

Catalogue

# ABB Modular Systems Solution

## Electrical Houses (eHouse)



- Mitigated project risk with modular prefabricated solutions
- One-stop delivery from ABB for higher quality
- Global footprints satisfy international project needs



# Background

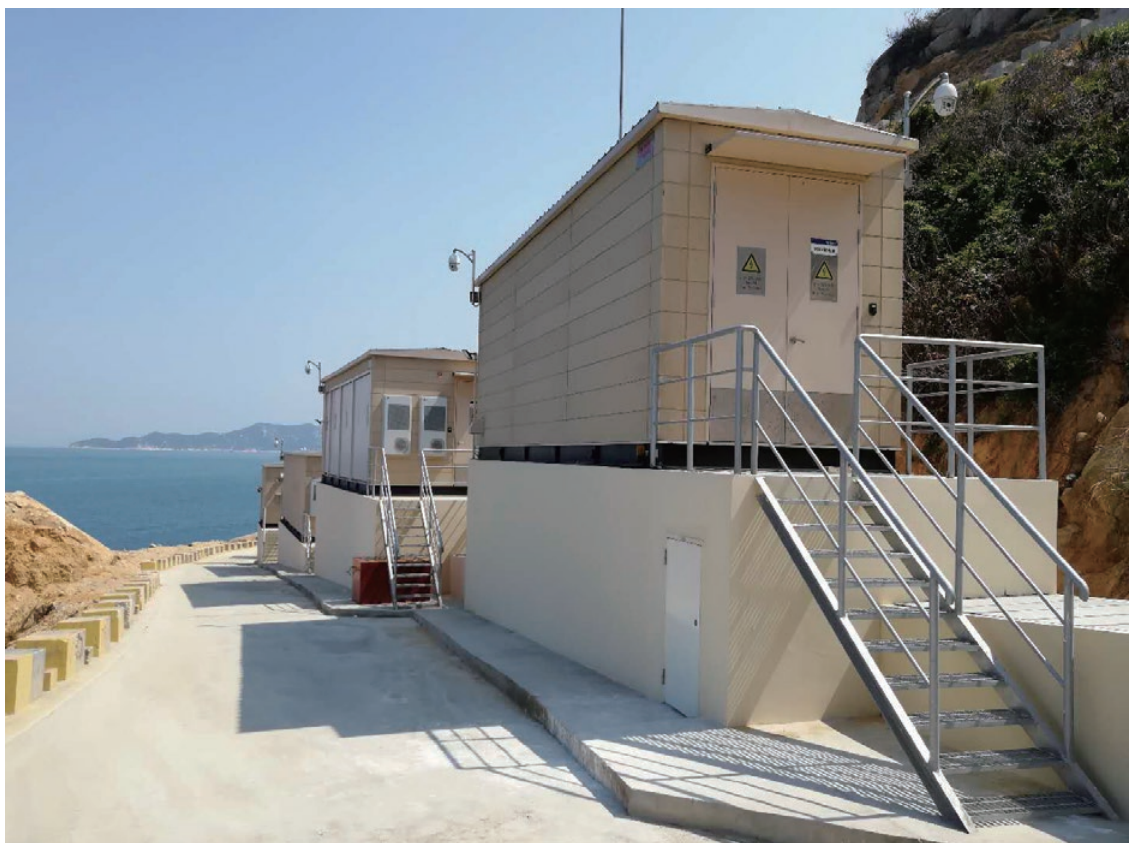
During the 1990's, ABB recognized the evolving preference of global customers for an increased level of partnering on major projects. The drivers for this market shift were:

- A desire to reduce site costs and risk exposures by adopting the eHouse principal
- The need to package multiple equipment elements under single contracts to reduce coordination & product integration issues, reduce procurement costs, reduce project engineering & management resource requirements
- Requirement for greater project control in order to achieve predictable project outcomes

ABB's Integrated eHouse solutions satisfy these requirements.

Underpinning the value of the eHouse principal, is the ability to reduce onsite risk. Typical activities now performed off site as part of vendor scope are:

- installation of switchgears and equipment (including client free issue items)
- Electrical cabling between switchgears and equipment
- Pre commissioning of the fully installed equipment



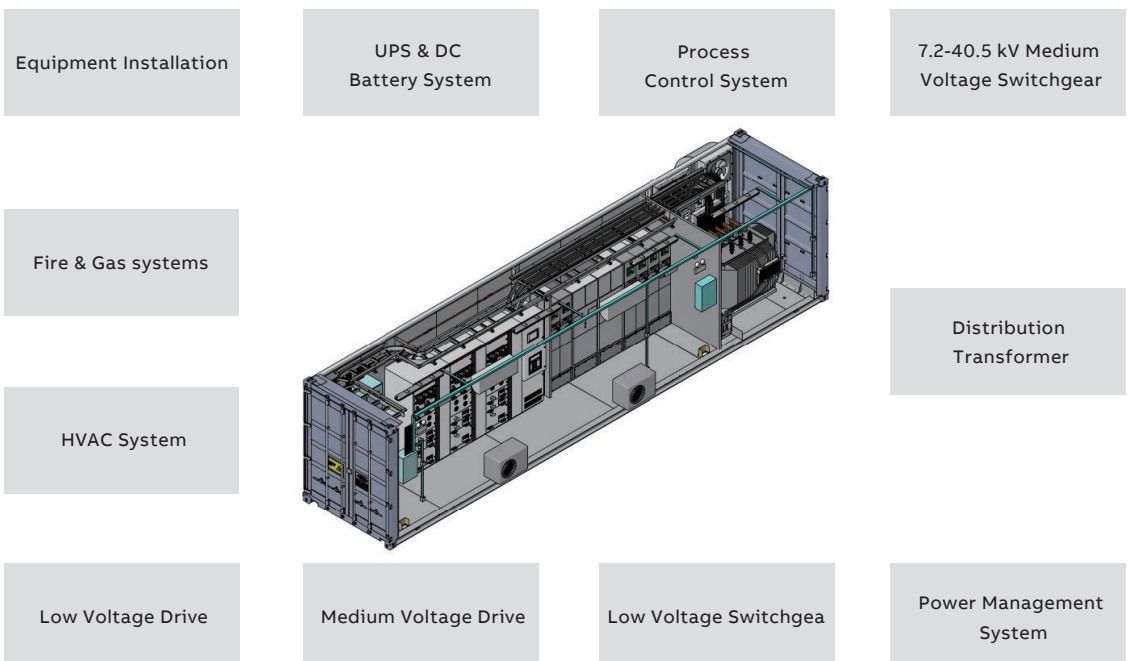
# Our Expertise

## Support your project from design to delivery

ABB has a global footprint of dedicated Packaging & Solutions Business Units, specializing in integrated eHouse solutions. These teams have the capability to support your project from concept design to formal pricing through to project engineering & delivery.

Packaging & Solutions core competencies include:

- Flexible, customized solutions
- Efficient supply chain management
- Project management
- eHouse design and integration
- Equipment design and manufacture
- Integration of third-party equipment (such as DC battery system and UPS, etc.)
- Equipment installation
- Cable schedule and electrical installation
- Documentation control
- Factory acceptance testing, commissioning
- Logistics
- Project site support



# ABB integrated eHouse solution

## Features and benefits

### Risk Mitigation

- site works and exposure to external factors that can cause delay & cost overrun eg weather, Labour issues, material shortages
- Vendor responsibility for product element integration & interface

### Project Schedule & Cost Control

- Reduced schedule based on extensive FAT and pre commissioning of completed eHouse solution before delivery
- Efficient change management during manufacture and testing

### Technical Compliance

- Global experience with relevant codes and standards including GB, ISO and IEC standards.

### Reduced Resource

- Reduced client resources for engineering & project management
- Reduced client resource, time & cost for project tendering

### Project Management

- Single project management contact point for total package
- Project coordination & supply chain management for ABB & non ABB product elements

### Commercial

- Single set of commercial conditions for total package

### Technology

- Global market leader in electrical product technology, reliability & safety

### Site Services

- Global market leader in electrical product technology, reliability & safety



# Extensive applications of eHouse

ABB is experienced in providing customized eHouse solutions for a variety of industrial and utility applications.

- Oil and gas
- Petrochemical and chemical plant
- Mining and metals
- Power transmission and distribution
- New energy
- Power plants
- Data centers
- Infrastructure



# Technical advantages of ABB integrated eHouse solutions

Based on ABB’s extensive geographic and market segment coverage, multiple eHouse design options are available to meet local market expectations and requirements.

**Typical product types include:**

- Containerized eHouse
- EcoFlex eHouse
- FC (Fiber Cement) type eHouse
- Skid modules

**In addition to the above construction techniques, ABB has the ability to offer the following design options:**

- Steel or CFC (compressed fiber cement) Flooring
- Packaged HVAC system or Split solution

- Battery System
- Fire Detection System, and or, VESDA (Very Early Smoke Detection Apparatus) System
- Various Fire Rating
- Fire Gas Suppression System
- Arc Duct Venting System (for medium voltage switchgear)
- SF<sub>6</sub> Gas Detection and Ventilation System
- Steel Support Pillar, Stairs & Platform
- CCTV System



# eHouse Typical Reference List

## Projects

<b>Power Plant Projects</b>	<b>Customer/Project Location</b>
APR project	Alstom Power Rental/USA
Rental PEC project	SATEC Power Rental/Saudi Arabia
Tamar Valley Power Station	Mitsubishi Heavy Industries/Japan Aurora Energy
Condamine Power Station	Australia
NRG, Indian River	Burns & McDonald/USA
Qinshan Nuclear Power Watchtower project	Qinshan Nuclear Power Company Limited/ China
CLP Longgutan Power Station	CLP/Hong Kong, China

<b>Utility Projects</b>	<b>Customer/Project Location</b>
Homer City project	Kiewit Corporation/USA
Suncor substation upgrading project	Suncor/Canada
Hoku polysilicon plant	Shaw Stone & Webster/USA.
Ningxia Haoqiao 10 kV switchroom	Yinchuan Power Supply Company/Yinchuan, China
Xinjiang Khunjerab/Torugart 10 kV switchroom	Hotan Power Supply Company /Khunjerab, Torugart, China
Gansu Lanzhou 10 kV emergency mobile substation	Lanzhou Power Supply Company/Lanzhou, China
Xuzhou Shundihe 10 kV substation	Xuzhou Power Supply Company/Xuzhou, China
Gansu Baiyin 35/10 kV emergency mobile substation	Baiyin Power Supply Company/Baiyin, China
SGCC Qinghai 35 kV/10 kV substation	State Grid Corporation of China/Qinghai, China
Shenzhen Power Supply Bureau 10 kV emergency mobile switchroom	China Southern Power Grid/Shenzhen, China

<b>Oil &amp; Gas Projects</b>	<b>Customer/Project Location</b>
Shell UUED project	Daewoo E&C/South Korea
Aram co Wassit project	Mitsubishi Heavy Industries/Japan
Shell Otum urra project	Daewoo E&C/South Korea
Qatar gas, gas recovery project	Fluor/USA
Kearl Lake Imperial Oil project	Fluor/Canada
Tatweer LDR project	Tatweer Petroleum/Bahrain
Queensland Curtis LNG (QCLNG) project	BG Group/Australia
Santos LNG project	Fluor/Australia
INPEX Ichthys LNG project	JKC JV/Japan
Sinopec Zhongyuan Oil Field Tanghe 35 kV switchroom	Sinopec Zhongyuan Oil Field/Nanyang, China
Air Liquide ALA-PP3 project	Air Liquide/Australia
Air Products Indonesia project	Air Products/Indonesia
Air Products AZOV Russia project	Air Products/Russia

<b>Mining &amp; Mineral Projects</b>	<b>Customer/Project Location</b>
BHP Billiton Worsley Alumina refinery	Bechtel/Australia
Ambatovy nickel project	Fluor/Canada
Dampier port upgrade project	Hatch/Australia
Newcastle coal terminal 3#	Hatch/Australia
Syncrude Shovel substation	CoSyn/Canada
Syncrude fluid fine tailings	AMEC/Canada
Goro Nickel	Goro Nickel/New Caledonia
Mildred Lake Mine relocation project	Fluor, AMEC/Canada
Queensland Alumina upgrades project	Queensland Alumina Limited/Australia
Tabang clean coal project	Thiess/Indonesia
LKAB iron ore crushing station project – Phase I	LKAB/Sweden
LKAB iron ore crushing station project – Phase II	LKAB/Sweden
Shanxi Lu'an Jiucun Air Shaft 35 kV double-storey integrated substation	Shanxi Lu'an Mining(Group)/Changzhi, China
South of Embley /Amrun bauxite project	Rio Tinto/Australia
OT Phase II	Rio Tinto/Mongolia
Zijin Mining Bor copper mine project	Zijin Mining/Serbia
Indonesia AI coal mine project	Nanyang Wolong/Indonesia
2RC iron ore powder grinding project	Vale/China
2# port area expansion project	SMB Winning Consortium/Guinea
<b>Renewable Projects</b>	<b>Customer/Project Location</b>
Wanshan Island new energy microgrid project	CSG Energy Offshore Wind Power Joint Development Co., Ltd./Zhuhai, China
Malaysia 29 MWac solar project	CMEC/Malaysia
SunShift Jandakot airport solar EcoFlex	SunSHIFT/Australia
FQBC Biomas plant EcoFlex	FQBC/Philippines
BESS VIC battery storage EcoFlex	Victorian government/Australia
JTC PV solar farm project	JTC corporation/Singapore
Argentina Cauchari 300 MW solar project	Shanghai Electric Power Construction Co., Ltd. (SEPC)/Argentina
SUNGROW Bangladesh 35MW solar project	SUNGROW/Bangladesh
ABB Xiamen Hub integrated energy project	Xiamen Torch Development Zone for High Technology Industries/China



# Note

A series of 20 horizontal dotted lines for writing.

