Electrical solutions for infrastructure
Airports, seaports, real estate, railways and mass transit systems
Our solutions for INFRASTRUCTURE

With the world’s population expected to expand by three billion people over the next 40 years, infrastructure—especially in emerging countries—needs to catch up at a blistering pace.

Preparing infrastructure for the future
In the next two decades alone we will witness the building and rebuilding of hundreds of new cities, airports and seaports, and hundreds of thousands of kilometres of highways and railway tracks to accommodate this booming population.

Recognising the importance of working responsibly to maintain the integrity of the ecosystem, Alstom Grid aims to be a partner in this unprecedented infrastructure growth.

Infrastructure and transportation: connecting people, places and objects
Mobility and connectivity are the predominant characteristics of modern societies and economies. People, goods and information move more easily, to more locations and in greater numbers and volumes than ever before.

While infrastructure and transportation networks have grown significantly in response, these still need to be further expanded to ensure that sufficient capacity is available where it is needed, when it is needed and at a reasonable cost.

In the forthcoming decade, trillions of euros have been allocated for investment in emerging economies including China, India, Brazil, Russia, Turkey and Central Asia to provide critical infrastructure such as roads, rail, undergrounds, seaports and airports.

Using our knowledge of electrical systems and network management, Alstom Grid foresee a future with balanced, clean power at every stage of power conversion and the use of smart technologies at all voltage levels.

OUR EXPERTISE

- Integrated design and delivery of complete electrical distribution systems
- Project management
- System engineering
- Cost-effective and customised solutions
- Installation support
- Start-up and commissioning
- Total system responsibility
- Comprehensive service, including training
Airports
ENSURING SAFE TAKE OFFS

Our planet is increasingly inclined towards urban living. In the next 30 years, up to 45% of the world’s population will be living in cities across the globe, hundreds of which will be mega cities that accommodate up to 30 million people.

As demand for shorter commuting times increases, air travel will become increasingly popular, exerting stress on our airports.

With airports potentially needing to service between 10 and 50 million passengers every year, many will need to vastly develop their capacity to handle passengers. In turn, this will increase airports’ demands for electrical power.

A single source of power
Airports need partnerships with world-class electrical solution providers such as Alstom Grid. These partners must be able to combine technological leadership and product reliability with project management excellence, without adversely affecting safety and security—much like the airports themselves.

As an expert in electricity and delivering turnkey electrical solutions, we can provide you with advanced substation and entire distribution systems.

Rail/metro solutions
KEEPING ON TRACK

Alstom Grid provides tailored rail solutions to customers across the world. Backed by our expert engineering, project management and service capabilities, our local experts offer critical electrical equipment and engineering solutions for the traction substations of trains, undergrounds and trams. We also design and manufacture quality on-board transformers for rolling stock.

Reliable and safe electrical supply
Security of supply is a major consideration in rail infrastructure. Alstom Grid’s energy management, control and protection systems, including SCADA, ensure constant system surveillance and quick response times in order to minimise disruption.

We also offer ways to protect overhead lines with equipment such as prefabricated substations, circuit breakers and switchgear with high-performance components.

Alstom Grid’s expert service teams located worldwide maintain your power installations to ensure they operate with the highest level of reliability.
Sea ports

EFFICIENT BERTHING

With more than 80% of the world’s freight moving in open water, modern seaports are now marked by their efficiency, speed of operation, real-time information flows and capacity.

Modern seaports integrate a sophisticated array of actions for materials handling and storage, logistics management, transport and distribution, and ship operations. These actions include loading and unloading, checking, dispatching and tracking goods through a complex interaction of heavy machinery, dynamic software, and intricate regulations.

For bulk materials, the equipment involved in these processes (such as conveying systems, transfer towers, and stockyards) requires a well-coordinated power supply with minimum shutdown times and low operating and maintenance costs.

The need for a power supply that meets the highest standards of safety and reliability is therefore paramount for a modern seaport to operate in a timely and seamless manner.

Furthermore, this power must be delivered despite difficult working conditions, usually characterised by harsh environments such as saline atmospheres with high wind speeds.

Robust and reliable electrical solutions

Our decades of experience in the design of reactive and reliable electrical systems is your guarantee of securing a rugged, cost-effective electrical system, be it a turnkey solution for a new project or an individual product.

Our advanced modular transportable mobile substation option delivers power without disruptions even in the remotest locations.

We also offer power quality solutions based on power electronic systems, such as automatic power factor correction, that can compensate unbalanced power supplies.

For container ports and cruise terminals we provide HVSC- DC shore connections to supply ships berthed at ports with electricity from the shore rather than through their own generation, thus eliminating pollution, noise and vibration.

Real estate: providing firm ground

We are helping to develop solutions for smart energy monitoring and balancing in future cities. This would allow city authorities to monitor in real-time the energy distribution network, energy consumption levels, and the precise footprint of each element of the eco-district in order to establish a performance benchmark. This complements our compact substations for real estate.