

ALTENIA
ENERGY THAT WORKS.

 **Terna Energy
Solutions**
MORE VALUE, TOGETHER.

**Innovation and experience
for advanced energy solutions**



ABOUT US

Altenia offers advanced, tailor-made solutions for every phase of the life cycle of high and medium-voltage infrastructures and is the benchmark for companies and operators investing in the energy sector.

From design to maintenance, from operation to regeneration, we ensure targeted interventions to optimise plant performance, safety and efficiency. Our integrated approach allows us to respond promptly to market needs, contributing to operational continuity and maximising yield from energy assets.

Thanks to our well-established and constantly evolving technological know-how, we support our customers in three strategic areas:



High Voltage:

EPC, O&M, Revamping of HV/MV infrastructure



Photovoltaics:

EPC, O&M, Revamping of photovoltaic systems



Energy Storage Systems:

EPC services for utility-scale storage facilities



Energy Efficiency:

Tailor-made strategies to reduce consumption and improve the performance of energy-intensive infrastructures

ALTENIA is much more than a design, construction and maintenance company in the energy sector: it is a benchmark for a sustainable future.

SERVICES FOR END-TO-END MANAGEMENT OF ELECTRICAL INFRASTRUCTURE

With our integrated portfolio of services, we provide our customers with an all-round approach to the design, construction and maintenance of electrical infrastructure and photovoltaic systems.

Our experience, combined with the nationwide presence of our integrated network of field technicians, is a guarantee of competence, responsibility and reliability.

HIGH VOLTAGE

>200

high-voltage plants completed and under management

>1,000

O&M interventions per year

PHOTOVOLTAICS

>500 MW_p

of installations completed in EPC and Revamping mode

>1.3 GW_p

of photovoltaic plants under management

POWER CONTINUITY (HBA)

>2,000

regenerations carried out in 2023-2024

>600

on-site working hours in 2023-2024

ENERGY EFFICIENCY

>4 mln tons

CO₂ equivalent emissions saved

>250

energy diagnoses and audits completed







HIGH VOLTAGE

EPC

We design and build electrical transmission infrastructures for industrial customers, data centres, distributors and energy producers, ensuring efficient solutions that meet the highest quality standards.

Our experience covers a wide range of infrastructures, including electrical substations, overhead and cable connections, ensuring certain lead times and compliance with applicable regulations.

From engineering to construction and commissioning, our integrated approach allows us to optimise cost and performance, offering customers safe, reliable and ready-to-use installations.

Our services:

Final connection

- Feasibility study, business plan definition and design
- Plant construction (civil works and electrical assembly) and testing
- Equipment supply and installation
- Protection, Command and Control System: installation and management of systems capable of dialoguing with Terna's Control Centre

Provisional connection

- Rapid Installation Connection Solution: supply of a 'mobile' HV station with rapid installation
- AIS (Air Insulated Switchgear) system: complete supply of connection technology

Care, responsibility
towards the customer,
rapid intervention
and respect for the
environment guide
the work of ALTENIA.

REVAMPING

We renovate existing electricity transmission infrastructures, improving their efficiency, safety and business continuity.

Through an in-depth analysis of the condition of the installations, we assist customers in identifying the most effective interventions to restore performance or integrate advanced technologies.

Our goal is to extend the life cycle of assets, reduce operating costs and maximise plant productivity, ensuring a sustainable return on investment over time.

Our services:

- Upgrade of full-service user substation
- Re-engineering of the protection, command and control system
- Replacement of components required for plant operation
- Regulatory adaptations and improvements in terms of ESG and sustainability

Reliability, innovation and rapid intervention, together with the company's wide range of services and technical expertise, make us the best choice for your energy assets.





OPERATION & MAINTENANCE

We provide comprehensive O&M services, ensuring the management, maintenance and continuous monitoring of assets to optimise reliability and performance.

Through preventive and predictive maintenance strategies, timely interventions and advanced remote-monitoring systems, we reduce downtime risks and maximise operational availability.

Our data-driven approach enables us to optimise plant efficiency, improving profitability and ensuring compliance with safety and sustainability standards.

Our services:

Ordinary maintenance

- Technical inspections with and without out-of-service
- Availability and emergency response
- Remote Network Management

Extraordinary maintenance

- Replacement of individual components
- Occasional interventions and complete overhauls

ALTENIA is the perfect partner for entrepreneurs and administrators looking for advanced and sustainable energy solutions.



PHOTOVOLTAICS

EPC

We offer design, procurement and implementation services for medium and large-scale photovoltaic plants, guaranteeing a full-service contract for every type of plant and full operation throughout the country.

Our commitment begins with the Procurement phase, guaranteeing the timely purchase of the best components on the market.

Design is led by qualified technicians who produce complete drawings, from preliminary drawings to as-builts, ensuring precise and detailed plant implementation.

Our services:

- Management of paperwork with public bodies (GSE, UTF, ARERA) and of the connection process with the grid operator (TICA)
- Managing procurement and logistics
- Carrying out tests and inspections to ensure the proper functioning of the plant
- In-house design of all documents for the construction of the plant, from preliminary drawings to as-builts
- Site management through dedicated project managers

We are the ideal choice for modern, turnkey photovoltaic systems.





REPOWERING & REVAMPING

Technological evolution and changing operational requirements make it essential to upgrade existing photovoltaic installations.

With our Revamping and Repowering services, we ensure improved performance, increased production and extended asset life, ensuring regulatory compliance and high efficiency standards.

Our services:

- Replacement of inverters with better performing and more efficient models
- Upgrading of switchboards and protection systems for greater safety and compliance with current regulations
- Optimisation of plant layout to improve shading management and maximise energy yield
- Advanced monitoring for real-time performance control and failure prevention
- Replacement of photovoltaic modules with the latest generation of more efficient and higher capacity panels
- Adaptation of inverters to support the new power installed
- Upgrading of management and control systems to optimise production and reduce losses

The relentless pursuit of technological innovation makes ALTENIA a pioneering company that ensures efficient and modern solutions.

OPERATION & MAINTENANCE

Altenia offers comprehensive monitoring and maintenance services for every type of photovoltaic system (ground or rooftop), including through multi-year contracts.

Thanks to a nationwide presence of field technicians co-ordinated by dedicated field managers and service managers, we guarantee reliability, prompt intervention and excellent performance 365 days a year, throughout the entire life of the plant.

Our services:

- Continuous remote supervision through customised software, ensuring full telemonitoring of key plant parameters
- Detailed plant performance analyses, comparing electrical production, irradiance and clusters of similar plants to optimise performance
- Comprehensive thermographic analysis of modules, DC and AC panels and transformers, including with the aid of drones and electroluminescence tests on photovoltaic modules
- Scheduled maintenance activities: washing, green and pest management, component warranties and insurance, including minor breakdowns/repairs
- Anti-theft and anti-intrusion system design; CCTV/microwave perimeter system installation; installation of CCTV systems with thermal and video analysis technology; anti-theft cables with seismic technology for modules and power cables

We guarantee maximum energy efficiency and plant safety, allowing the customer to concentrate on their core business





Small Extraordinary Maintenance

Thanks to the department of Small Extraordinary Maintenance (also called Extra Works), Altenia accompanies you in the search for corrective and improvement solutions to ensure and optimise the performance of photovoltaic systems.

We support the customer through detailed analyses and innovative proposals, enhancing the performance of photovoltaic systems, optimising energy production and maximising the return on investments.

Our services:

Replacement and revamping of modules, cables, string boxes, inverters, parallel switchboards, MV switchboards, transformers, batteries and conditioners, monitoring systems

- System restoration following *force majeure* events (fire, theft, hail, lightning)
- Tracker system optimisation and anti-intrusion system restoration
- Plant dismantling and/or reassembly
- Re-sheathing and module fixings with partial or total replacement of damaged structures
- Adaptation to current regulations with issue of declaration of conformity
- Moving of cable ducts and/or switchboards
- Deconditioning of inverter cabins, cleaning of sumps or pipes
- Backfilling of manholes against theft
- Installation and supply of Central Plant Controller (CPC)

Extra Works is ready to intervene quickly to restore the functionality of photovoltaic systems. We minimize damage and prevent future disruptions, ensuring continuity and maximum efficiency.



over
1,200
interventions
completed
by 2024

POWER CONTINUITY



Smart Renewable Energy Solutions

Our offer in this area is implemented by Half Bridge Automation (HBA), a company within the Group that offers services and products dedicated to the energy continuity of photovoltaic systems.



With a team of engineers, specialised technicians and industry experts, HBA is the market leader in power electronics.

Thanks to its constantly evolving technological and logistical know-how and recognised technology partners, HBA guarantees technologically advanced solutions tailored to the specific needs of its customers.

Services by HBA:

- **Regeneration/repair of photovoltaic inverters**

We regenerate all types of photovoltaic inverters from the most popular brands on the market through reverse-engineering processes

- **Laboratory and on-site repair work throughout Italy**

We carry out the inverter diagnosis/repair/testing process in a laboratory equipped with the most up-to-date instrumentation in the sector, spread over 13 independent production lines. Our technicians travel throughout Italy, 365 days a year, for direct intervention on the component, regardless of the plant's location

- **Rental of small, medium and large inverters (up to 1 MWp)**

We provide our customers with a wide range of inverters to meet all their possible needs. Our Power Boxes are 1 MWp mobile cabin inverters designed to ensure the functional and energy continuity of large-scale photovoltaic plants

- **Tracker implant regeneration**

We have developed a technological and customisable service that can maximise plant efficiency by almost 30%

- **Industrial automation applied to renewables**

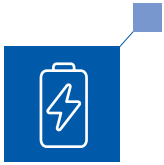
We optimise the management and control of photovoltaic systems. With advanced monitoring, control and diagnostic systems, we improve operational efficiency and maximise energy yields

- **Production of the Central Plant Controller (MV), Power Plant Controller (HV) of Master and Slave Panels for the control and management of solar trackers**

We design and implement regulatory compliance devices for plants in order to make them suitable for the provisions of the Regulatory Authority for Energy Networks and the Environment (ARERA)

In the past year HBA has regenerated over 100 MWPs and worked around 600 hours on site, achieving a 95 per cent success rate on the first job.





ENERGY STORAGE SYSTEMS

We provide design, procurement and installation services for Battery Energy Storage Systems (BESS) tailored to our customers' needs, offering advanced solutions for intelligent energy management.

Our systems allow the electricity produced to be stored and released when needed, providing grid stability and maximising operational efficiency in compliance with European energy management targets.

Our services:

- **Project design:** we prepare all the documentation necessary for the construction of the system, from preliminary drawings to as-builts
- **Procurement and logistics:** we manage all aspects of the procurement of materials needed for the construction of the plant and the logistics of the activities
- **Site management:** through dedicated project managers, we take care of all phases of on-site activities
- **Tests and trials:** we ensure the proper functioning of the system by carrying out all the necessary checks



ENERGY EFFICIENCY

We design tailor-made solutions for achieving energy efficiency.

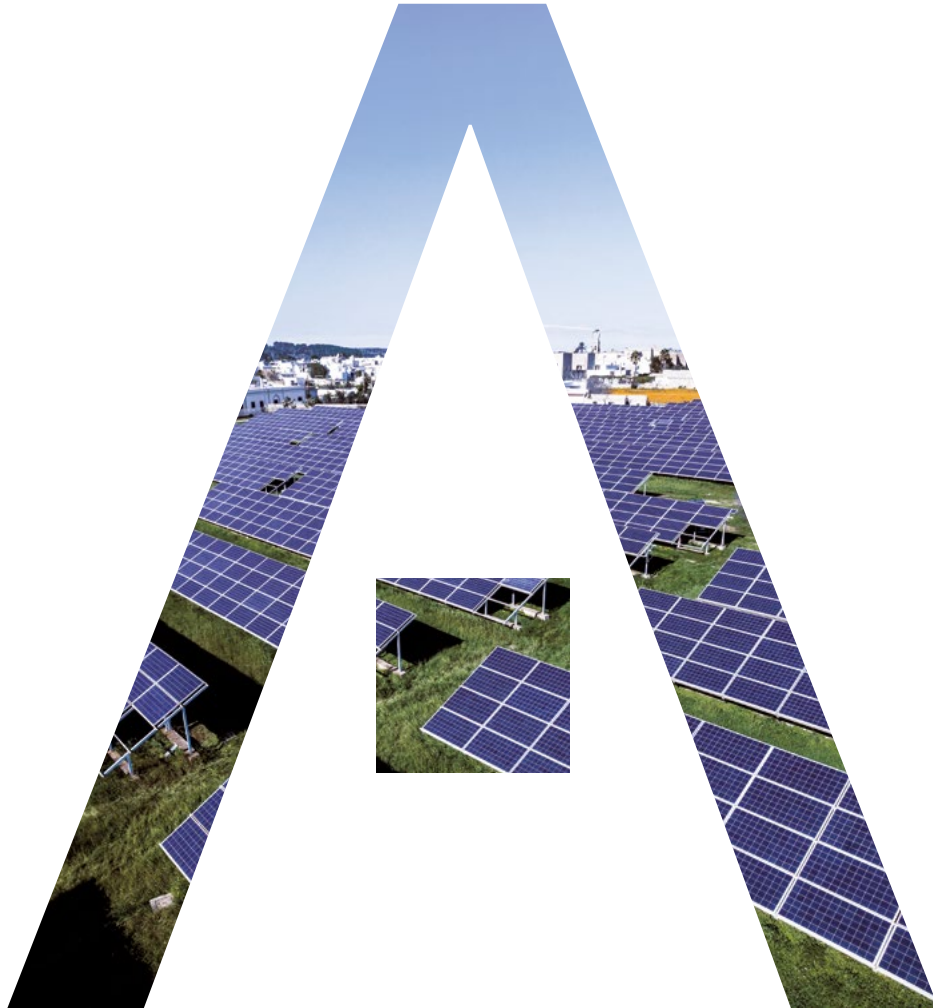
We help companies identify specific areas for improvement to optimise the production chain and service delivery.

We support our customers in increasing their competitiveness, achieving the best balance between production and consumption and transforming outdated production systems into state-of-the-art systems that harmonise savings and revenue.

Our services:

- **Energy Diagnosis:** we carry out in-depth energy audits using energy simulation models to optimise the production and management processes of individual departments or entire companies
- **Monitoring plans and diagnostic software:** we process energy data in real time and provide predictive action plans using complex mathematical and statistical algorithms
- **Energy Performance Contract Interventions (EnPC):** we guide our customers in identifying integrated energy efficiency improvement measures, accompanying them in their design and implementation







ALTENIA

ENERGY THAT WORKS.

Contacts

ALTENIA SRL

REGISTERED OFFICE

Viale Egidio Galbani 70
00156 Rome

OPERATING SITES

Via del Faggiolo 1/10
40132 Bologna

Via Cesare Battisti 127/A
74121 Taranto

Viale Cipro 18
73100 Lecce

Viale Francesco De Blasio snc
angolo via Guglielmo Lindemann
70132 Bari



energysolutions.terna.it/altenia