

CONTAINERISED DATA CENTER

GridboxTM

A 1 MW data center, purpose-built to mitigate curtailment and dispatch on demand.



1 MW OPERATING POWER PER CONTAINER	40 ft STANDARD ISO FOOTPRINT	<0.7 s DISPATCH RESPONSE TIME
--	--	--

— SYSTEM OVERVIEW

A containerised megawatt that earns three ways

A containerised data center, engineered as a fast, flexible grid load

The **Gridbox** packages high-density compute servers, smart PDUs, forced-air cooling and networking into a standard 40 ft container. It connects to site infrastructure at **low or medium voltage** and is built to **start, pause and resume in well under a second** — turning a megawatt of compute into a controllable, market-facing asset.

Because the unit runs compute whenever it is not dispatched, every hour of operation produces **Compute revenue**, while flexibility and ancillary-services participation add a second, uncorrelated stream. **Gridmetry's own software** handles dispatch, control and monitoring in real time across every unit.

BUILT FOR THE MARKET

- **Sub-0.7 s response** to dispatch and price signals
- **Instant pause** — no cycling penalty, resume freely
- **Unlimited curtailment duration**
- **Compute revenue** whenever not dispatched

MODULAR & CONNECTED

- **Standard 40 ft** ISO footprint
- **Stackable** up to 2 layers
- **Grid-connected or co-located** behind the meter
- **Connects at LV or MV** networks

GRIDMETRY SOFTWARE

- **In-house control** & dispatch software
- **Real-time monitoring** of every unit
- **Automated response** to market & grid signals
- **Remote operation** & diagnostics

— APPLICATIONS

One asset across the flexibility stack

Behind-the-meter

Co-locate at generation or substation

Frequency reserves

FFR · FCR-D · aFRR · mFRR participation

Demand response

Curtail on signal, resume instantly

Compute revenue

Continuous baseline, uncorrelated with power

Renewables off-take

Absorb surplus and curtailed generation

Grid balancing

Fast, controllable flexible load

— REVENUE STACK

01

Mitigate curtailment

Absorbs surplus and curtailed generation, putting a floor under power prices and turning would-be curtailment into productive load.

02

Compute

Compute revenue as a continuous baseline whenever the unit is running — uncorrelated with the power market.

03

Flexibility

Balancing & ancillary services — sub-second response, with no cycling penalty for pausing and resuming load.

Power, configuration and layout

Single 40 ft container · operating power tracks loaded server draw

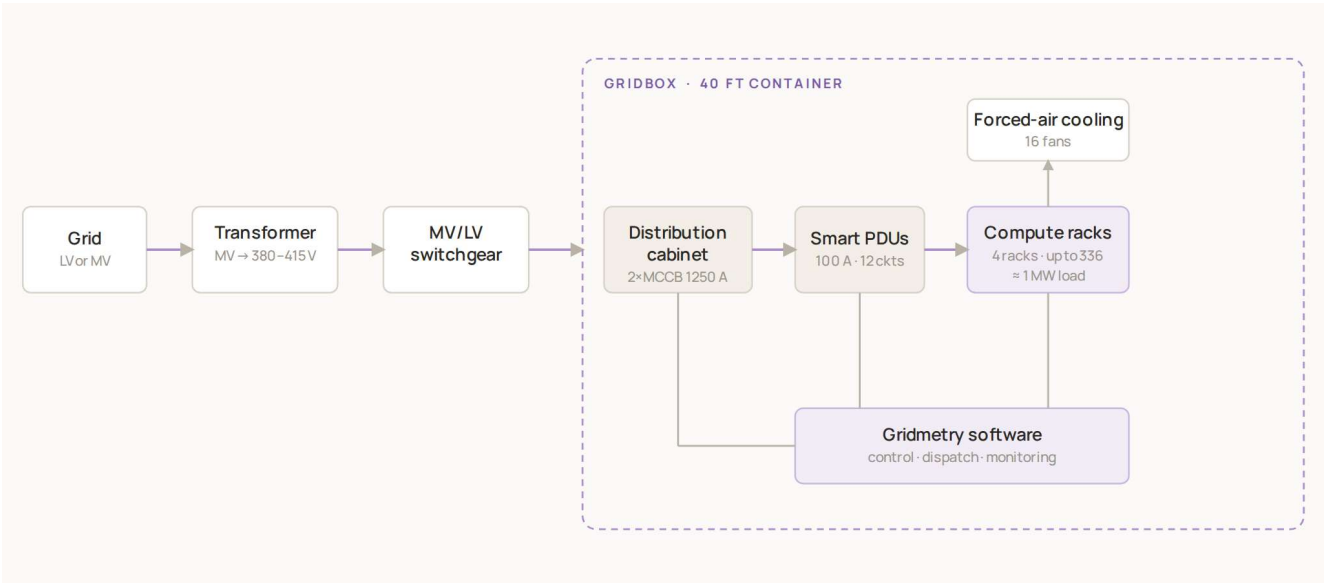
POWER & CONFIGURATION

Configuration	Servers / container	Operating power	Connection	Footprint
Gridbox 1 MW	up to 336	≈ 1 MW	LV or MV	40 ft · 1 layer
Stacked pair	up to 672	≈ 2 MW	LV or MV	40 ft · 2 layers

Container supplied with medium-voltage transformer and switchgear on request. Operating power tracks loaded server draw (≈ 1 MW per container).

— SYSTEM DIAGRAM

Grid to compute, software-controlled



— DEPLOYMENT

Grid-connected

Stand-alone at the substation with its own transformer and switchgear — connects at LV or MV as a controllable, market-facing load.

Behind-the-meter

Co-located at wind, solar or hydro to absorb curtailed or low-price generation on site.

Stacked cluster

Units stack up to two layers and scale out to multi-megawatt sites on a single connection.

Specifications

Gridbox 1 MW air-cooled compute container

GENERAL

Container type	Standard 40 ft
External dimensions (L×W×H)	12,000 × 2,400 × 2,800 mm
Gross weight	≈ 10 t
Vertical stacking	Up to 2 layers
Grid connection	LV or MV

ENVIRONMENT

Operating temperature	−25 to +40 °C
Operating humidity	10–90% RH
Storage temperature	−35 to +70 °C
Storage humidity	5–95% RH
Altitude	≤ 2000 m
Cooling	Forced air

ELECTRICAL & POWER

Operating power	≈ 1 MW (1,000 kW)
Input voltage	3P/N/PE AC 380–415 V
Frequency	50/60 Hz
Connection point	LV distribution cabinet
Main protection	2 × MCCB 1250 A
Rated power per server	4 kW

BALANCE OF PLANT (SITE)

MV transformer	MV → 380–415 V
MV/LV switchgear	Protection · isolation · metering
LV distribution	To container cabinet
Earthing	Per local code
Required grid capacity	Sized to rated load / unit
Standing area	Cleared access per side

COOLING

Type	Forced-air, negative-pressure
Number of fans	16
Fan dimensions	1,220 × 1,220 × 385 mm
Air volume per fan	20,000–30,000 m³/h
Fan supply	415 V
Drive / rating	Belt · IP58

POWER DISTRIBUTION

Distribution cabinet	800 × 600 × 2,000 mm · IP51
Main breakers	2 × MCCB 1250 A
Branch breakers	14 × MCB 100 A
PDU dimensions	2,000 × 49 × 100 mm · IP51
PDU input	380/480 V AC 3P+N+PE
PDU max. current	100 A
PDU outlets	1×C13 + 12×P33 IEC

COMPUTE RACKS & CAPACITY

Racks per container	4
Layers per rack	7 · 12 servers/layer
Rack dimensions	2,444 × 2,560 × 350 mm
Servers per rack	up to 84
Servers per container	up to 336
Rack colour	Black

CONTROL & MONITORING

Control software	Gridmetry · in-house
Monitoring	Web & app · real-time
Sensors	Temperature & humidity
Temp. measuring range	−40 to +85 °C · ext. probe
Accuracy	±0.3 °C · ±3% RH
Network	10/100 Base-T · RJ45
Interface / protocols	Ethernet · Modbus TCP opt.