- **Offshore floating platforms (FPSO and FLNG)**

During the years, the company collaborated with the most important national and international design and construction companies such as:

SAIPEM, LUKOIL, eni, TOTAL, Maire Tecnimont, ABB, أرامكو السعودية saudi aramco chemicals, T.EN TECHNIP ENERGIES, Baker Hughes, SIEMENS

LOTOS ASPHALT - POLAND

PROJECT OBJECTIVE

The Client is KT Kinetics a subsidiary of Maire Tecnimont.
The project is related to a refinery unit upgrading in the Gdansk refinery.
In this modernization program, ITI Engineering awarded contracts for the engineering development of the following processing units:

- **Delayed Coking unit**
- **Naphtha Hydrotreater unit**
- **LPG Washing**
- **Hydrogen generation unit**

ITI's Engineering team was in charge for the negotiation during the purchasing of the main equipments.
The 3D modelling for these refinery units was developed using the following software
SmartPlant 3D (SP3D)
SmartPlant Review

CLIENT: **KT KINETICS**
COUNTRY: **POLAND**
CONTRACT TYPE: **ENGINEERING SERVICES**
AVERAGE ENGINEERS INVOLVED: **11**

COMP3 PLATFORMS - QATAR

PROJECT OBJECTIVE

The Client is SAIPEM, for the development of the COMP3 Platform located in the Persian Gulf.
The project involves the installation of an offshore gas compression unit aimed at stabilizing reservoir pressure and increasing hydrocarbon production capacity.

ITI has been awarded engineering contracts related to the design and development of **electrical**, **instrumental** and **telecommunication** systems for the platform.

ITI supported the Client across multiple project phases, ensuring the optimization of all engineering architectures in compliance with offshore safety standards and project efficiency targets.

CLIENT: **SAIPEM**
COUNTRY: **QATAR**
CONTRACT TYPE: **ENGINEERING SERVICES**
AVERAGE ENGINEERS INVOLVED: **13**

BRASKEM ETHYLENE XXI - MEXICO

PROJECT OBJECTIVE

ITI Engineering has awarded contracts for the development of engineering, construction supervisioning and 3D modelling services related to the realization of

- **Ethane cracker unit**
- **High density polyethylene units**
- **Low density polyethylene unit**

The company was involved by the Client during all the project phases:

- **Basic design**
- **Front end engineering design (FEED)**
- **Detail design**
- **As built**

The customer involved ITI during construction supervisioning mainly for the following activities:

- **Site engineering**
- **Punch list construction**
- **Resolution of non conformity report (NCR)**
- **Subcontractor management.**

CLIENT: **TECHNIP ENERGIES**
COUNTRY: **MEXICO**
CONTRACT TYPE: **ENGINEERING AND CONSTRUCTION SUPERVISIONING SERVICES**
AVERAGE ENGINEERS INVOLVED: **10**

ENOC - DUBAI

PROJECT OBJECTIVE

ITI Engineering has been selected by the Client to be part of his engineering group during the development of his EPC contract related to the expansion of Jebel Ali refinery.
This upgrading program will include three separate packages in order to expand the refinery capacity of the 50%.
In detail, will be added the following units to the existing plants:

- **LPG unit**
- **Naphta hydrotreater unit**
- **Isomerisation unit**
- **Kerosene hydrotreater unit**
- **Diesel hydrotreater unit**

ITI's team are playing a significant role during the development of this project, where its project specialist leaders (PLS) are involved directly in the engineering scheduling and material requisitioning.

CLIENT: **TECHNIP ENERGIES**
COUNTRY: **UNITED ARAB EMIRATES**
CONTRACT TYPE: **ENGINEERING SERVICES**
AVERAGE ENGINEERS INVOLVED: **7** STARTING

THERMAL POWER PLANTS OVERVIEW

One of the **ITI Engineering** main business lines is the realization of projects related to the Thermal Power Generation Plants.
The company has succesfully carried out more than **12GW** of projects in **11 countries** worldwide.
Based on these reached results, ITI Engineering has consolidated experience in all types of plants such as:

- **Combined cycle power plant (CCPP)**
- **Combined cycle gas turbine plant (CCGT)**
- **Integrated gasification combined cycle plant (IGCC)**
- **Coal fired power plant (CFPP)**

During his thirty year experience, the company has provided to his international customers a large range of services such as:

- **Feasibility studies**
- **New building plants**
- **Extension of existing plants**
- **Modernization of existing plants**
- **BOP optimisation projects**

NAMA - IRAN

PROJECT OBJECTIVE

In the framework of a shortage in the national and regional electrical power, the customer awarded an EPC contract for the realization of a combined cycle power plant in Iran.
This power plant with a capacity of **880MW** comprises of two gas turbines and one steam turbine.
ITI Engineering was chosen by the customer for the developing of the following activities:

- **Tender engineering**
- **Detail design**
- **Site supervision**

The development of this project is a part of a bigger agreement which include the realization of other two plants of the same size.

CLIENT: **FATA**
COUNTRY: **IRAN**
CONTRACT TYPE: **ENGINEERING AND CONSTRUCTION SUPERVISIONING SERVICES**
AVERAGE ENGINEERS INVOLVED: **15**

TORREVALDALIGA - ITALY

PROJECT OBJECTIVE

ITI Engineering awarded contracts for the developing of project related to one of the biggest power generation plant in Italy.
Scope of the project was to ensure the electrical stability to the central part of the nation.
This project involved the development of the following plants:

- **Coal fired power plant – 3x630MW**

The company supported his customer during the technical bid evaluation and material requisitioning also.

CLIENT: **ENEL ENGINEERING**
COUNTRY: **ITALY**
CONTRACT TYPE: **ENGINEERING AND CONSTRUCTION SUPERVISIONING SERVICES**
AVERAGE ENGINEERS INVOLVED: **15**

ITI

Impianti Tecnologici Industriali s.r.l.