Pre-fabricated containerized E-houses
Tailor-made to fulfill your needs

Also known as powerhouse, container e-room, switch-room or mobile substation, the E-house is a metal enclosure for switchgears, frequency converters, control systems and any kind of equipment usually installed in a substation. Its modular design allows a high level of flexibility for a wide range of applications to fulfill your specific needs.

Features
The E-house is a transportable, pre-fabricated and pre-commissioned electrical room in container design. ABB’s solution, developed in collaboration with major sub-vendors, is tailor-made to satisfy customer specific requirements. The modular design provides high flexibility for a wide range of applications.

Electrical equipment such as switchgears, transformers, drives, distribution boards and other are installed in the E-house prior to shipment to site. In that way, the assembly work can be executed independently from weather conditions, site delays or industrial disputes in a clean factory environment where all tools, cranes, installation material and testing devices are available.

The E-house is delivered pre-commissioned and pre-tested to site with all electrical equipment installed. Thanks to this advantage, the commissioning work on site is reduced to a minimum.

A multidisciplinary project management team is in charge of the complete realization of the E-house solution. The team coordinates all inputs in a packaged solution, selects the most suitable products taking all project needs and specifications into consideration and carries out integrated engineering as required by contract.

While providing a lifetime of 30 years, E-houses can be configured to withstand extreme climate and environmental conditions such as temperature, humidity, storm and bomb blasts with various levels of fire rating.

Typical equipment included in an E-house
– Gas-insulated HV switchgear
– MV switchgear, up to 36 kV
– SCADA, protection, control and metering
– Power distribution transformers, oil or cast resin
– PFC (power factor correction) and harmonic filters
– LV switchgear, up to 1000 V
– Variable speed drives converter panels
– Control system controller panels
– I/O panels
– Diesel generating sets
– UPS and DC power supplies
– Main lighting distribution
– Fire detection and extinguishing
– A/C and ventilation units
– HVAC (heating, ventilation, air conditioning)
– Overpressure
– Fire detection and extinguishing
– Internal and external lighting

Unmatched experience across the globe
Whatever your project requirements are – thanks to our vast experience across all continents we can provide you a customized solution according to global standards and in compliance with your project and country specific requirements.
Benefits of choosing an E-house solution

Technical aspects
The E-house provides a much better environment for switchgears and panels compared to conventional substations. It is properly ventilated and cooled, over-pressurized and tight with no water and less dust ingress. And it ensures a longer lifetime for your electrical equipment.

Schedule
Delivery of pre-fabricated and pre-commissioned E-houses to site guarantees a substantial gain for the site construction schedule. Compared to traditional installation methods, the short installation and commissioning period on site reduces costs and start-up time. The needs for site infrastructure, camp, specialists and travelling are drastically reduced.

Coordination
All power distribution, control system and auxiliary equipment are professionally interfaced, integrated and coordinated.

Risks
To package more equipment under one contract reduces coordination and integration issues, procurement and project management costs. Overall project risks are mitigated.

Cost
Civil work, site labor and transportation costs will influence the comparison with conventional concrete buildings. Generally, after consideration of all above benefits, the E-house solution represents the most competitive solution at lowest risk.

For more information, please contact:

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