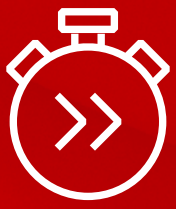
BROCHURE

Improve data center speed to deployment

ABB's modular prefabricated and pre-engineered data center solutions

Modular Prefabricated Solutions

Simplified execution



Faster deployment

Mitigated risk

Improve speed to deployment
Modular prefabricated and pre-engineered solutions

The global data center market is projected to grow by $519.34 billion between 2021 and 2025. This growth is expected to continue at a compound annual growth rate (CAGR) of 4.5% till 2026. The market owes this dramatic growth to the increasing need to generate, collect, distribute, and process more data faster.

To meet this demand, data center providers have to develop new facilities faster than ever. Traditional build times of 18 to 24 months are no longer sufficient to thrive in today's world where faster deployment also means generating revenue sooner.

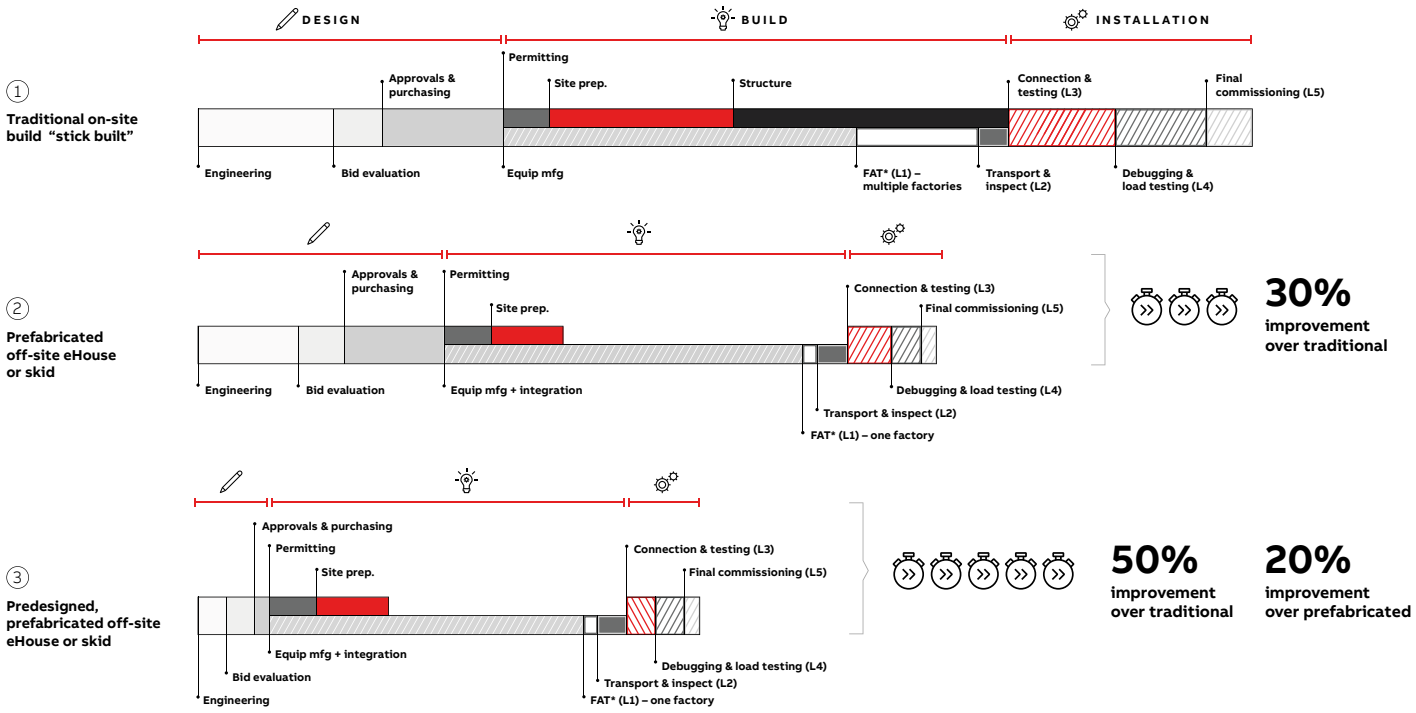
Modular prefabricated and pre-engineered data center solutions can deliver such speeds. While traditional stick-built data centers can be completed in 18 months and more, using prefabricated solutions, such as eHouses and skids, reduces that time by 30%. Predesigned solutions take it up a notch and accelerate deployment by a further 20% — that is, 50% faster than traditionally built data centers.

	Revenue by 6 months*	Revenue by 9 months*	Revenue by 12 months*	Revenue by 18 months*
6 months build	$0	$4.5M	$9M	$18M
9 months build	$0	$0	$4.5M	$13.5M
12 months build	$0	$0	$0	$9M
18 months build	$0	$0	$0	$0

*Based on a 10MW lease at $150 per kW per month

Offsite modular solutions

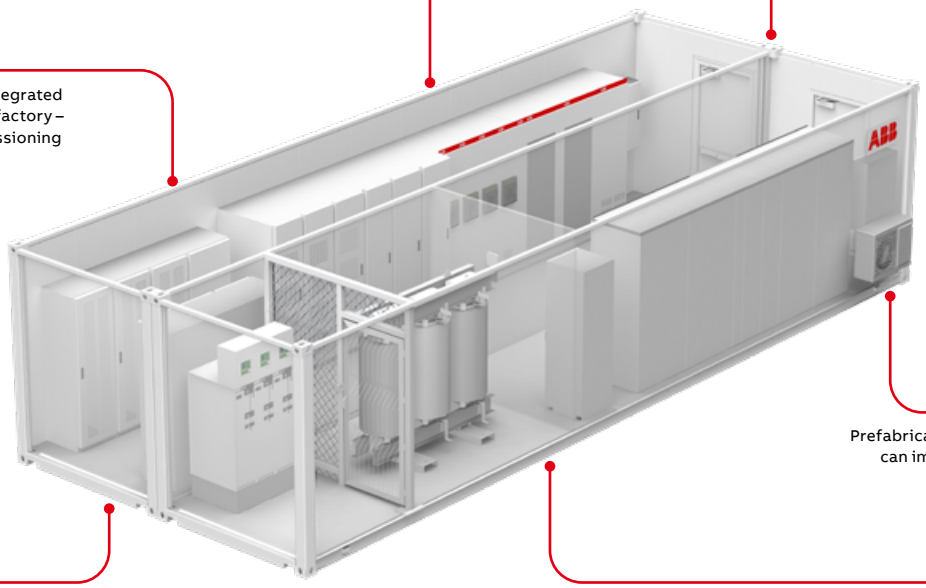
ABB offers modular solutions that simplify execution and speed up deployment by up to 30%.



Safe, efficient production in factory environment with factory experts

Prefabricated solutions improve lead times by up to 30%

Prefabricated solutions are integrated and tested before leaving the factory – lowering installation & commissioning



Prefabricated, pre-engineered solutions can improve lead times by up to 50%

Simpler site assembly with modular solution, unload, connect and test

Reduce risk of schedule delays and cost overruns

Design

PREFABRICATED OFF-SITE MODULE

Limit risks, reduce time, use fewer resources

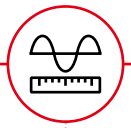
Modular solutions such as eHouses and skids are designed and integrated by one manufacturer and therefore can reduce consulting, engineering, and design time by several weeks. ABB also ensures designs are optimized and can be smoothly deployed on site to improve speed. For additional speed, select a predesigned modular solution as the design is already engineered and optimized.

Reduce engineering and evaluation time

Evaluating an integrated all-in-one engineered solution from a few vendors instead of each individual component from multiple vendors can reduce bid evaluation time considerably. It also provides better assurance that the solutions will interface and integrate.

Save time with one point of contact

Speed up purchasing with one vendor and one assigned project manager to follow a complete integrated solution throughout the process.



Engineering

Bid evaluation

Approvals and Purchasing

TRADITIONAL ON-SITE BUILD

Requires time to integrate multiple vendors

More work is required to ensure products will interface and integrate across multiple vendors.

Takes longer to evaluate different manufacturers

Conventional methods require the evaluation of each piece of equipment against multiple vendors/manufacturers. Also, operators must ensure each chosen piece connects and integrates with the others.

Multiple purchase orders, multiple vendors

Multiple vendors mean varying commercial conditions and managing various points of contact. It also requires placing and managing multiple purchase orders across numerous vendors and requires follow-up with multiple project managers throughout the process.

Build

Top quality in a safe, controlled environment

Equipment is manufactured and integrated into the eHouse or installed on a skid in a controlled environment with experienced factory experts to maximize safety and efficiency. Their familiarity with procedures and equipment leads to quicker assembly. With fewer labor requirements, project schedules are easier to manage and delays minimized. Change orders are simpler to implement at the factory and the warranty is activated when the final integrated solution is delivered.

< Manufacturing/Module

Manufacturing/Structure >

Costly, risky, labor-intensive

While equipment is being manufactured, the traditional data center requires the building of a structure for integration and connection of all electrical equipment on site. The building typically has raised floors for cabling which can be further complicated by stringent floor leveling requirements. Additionally, on-site construction is subject to weather conditions, site conditions, labor availability and cost.

PREFABRICATED OFF-SITE MODULE

Reduce risks, speed up installation and commissioning

Factory witness testing of the completely integrated solution ensures everything works together before shipping to the site. If any issues arise during tests, ABB personnel familiar with the equipment have the resources to fix them at the factory. Fixing these problems before the equipment arrives on site reduces on-site debugging time and eliminates most of the common troubleshooting in the field, which can be more costly and time-consuming.

Factory Testing Equipment

TRADITIONAL ON-SITE BUILD

Time-consuming equipment-level testing

Factory witness testing occurs at the equipment level only and is typically done across multiple vendor locations and factories adding considerable time to the project.

One shipment, safe and easy transportation

ABB provides containers with ISO/1161 corner fittings to make lifting and transport easy and safe — whether by ship or truck. These rugged ISO enclosures are constructed with steel frames, full vertical corrugated steel side and end walls, steel flooring, die-stamped corrugated steel roof, and corrugated double-hinged doors. One shipment makes it easier and less time-consuming to receive and inspect the goods upon arrival.

Shipping

Multiple shipments are riskier and more costly

Electrical equipment is shipped from various vendors at various locations, making it difficult to synchronize delivery schedules. These multiple shipments can significantly increase costs and increase the risk of delivery issues like damages. Multiple vendors and subsequently multiple shipments require more time to receive and inspect the goods. If there is damage, the client may need to contact multiple vendors to obtain parts and/or services. These types of issues across multiple vendors can have cascading consequences for the schedule.

Pre-built solution does not require storage on site

The enclosed eHouse arrives complete and is a natural shelter. Therefore, it does not have to be warehoused on-site prior to site connection.

Storage

Requires warehouses, risks project delays

Multiple shipments often mean organized staging areas and temporary warehouses, adding costs and taking up space on site. There's also a risk that valuable products can disappear or be misplaced in these temporary warehouses causing further delays.

Install

PREFABRICATED OFF-SITE MODULE

TRADITIONAL ON-SITE BUILD

Site assembly and connection

As simple as ‘plug and play’

The integrated modular solution is already interconnected in the module. All that is required is offload and set in place. The modular building only requires a connection to the main power feed coming in and all the field cables going out.

Risk cost and schedule overruns

There’s an increased risk of cost and schedule overruns as well as safety issues with so many variables involved in this process. Space and time constraints, as well as issues with the availability of qualified labor in some locations, can lead to scheduling and mobility challenges. Additional work may be required to navigate these problems leading to further delays.

Final testing

Testing reduced by up to 40%

Since most of the testing occurs in the factory, the time for final testing is reduced by as much as 40%.

Testing everything for the first time

This will be the first time the products are integrated and tested, which means all debugging must be done on site. If there are any issues, engineering must troubleshoot in the field which typically takes longer and at a higher hourly rate. These issues on site can be harder and take longer to resolve, and often have to wait on parts, labor, unions, and other issues.

Commissioning

One vendor for support

The commissioning process is streamlined, and there’s one vendor available to provide support.

Combination of different vendors’ products can cause issues

If there are issues, operators have to determine where the problem is and with which vendor's product.

Modular Prefabricated Solutions

Simplified execution. Faster deployment. Mitigated risk.

Accelerate project execution
Integrated solutions built offsite enable speed to deployment. Site installation time can be improved by factory-testing the fully integrated solution in one location. This in turn reduces in-field debugging and testing procedures.

In a stick-built data center, the site must be prepared and the structure completed before any equipment can be moved into the building, physically placed, and electrically connected. Additionally, the products have not been integrated together or tested so debugging and commissioning takes much longer.

Predesigned modular solutions boost speeds even further by as much as 50%. It reduces engineering time, approval time, manufacturing time, and installation and commissioning time — even over other modular solutions.

Reduce risk
Modular data centers decrease risk with a prefabricated, fully managed assembly approach. They also lower risks in scheduling slippage and associated cost overruns since other vendors' and construction schedules can run simultaneously. Solving installation and commissioning issues in the field consumes longer times and more expenses. Modular solutions remove that risk as well as those involving labor shortages in new markets which can cause scheduling and safety issues.

Build top quality
The quality of modular solutions is proven before shipping since they are built in factory-controlled environments. Predesigned solutions are optimized for manufacturability and provide consistency of manufacturing in the factory. Everything is integrated and tested together before it ships to the site ensuring everything works and is quality tested.

Save costs
Modular solutions prevent schedule and cost overruns, ensuring everything works together and can easily be installed and commissioned on site.

Why choose ABB for you modular integrated solutions

Our modular integrated solutions speed up deployment by as much as 30%. Pre-engineered solutions are even faster — up to 50%. They both provide simplified execution, cost predictability, and risk mitigation via scalable designs that can be replicated across the globe.

ABB's prefabricated modular solutions are ideally suited for data center applications where there is a benefit to lower the risks in on-site execution by reducing the need for site personnel and materials, and for more challenging project situations where short installation time is required.

Datacenter providers can now maximize floor space, enjoy scalable architecture, and build faster.

Learn more about ABB's offsite modular solutions at abb.com

Simplified solution, faster deployment.

Ensure supply
ABB's global footprint provides a vast network of suppliers and factory locations

Lifecyle management
Ensure long-term management of the electrical system with ABB's digital solutions

Local support & service
Locations in 100+ countries and over 100K employees

Reduce risk
Cutting-edge technology built to the highest quality standards

Complete portfolio
Solutions for GB, IEC, and ANSI standards and ability to harmonize across all standards

Ease of doing business
One stop shop with a common project manager and harmonized terms, payment schedules and warranty

Domain expertise
100+ years electrical / utility connection knowledge to ensure data center design meets local codes and standards

Avoid costly schedule delays
Library of pre-engineered solutions, optimized for footprint, scalability and ease of deployment

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