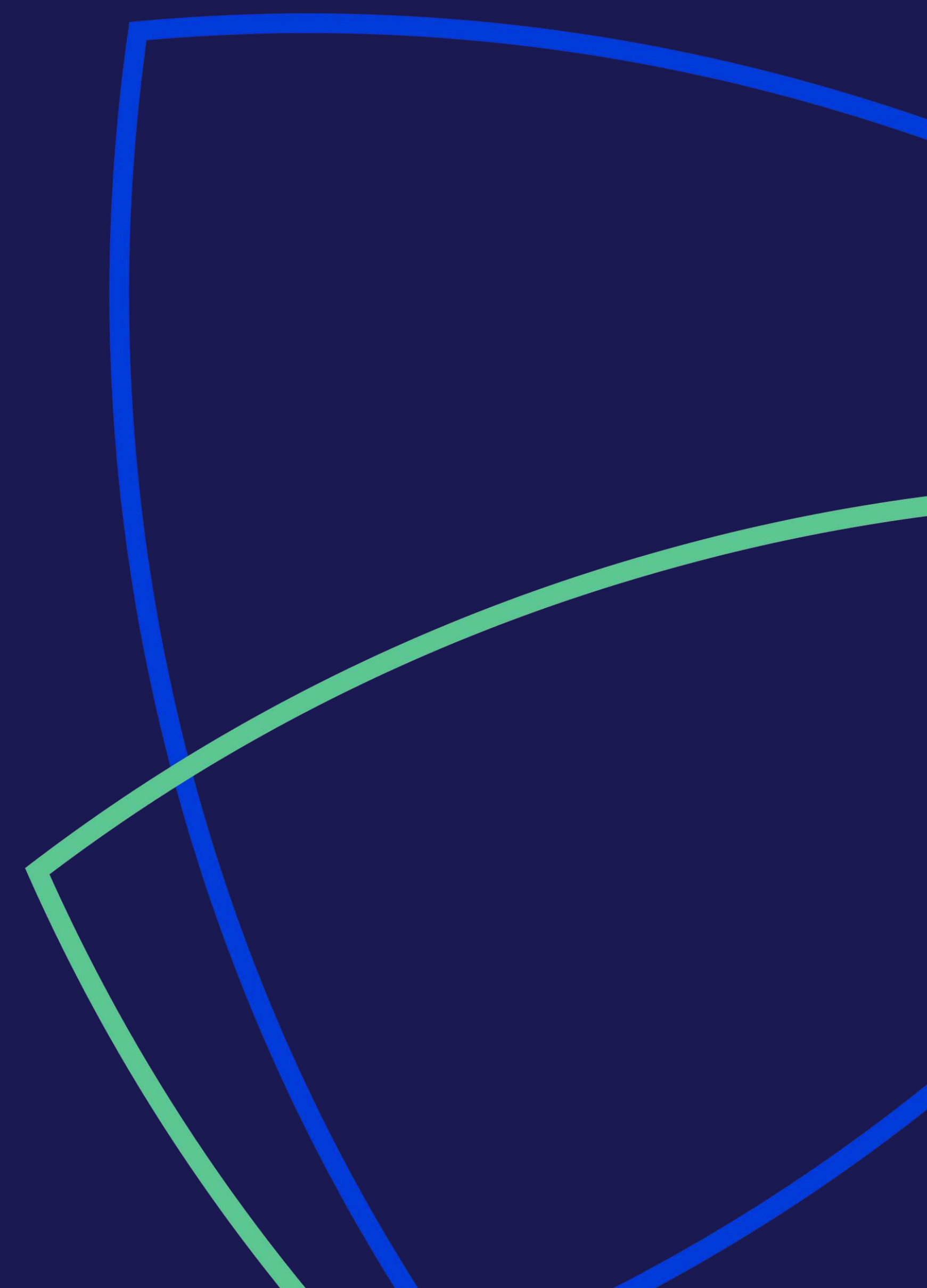


CoreDC Low-risk, high value

Product Intro



Altron Modular

30 years of experience accelerating DC returns

EU-quality product delivered anywhere globally

Vendor with service-integrator mentality

Product family of prefabricated DCs

Production facility in the Czech Republic



Selected References





| Rapid growth in Data Center industry

- Colo, Cloud, Telco services providers
- Mission Critical Data Center Facilities

They all have same challenge

Supply new capacity at the scale and industry quality for controlled price and yet on time.

This has been challenge of industry for decades and now it has become a global race for quick capacities to accomodate demanding clients.

Altron Modular has portfolio of prefabricated products that has carefully sized parameters meeting the demand and yet recycling the experience in process from project to project.





Technology

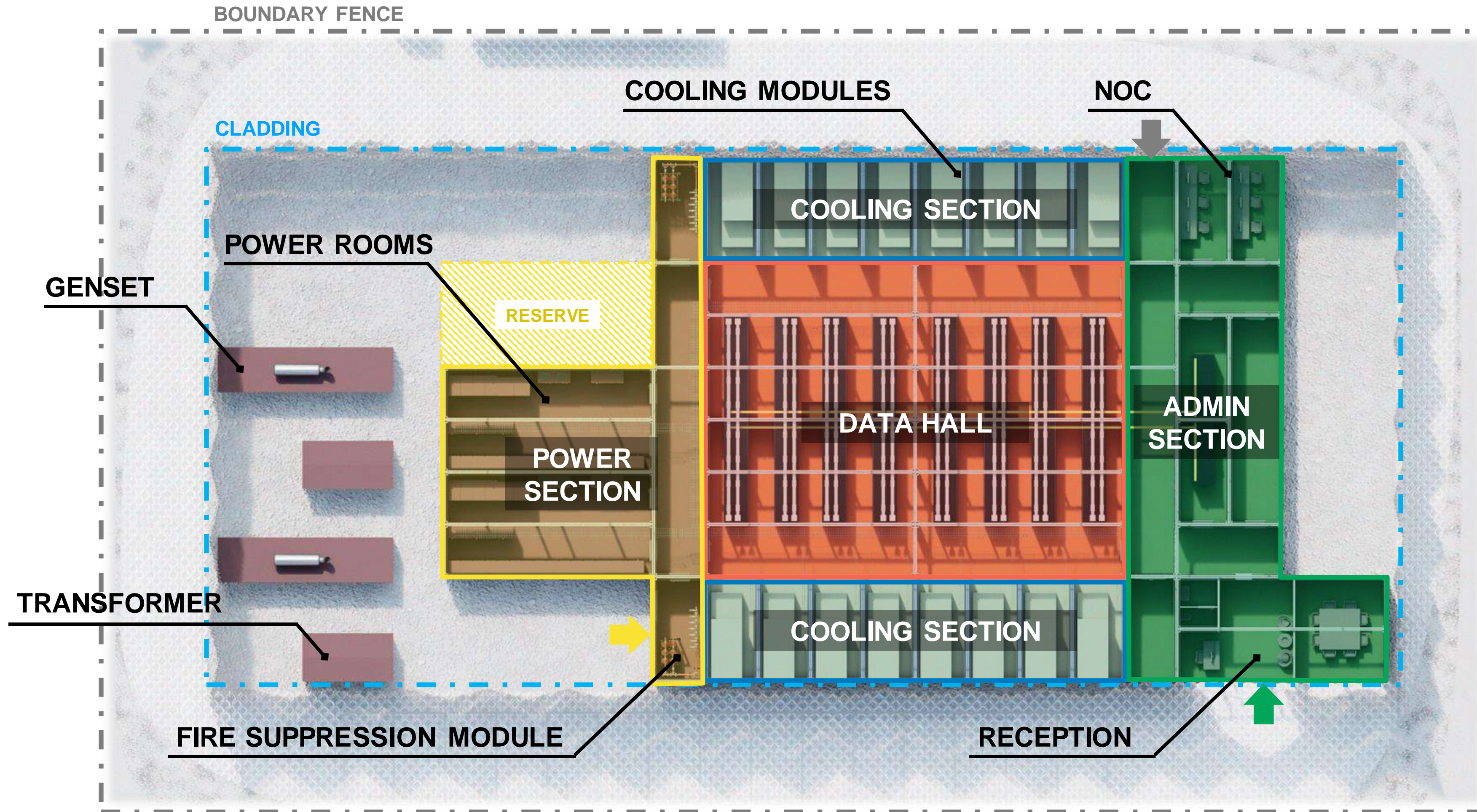
CoreDC Drivers

Parameters Summary: CapEx + OpEx

- Purpose – cloud, colocation and hosting DC services
- Capacity – Grow as you need (500kW to 4000kW).
- Availability – MultiTier Redundancy – 2N in power supply
- Power density averaging 4-10kW per rack (1kW to 21kW per rack)
- Smart space utilisation, and caging.
- Vendor-neutral approach using best of breed EU certified products
- Record-low PUE @ 1.08* – 90% capacity & above (EU located)
- Unique flexibility to respond to a wide range of client's requirements (scale up and down)
- Altrix an advanced management and control system at DC level to allow unmanned operation and virtual operator features



Layout



Area

Plot of land:
3 000 m²

Inside cladding:
1 548 m²

Facility:
1 183 m²

Whitespace:
206 m²



| Data Hall

Whitespace area:

206 m² / 8 rows

Rack capacity:

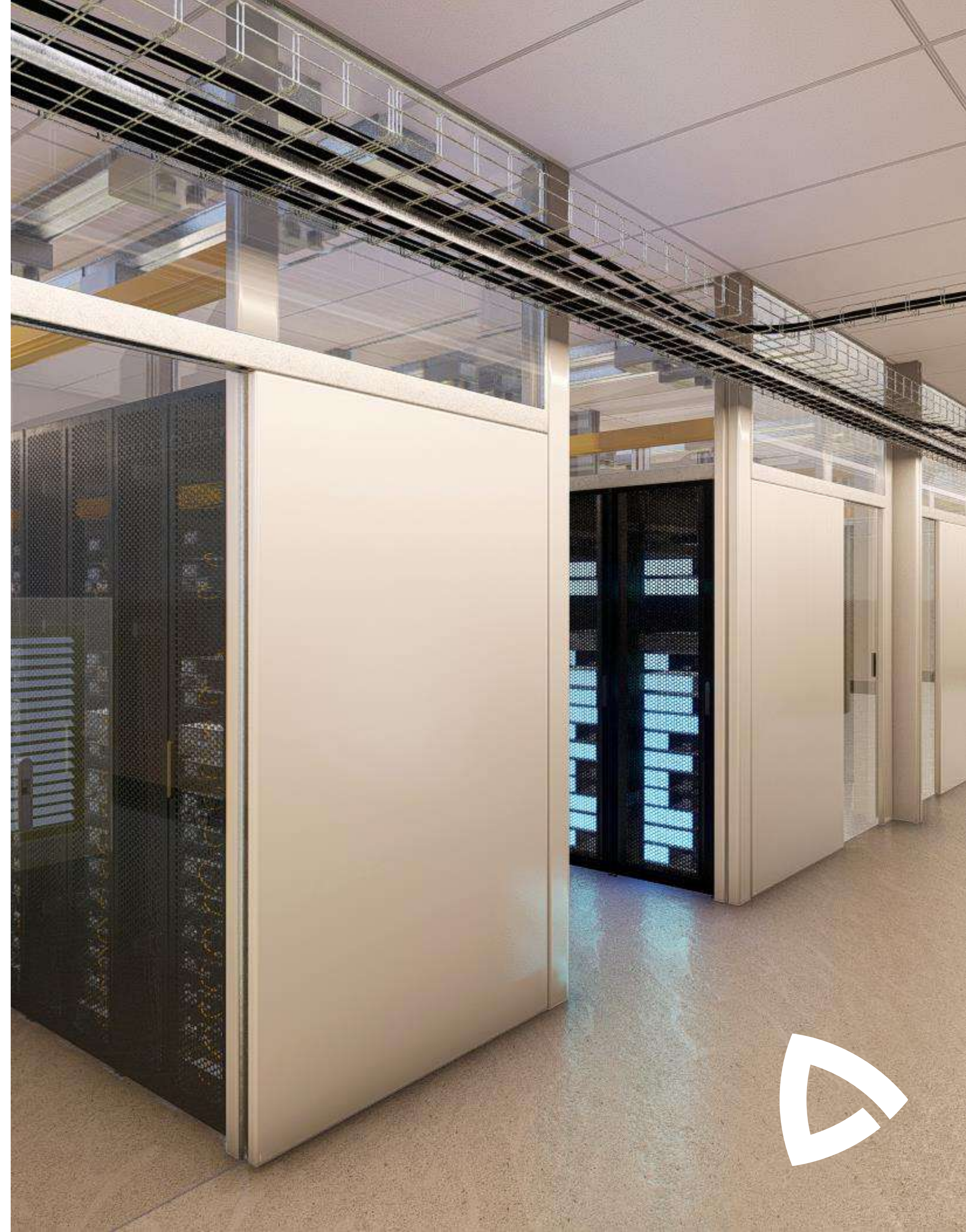
96x 128x

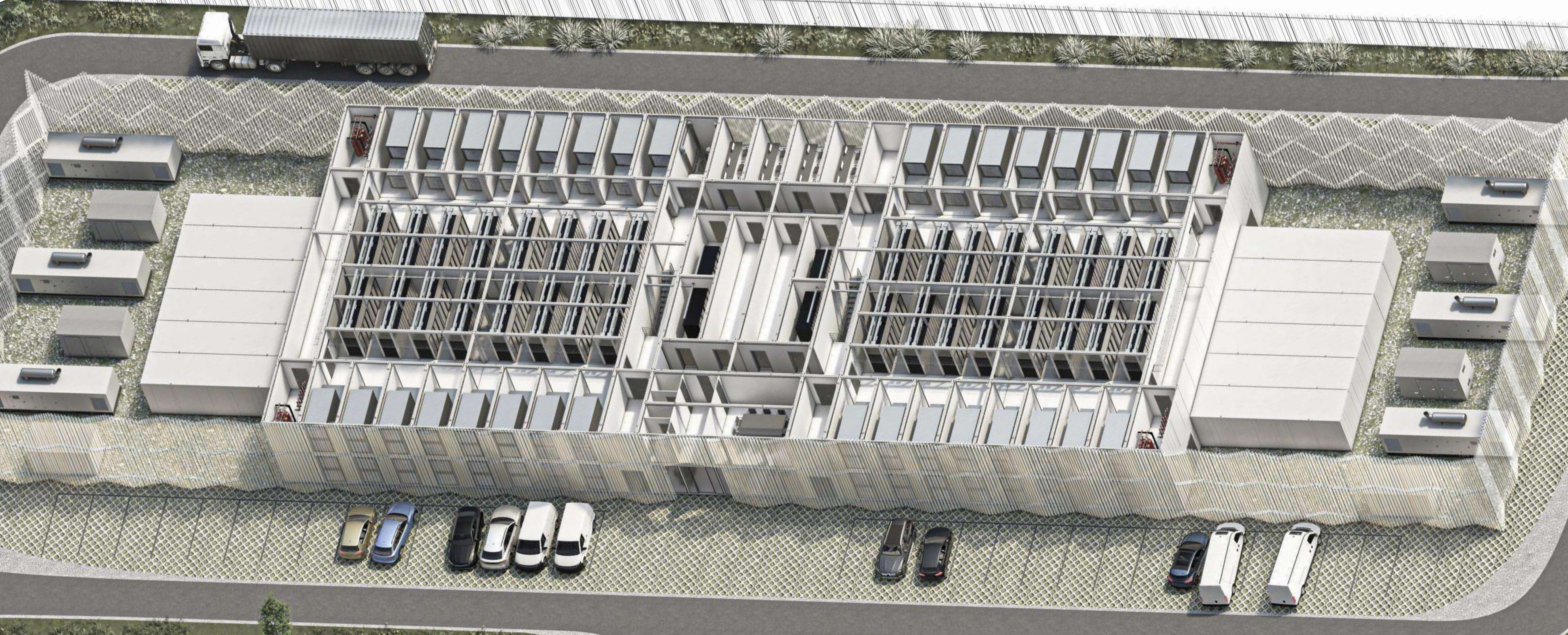
800mm 600mm

- 2 independent busbars per each row
- Flexible caging system

Optional delivery:

- Hot aisle containment
- Racks and PDUs





ICT Load Capacity	CORE 500	500 kW	1 000 kW	1 500 kW	2 000 kW
	CORE 1000	1 000 kW	2 000 kW	3 000 kW	4 000 kW



Scalability

CoreDC 500

CoreDC 1000

ICT load capacity	500 kW	1 000 kW
Rack capacity	96 – 128	96 – 128
Power density/rack	4 – 5 kW	8 – 10 kW
Power supply redundancy (single data hall)	2N	2N
Power supply redundancy (two data halls)	MFR	MFR
Cooling redundancy	N+2	N+2
Cooling Methods	DX	DX / Dual / CW



Advanced Converged Operation

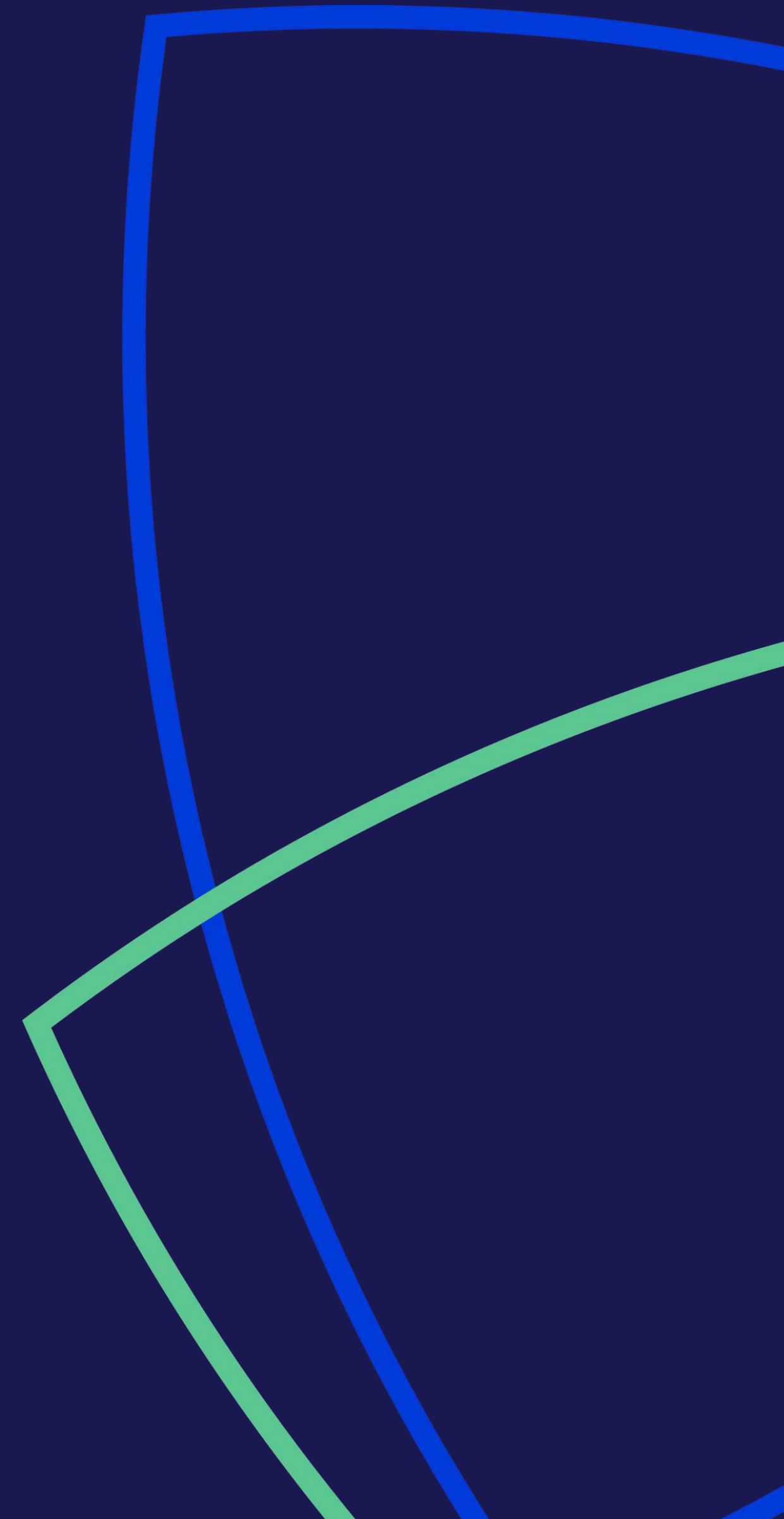
Simplifying operations and management through smart technologies. One way to achieve operational cost savings and increased efficiency is through converged operations. The principle of convergence is to move from the management of individual systems and subsystems to the management of a single integrated unit that enables assisted or autonomous operation.

- Altrix Premium
- Altrix Monitoring
- Altrix Platform



Features

There is a better way!



| Low risk – high value



Fast

Accelerated returns through prefabrication.



TCO

Complex integration activities completed at factory level.



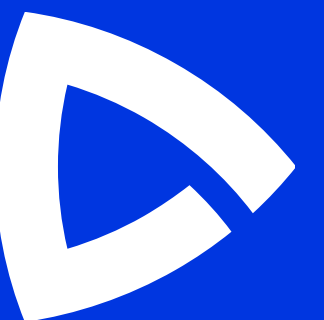
ESG

Efficient, and cost-effective data center solutions

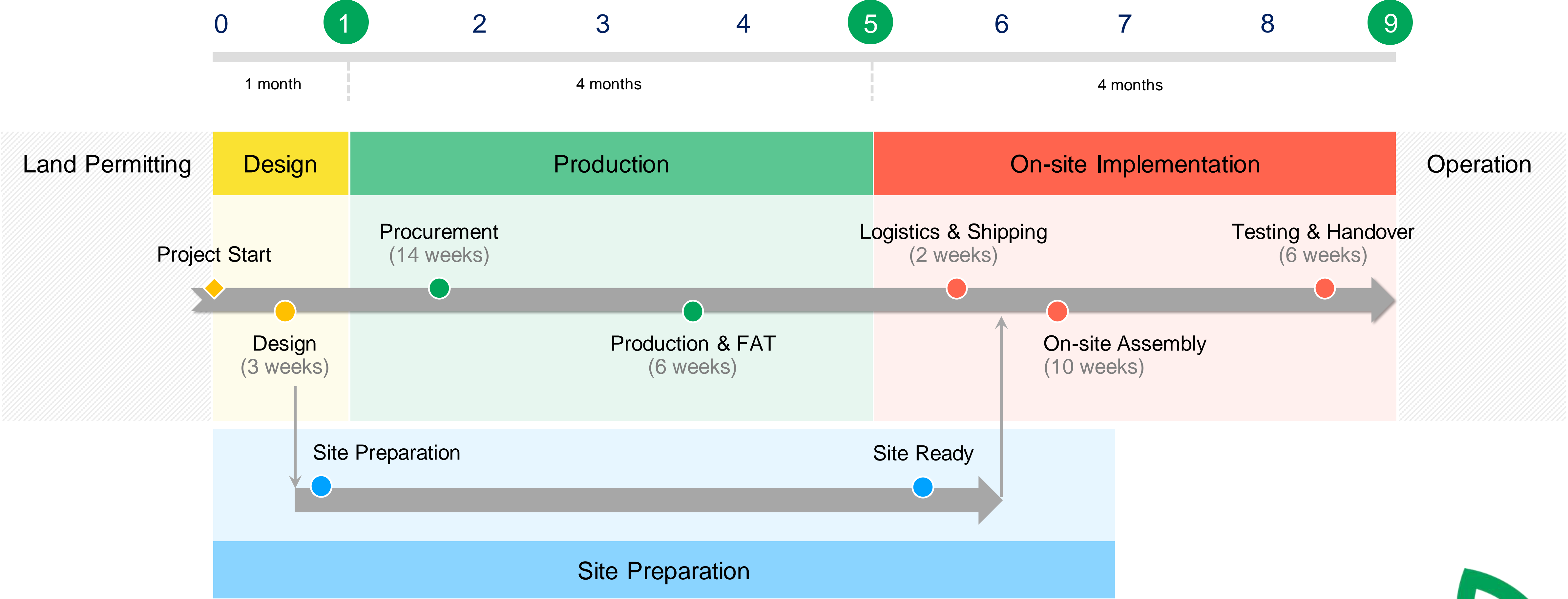


Global product, localized

International know-how delivered locally in scale



Project Timeline



*Timeline demonstrates a scenario applicable in Central Europe region



Total Cost of Ownership

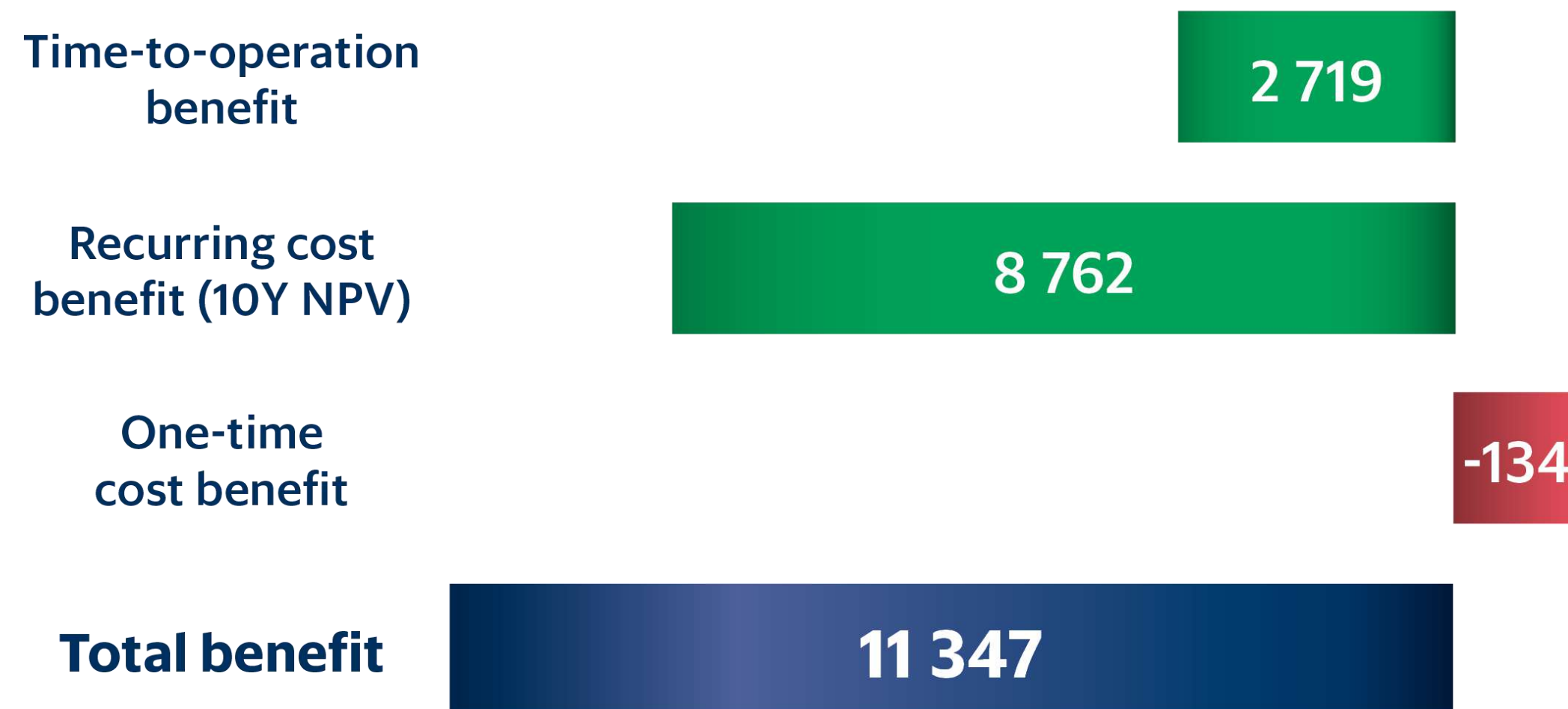
Customers TCO benefit is EUR 11 mil for Core

Up to EUR 11 MIL TCO savings

Up to 22.2% lower OPEX

- high energy efficiency (low PUE)
- low maintenance costs
- Compared to stick-built alternatives **time to operation saved is 15 months for Core** (9 vs 24)
- **Significant OpEx savings** vs market standard stick-built (cheaper monitoring, operations, and maintenance) are the largest benefit

CoreDC (500kW)



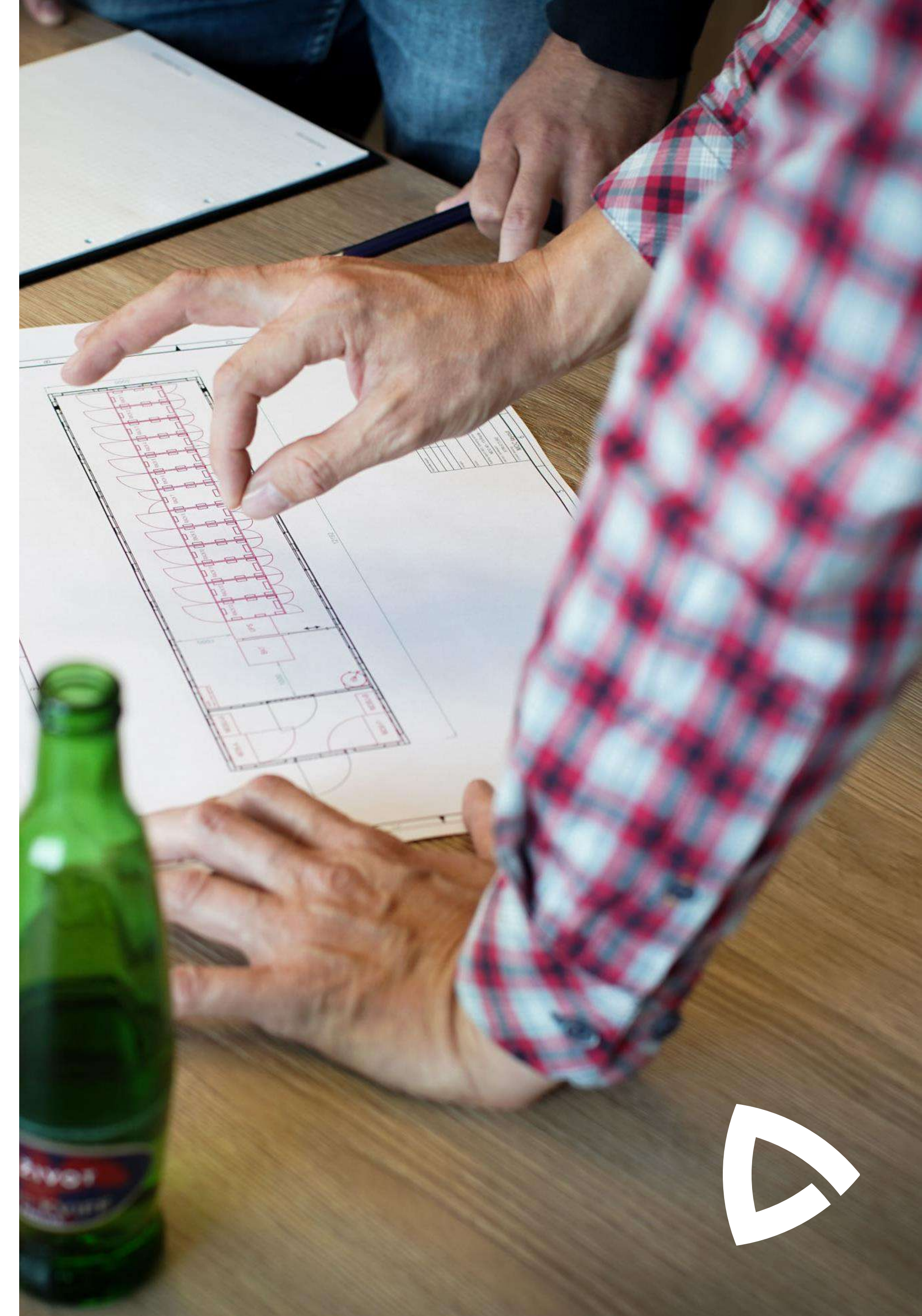
| Sustainability

is at the core of Altron Modular DNA.

Our goal is to provide our customers with eco-friendly, efficient, and cost-effective data center solutions. Additionally, our research and development team is constantly innovating to develop new technologies that will help future-proof your data center while minimizing your environmental impact.

Our approach

- **Green Power Sources** - ready for connection of all renewable power sources.
- **Waste Heat Reuse** - recuperation of heat produced by data center can be used, not wasted.
- **Converge Operation** - real-time optimization of data center operation.



| Engineering Services

Plan, design, build, support, and manage a modular data centre that meets your challenges.

Listening to our clients, understanding their specific needs, and matching these needs with our best practices and the applicable international standards.

Benefits

- Local support services availability, delivered by global support team
- Our services support only Altron Modular products.
- Expertise at large, with 30 years of experience in the industry.



| Project Delivery

Client

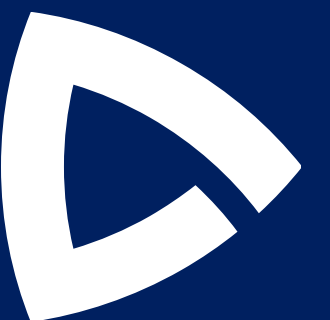
- Land acquisition
- Funding
- Assign internal Resources
- Utility and Connectivity

Contractor

- Contractual liability
- Local site works
- Design localization
- Grey Space

Vendor

- Project technical liability
- Design & Standards
- Production
- White Space





Kokura DC1



Seznam, a.s. is a service provider, search engine, cloud, and e-commerce giant that grew in scale and requires to house in their ICT infrastructure in fully owned DC facility. Upon decision, they target to be up and running in 12 months from business decision.

Investor requirements

- Return on Investment
- Scalable, and rapid deployment
- Minimize operation costs

Solution keynotes

- Turnkey solution that meets strict parameters for efficient operation and capex targets.
- Indirect air free-cooling technology with adiabatic pre-cooling.
- System Modular Multifed power supply architecture using low-loss transformers.
- Unmanned operation with zero DC facility operators on site.



Product	1 x CoreDC 1000
Delivery	12 months
Location	Prague, CZ
ICT Load	1 MW
Number of racks	200
PUE	1.20
Availability	TIER III

Nagoja DC



Seznam, a.s. is a leading local service provider and teams up with leading DC integrator. Unique **contracting** approach **on COST+ basis** provide both parties right tools to deliver according to parameters and yet business objective to provide new capacity to 3MW ICT host in phasing out Telco & DC incumbent.

Investor requirements

- Parallel operation with Telefonica O2 phasing out DC site.
- Zero DC facility operators at Nagoja DC site.
- 9 months to go LIVE with zero room to delay the project.

Solution keynotes

- Majority of technology blocks construction in off-site facility.
- Direct air free-cooling technology only. **Zero compressors** installed.
- **Mutual R&D** team to develop Air to Chip cooling technology.
- Real-time monitoring as a foundation to deployed umbrella control system supporting integration of all technology components **(OT+ICT)**



Product
Delivery
Location
ICT Load
Number of racks
PUE
Availability

1 x CoreDC 1000
9 months
Prague, CZ
3 MW (1 MW in phase I.)
300
1.08
TIER III

Team contact

ALTRON, a.s.
Novodvorská 994/138
14221 Prague 4

altron@altron.net
+420 261 309 111



www.altron.net

