

expert services & solutions
for the Electrical Transmission sector







expert services & solutions for the Electrical Transmission sector

PROTASIS provides a wide range of expert services for **Transmission System Operators (TSOs)** including assessments, consulting, engineering design, testing, maintenance, training and support of operations to satisfy the strategic and operational requirements of any Transmission System.

Our consultants will assess your infrastructure and provide comprehensive solutions, technical support and training to effectively maintain, modernize, monitor and manage your facility's electrical installations.

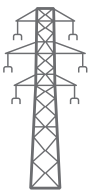
Our expert services, set up to ensure the overall quality, safety and reliability of your installation, are divided into three distinctive areas:

1 Electrical Protection, Control & Automation Systems

Our Power Systems Applications department (**PSA**) combines the qualifications of a Systems Integrator with those of an experienced Engineering & Consulting company.

Without being affiliated with or committed to any manufacturer, PROTASIS PSA develops turn-key projects, solves problems and provides technical solutions and support in a number of areas related to the Transmission System's infrastructure and operation Management.

In detail, our services encompass:



- ⦿ Substation Automation Systems (SAS)
- ⦿ Testing, Maintenance, Commissioning of protection relays
- ⦿ Retrofit and Upgrade of existing Protection, Automation, Telecommunication & Control Systems
- ⦿ Upgrade and optimization of existing protection schemes and protection control philosophy
- ⦿ Control of Shunt Capacitors and Shunt Reactors
- ⦿ Establishing communication links to transfer data between substations and EMS
- ⦿ Support of Operation for SAS, EMS or other similar systems

with power, we perform

2 Electrical Planning and Operation Studies, Consulting & Support

Our Power Systems Studies & Consulting department (**PSS&C**) offer independent services which can be adapted to any Transmission System and include:

Static Analysis

- Power Flow
- Voltage and reactive power control
- Grid Transfer Capability Calculation
- PV and QV analysis
- Static Security Assessment (contingency analysis)
- Short circuit analysis

Dynamic Analysis

- Transient stability
- Small signal stability (eigenvalue/modal analysis)
- Voltage stability
- Frequency stability
- Dynamic Security Assessment (dynamic disturbance analysis)

Protection coordination studies

- Protective equipment modeling
- Relays setting studies
- Design of Special Protection Schemes

Verification of protection and control equipment operation

Electromagnetic Transients analysis and Insulation coordination

Power quality analysis

Our services can cover various types of Studies such as:

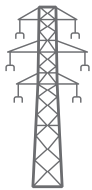
- Power Systems Planning, Operation and Control
- System impact studies and grid code compliance studies for interconnection of plants (e.g. renewable source plants)
- Interconnection studies (HVAC/HVDC)
- Post-mortem analysis



3 Energy Metering & IT Systems

Having experience in development, operation and support of Telemetry Systems, our Metering & IT Applications department (**M&ITA**) develops solutions, solves problems and provides support in all aspects of a modern AMR-MDM System designed for the demanding environment of any Electrical Transmission System.

Our services include:



- ⦿ Automatic Metering Reading (AMR) and Data collection systems
- ⦿ Telecommunication links (GSM, GPRS, 3G, PLC, ETHERNET and RF) for transferring data (recording, measurements, load profiles, etc.)
- ⦿ Meter & Energy Data Management Systems (MDM, EDM)
- ⦿ Data Bases
- ⦿ Network Security
- ⦿ Asset Management Solutions
- ⦿ System, Network, Data Base and Application Administration
- ⦿ Training
- ⦿ Operation Support

Contact our company for more information and details on how we can better serve your Transmission Network needs and how we can solve important aspects challenging your Operations.





Headquarters

59B Apostolopoulou st
15231 Chalandri, Athens, Greece
+30 210 9561 154
www.protasis.net.gr