

02 · DESIGN

Prefabricated data centre design, site to handover in 24 weeks

Pre-designed, pre-fabricated, pre-installed, and pre-tested to TIA 942C standards before it arrives on site, reducing the site critical path to civil and utility readiness only.

WHAT THIS SERVICE COVERS

For requirements below one megawatt, a conventionally constructed facility is rarely the fastest or most cost-effective route.

The Prefabricated DC Design Pack covers the full lifecycle of a prefabricated deployment, from site selection and civil requirements through to factory-tested delivery, on-site installation, commissioning, and certification. The solution is built around a containerised or modular format, pre-designed to TIA 942C standards, and factory-tested before leaving the manufacturing facility, eliminating the two most variable elements of a conventional build: on-site construction quality and first-time commissioning surprises. The typical timeline from site finalisation to operational handover is 24 weeks, and for sub-1MW requirements the all-in cost is approximately thirty percent lower than a bespoke construction approach at equivalent reliability levels. The solution suits Edge deployments, enterprise satellite sites, and temporary or interim capacity requirements.

Site to handover in 24 weeks

~30% cost saving vs bespoke sub-1MW

Pre-tested to TIA 942C before arrival

WHAT WE DELIVER

Deliverables from this engagement

01

Site Selection & Feasibility

Assessment of site civil and utility requirements, access constraints, and environmental suitability before the manufacturing programme begins.

02

System Design & 3D Documentation

Full system design across all disciplines, documented in 3D to enable factory assembly and installation without field measurement.

03

Pre-fabrication Co-ordination

Management of the manufacturing programme, factory quality inspections, and pre-delivery factory acceptance testing.

04

Factory Acceptance Testing

Comprehensive testing of all installed systems at the factory before dispatch, identifying any defects before the unit arrives on site.

05

Site Installation & Commissioning

On-site civil interface management, module installation, utility connection, and commissioning of all systems.

06

TIA 942C-ready Certification Package

Full documentation package including design documentation, FAT reports, and as-built records, structured for rapid certification.

WHY TECHNAVIOUS

Why prefabricated is right for sub-1MW requirements

1 24-week delivery from site finalisation to handover

Civil and utility site preparation runs in parallel with factory manufacturing and testing. By the time the module arrives on site, civil works are complete and utility connections are ready.

2 ~30% cost saving versus bespoke construction

Factory manufacturing eliminates the cost premium of on-site construction. Materials are procured at volume, labour is controlled in a factory environment, and rework is resolved before installation.

3 Factory testing eliminates commissioning surprises

All systems are tested to TIA 942C standards at the factory before the unit leaves. Defects found in the factory take hours to resolve, versus days and site disruption if found on site.

HOW WE WORK

Five phases run in parallel to hit the 24-week timeline

01	02	03	04	05
Site & scope	Design & manufacture	Factory testing	Site delivery & install	SITC & handover
Site civil requirements confirmed. Capacity, tier, and use case agreed. Manufacturing initiated.	System design finalised. Factory assembly begins. Civil works run in parallel on site.	FAT conducted at factory. All systems tested and certified before dispatch.	Module delivered to site. Civil interface completed. Utility connections made.	On-site commissioning completed. HOTO documentation delivered. Operational handover.

BEST SUITED FOR

Where a prefabricated approach fits best

Edge deployments

Enterprise satellite sites

Temporary or interim capacity

Sub-1MW capacity requirements

CASE STUDIES

Design and engineering work we have delivered

COLOCATION OPERATOR

MEP design for a 4 MW facility with a dual-mode cooling system supporting 6–20 kW rack loads. ETAP and CFD modelling mitigated hotspots and voltage risks before construction.

LEADING INDIAN STOCK EXCHANGE

Infrastructure expansion and modernisation within an existing live premises. 120 additional racks delivered with full multi-standard sign-off across Rated 3, IEEE, and ASHRAE.

COLOCATION SERVICE PROVIDER, JORDAN

HVAC and cooling stabilisation for a 0.75MW facility. Recurring chiller shutdowns and alarm cycles eliminated, with a prevention-first framework established.

FREQUENTLY ASKED QUESTIONS

Questions we are regularly asked about prefabricated DC solutions

Is a prefabricated DC as reliable as a conventionally constructed facility?

Yes. The Prefabricated DC Design Pack is designed and tested to TIA 942C standards, at the same rated levels as a conventionally constructed facility. Factory acceptance testing before dispatch is a more rigorous quality process than on-site commissioning in most cases.

What is the maximum capacity for a prefabricated deployment?

The approach is most cost-effective for capacities below one megawatt. Above that, the logistics of transporting and installing large modular units become more complex. For requirements above 1MW, we recommend a Detailed Design and Execution Pack engagement.

Can a prefabricated unit be relocated after initial deployment?

Yes. Modular units are designed for relocation. Redeployment requires a new site feasibility assessment and recommissioning, but the primary structure and installed systems can be relocated without significant modification.

How long does TIA 942C certification take for a prefabricated facility?

Because design documentation and FAT records are produced during manufacturing, certification documentation is substantially complete at handover. Formal certification typically completes within six to eight weeks of handover.

Ready to scope your prefabricated DC deployment?

Tell us your capacity requirement, site location, and target handover date, and we will confirm whether a prefabricated solution fits your timeline.

[Talk to us today](#)