NDC Normandy Data Center

SOVEREIGN HOSTING FOR AI SERVICES: delivery mid 2027

NDC

AN ALTAREA GROUP BRAND

NDC NORMANDY

Sovereign hosting for AI services

NDC is continuing its expansion with a new strategic site in Normandy, in the town of Val-de-Reuil, less than 100 km from Paris. This data center is a responsibly-operated sovereign computing facility dedicated to AI. It follows the latest standards in liquid cooling technology to host high-density racks.

This site is consistent with our overall environmental policy, given our decision to refurbish an existing banking data center and use renewable energy sources, namely the district heating system and geothermal energy.

It embodies the ambition of Altarea Group, a leader in low-carbon urban transformation.

Target IT power: **14 MW IT-power** on start-up in mid-2027, scalable to reach 26.5 MW IT

IT area: 1,700 m²

Annual PUE: 1.2

Waste heat recovery:
Waste heat is transferred to the district heating network.

Geothermal energy:
An important Geothermal Capacity able to improve the cooling performance.

Redundancy:
Design Tier 1 to Tier 3 compatible.

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A MULTI-SECTOR PLATFORM

Altarea is a leader in low-carbon urban transformation in France.
Altarea has a **distinctive multi-business** and **multi-brand model.**

Developer, investor and asset manager, the Group relies on strong brands and expertise to meet the city's needs thanks to its **integrated platform.**

Entrepreneurship is at the core of the group's values

Founded in **1994**	
IPO in **2004**	
2,000 employees	
€3 billion Shareholders' Equity	
€5 billion Retail AuM	
#1 real estate developer in France	
€14 billion in real estate pipeline	

MULTIPLE ASSET-CLASS OPERATOR

Residential
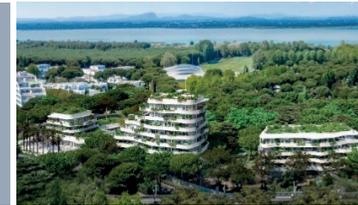
Residential / Serviced accommodation / Social housing

8,000 to 12,000 accommodation units per year

Commercial property

Offices / Logistics / Schools

60 projects, €5 billion potential value

Retail

€5.2 billion in assets managed (43 properties)

€2.2 billion owned by the Group

Infrastructure & Énergy

Data centers / Renewable energy

5 DC projects secured
500+ MW secured
1+ GW in pipeline

2. Nation Data Center, sovereign digital hosting

Nation Data Center (NDC) is a French hosting provider committed to responsible digital services, combining technical performance, environmental sustainability, and closeness to our clients.

Our company, an Altarea Group subsidiary, benefits from its financial heft and presence across all of France.
We design, build and operate data centers that reconcile economic challenges with environmental sustainability.
We see our business as supported by three pillars:

— **Sovereignty:** hosting that is operated entirely in France, protecting against extraterritorial jurisdictions.
— **Closeness to clients:** a network of 15 data centers across France by 2030, a dedicated contact person, and customized services.
— **Responsibility:** green design, zero water consumption on cooling, renewable energies, and waste heat recovery.

CUSTOM IT HOSTING

— **High security** (CCTV, airlock style security doors, biometrics, ISO 27001 and HDS certifications).
— **Flexible colocation:** private cages, dedicated rooms, high density.
— **Maximum connectivity:** meet-me-room, redundant telecoms.
— **Custom client support** (design, CSR, proximity, flexibility).

Normandy
1 700 m² of IT area
14 MW dedicated to very high density / DLC

Brittany
1 000 m² of IT area
3 MW of power, of which 600 kW is dedicated to very high density

Ile-de-France (Paris region)
2 280 m² of IT area
7 MW of power
Hybrid site: air cooling and DLC

Lille
Val-de-Reuil
Rennes
Vélizy
Strasbourg
Paris
Nantes
Lyon
Bordeaux
Aix-en-Provence
Nice
Toulouse
Marseille

Existing sites
Future sites

3. An ideal location

ADDRESS

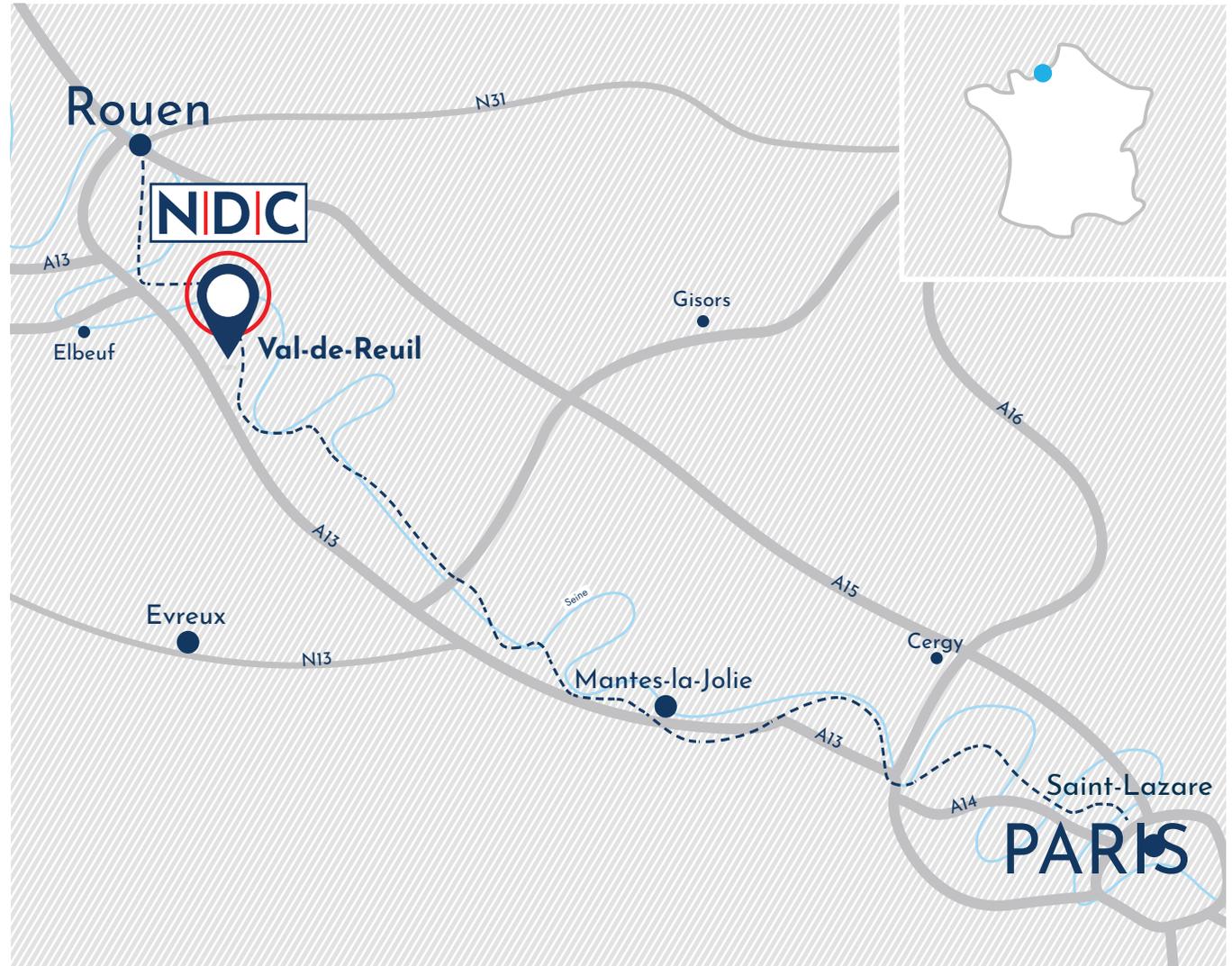Voie Marmaille
27100 Val-de-Reuil

ACCESS BY ROAD

-> Paris (1 hr 10 mins)
-> Rouen (30 mins)
-> Le Havre (1 hr 10 mins)

A 13

ACCESS BY RAIL

------- -> Paris - Saint-Lazare (1 hr 10 mins)
         -> Rouen (20 mins)

SNCF

NO MAD TRAIN

Rouen

NDC

Val-de-Reuil

Elbeuf

Gisors

A13

A13

A16

Evreux

N13

Seine

Mantes-la-Jolie

A15

Cergy

A13

A14

Saint-Lazare

PARIS

N31

NDC

NORMANDY

Val-de-Reuil is a prime location for leading international companies, and is already home to an ecosystem of data centers.

COMPANIES

- **A** Aptar Pharma
- **E** Euro Pharma
- **H** Hermès (x3)
- **Sa** Sanofi
- **Sc** Schneider Electric

DATA CENTERS

- **E** EDF
- **O** Orange
- **U** UltraEdge

Val-de-Reuil

1 km

5. Technical specifications

RESPONSIBLE

— Annual PUE: 1.2
— Waste heat re-used in the district heating network
— Use of geothermal energy (ground source heat)
— Refurbishment of an existing data center

POWER SUPPLY

— 20 MW connection to the public power grid for 2026, requests for connections up to 40 MW
— N+1 backup generator sets for each data hall
— A flexible and scalable electrical infrastructure for AI clusters (e.g. Nvidia DGX POD)

COOLING

— Chilled water loop distribution to the IT rooms
— Hot aisle containment for PODs with venting via plenum spaces
— IT rooms cooled by fan walls (N+1) and CDU (N+1 per POD)
— Cooling provided by chillers with N+2 redundancy, including free cooling

CONNECTIVITY

— Tier 3 design (EN 50600), 2 meet-me-rooms with multiple redundant entry points and no SPOF

SECURITY

— 24/7 on-site fire and security personnel (SIAAP compliant)
— Defense-in-depth approach with doubled-up high-security fencing (3.5 m in height) and perimeter intrusion detection
— CCTV coverage across all indoor and outdoor areas
— Single-person airlock style security doors and ANSSI-compliant two-factor authentication (including biometrics)

TARGETED CERTIFICATIONS

— ISO 27001 / HDS / ISO 14001 / ISO 50001 and European Code of Conduct

NDIC

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6. Floor plans

IT power:
designed for up to 19.5 MW IT compliant Tier 3
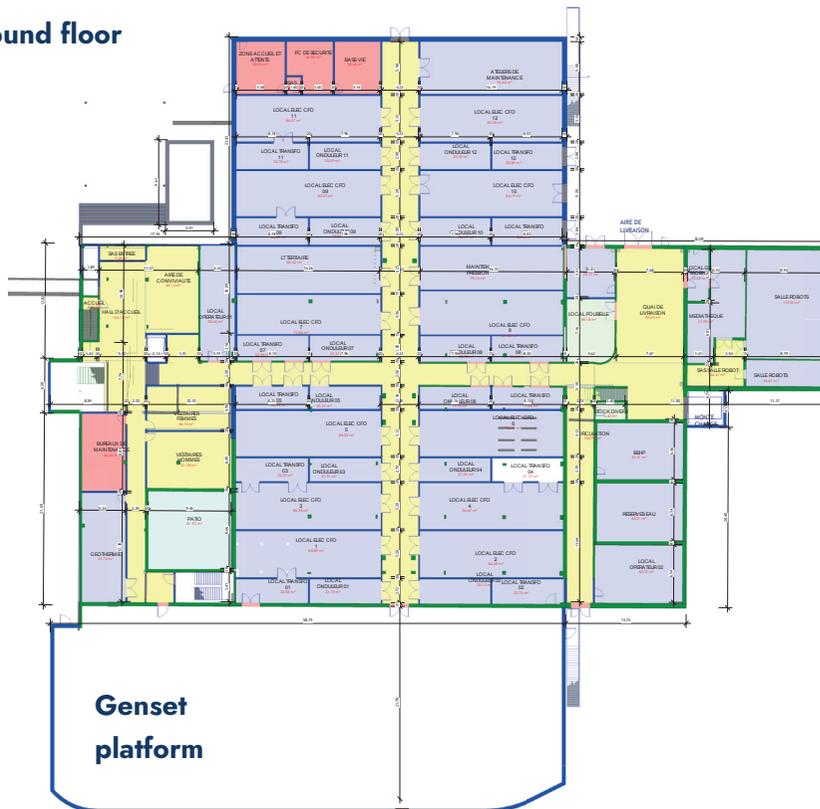(or 27 MW IT compliant Tier 1)

Rack density:
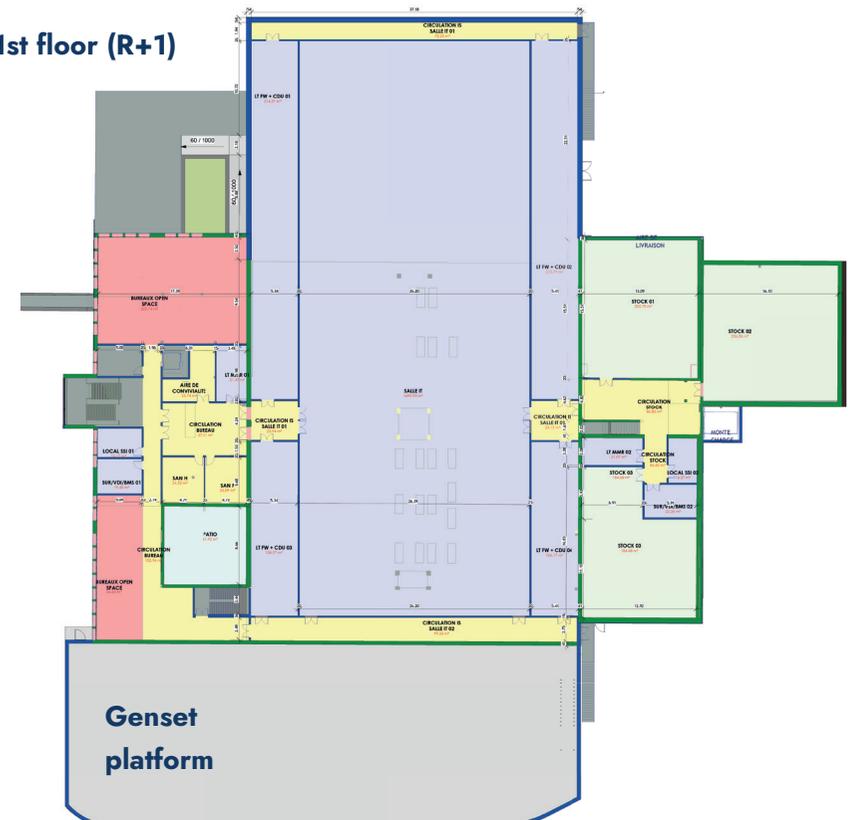up to 150 kW/rack (DLC)

Annual PUE:
1.2

IT rooms	23.7%	**1 785 m²**
Technical rooms	40.9%	**3 082 m²**
Storage	8.9%	**673 m²**
Office areas	5.7%	**427 m²**
Corridors - Restrooms	19.8%	**1 489 m²**
Patio	1.1%	**82 m²**

Total usable floor area	**7 538 m²**

Ground floor

Genset platform

1st floor (R+1)

Genset platform
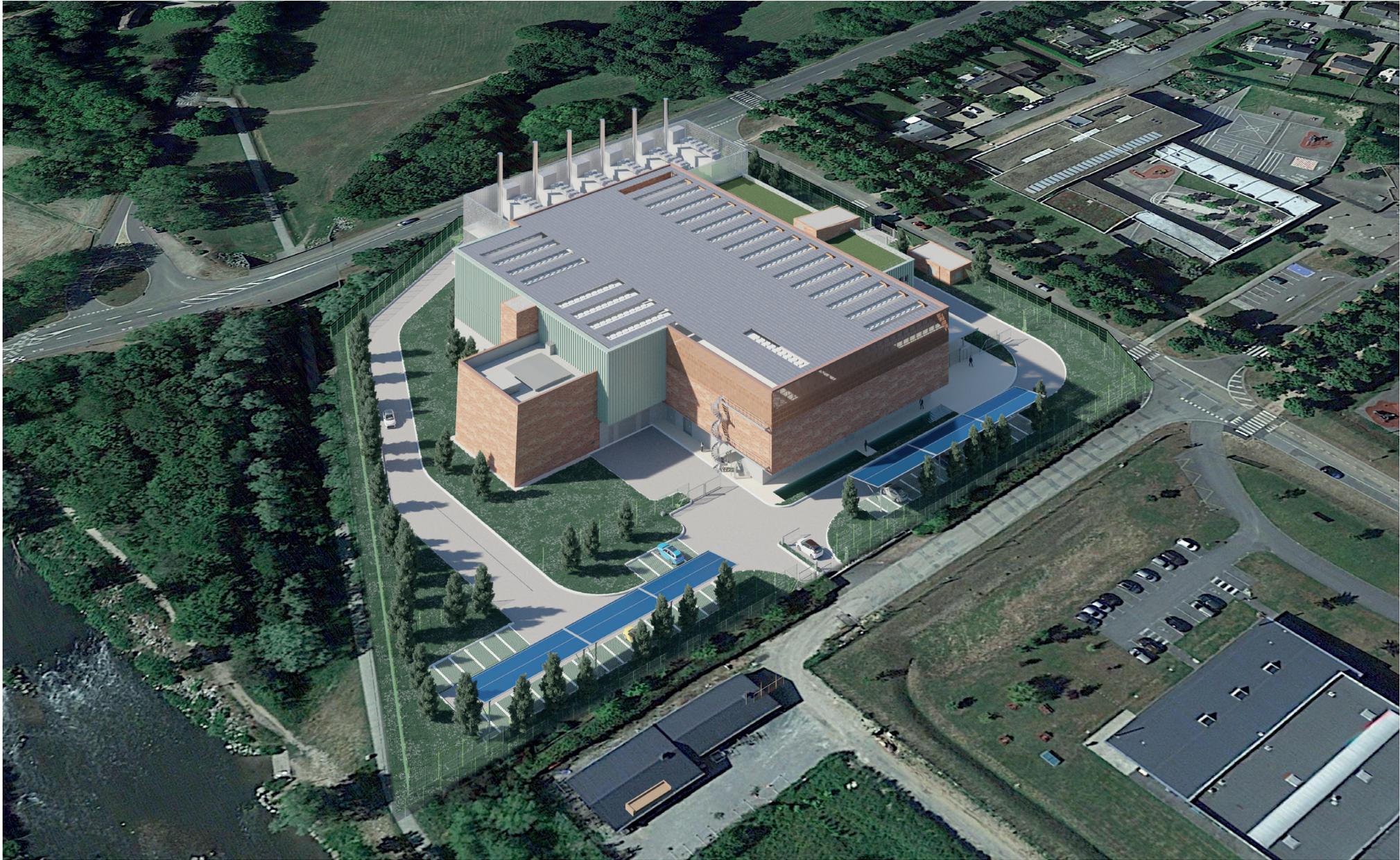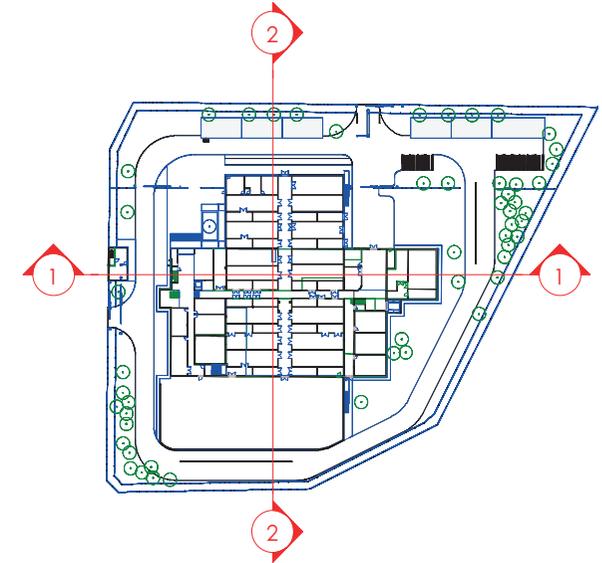
7. A Datacenter designed for AI and HPC

BUILDING CROSS-SECTIONS

Technical roof area

Genset platform

IT rooms

Technical rooms

Longitudinal cross-section

Technical roof area

Offices

Reception

IT rooms

Technical rooms

Storage

Storage

Transversal cross-section

Service corridors: where CDUs and fan walls to cool the IT rooms are located
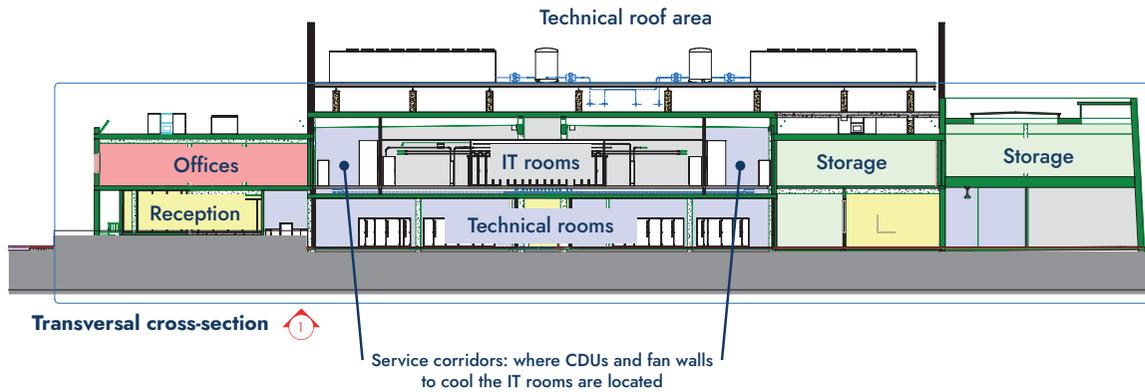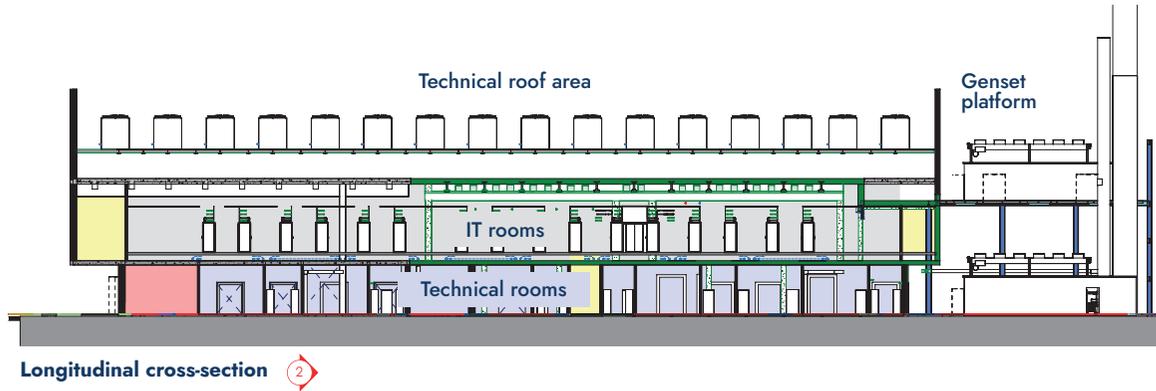
Cross-section of POD in IT room

Weak current distribution

Weak current distribution

Strong current distribution

Strong current distribution

Weak current distribution

Weak current distribution

Strong current distribution

Strong current distribution

Cold aisles

Hot aisle containment

Cold aisles

Raised access floor

NDC
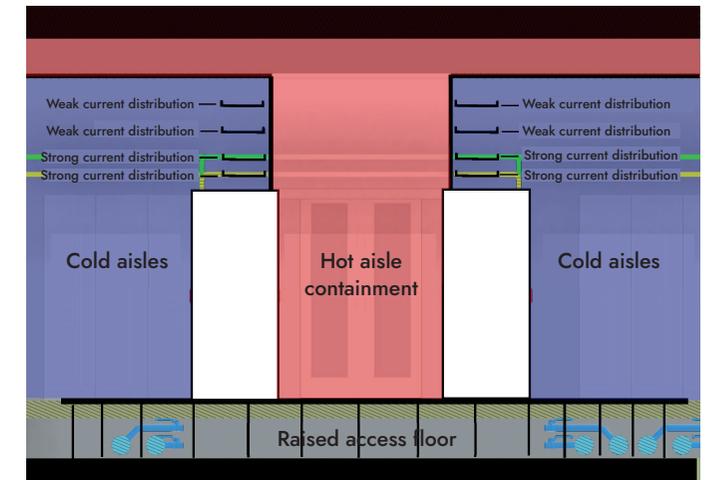
NORMANDY

FLEXIBLE LAYOUT COMPLIANT WITH ALL LIQUID COOLING REQUIREMENTS

Fan Walls

CDU

PDU

Service corridors outside IT rooms

Benchmark Nvidia cluster POD
- 16 computing racks: 12 kW/rack
- 16 network racks: 22 kW/rack
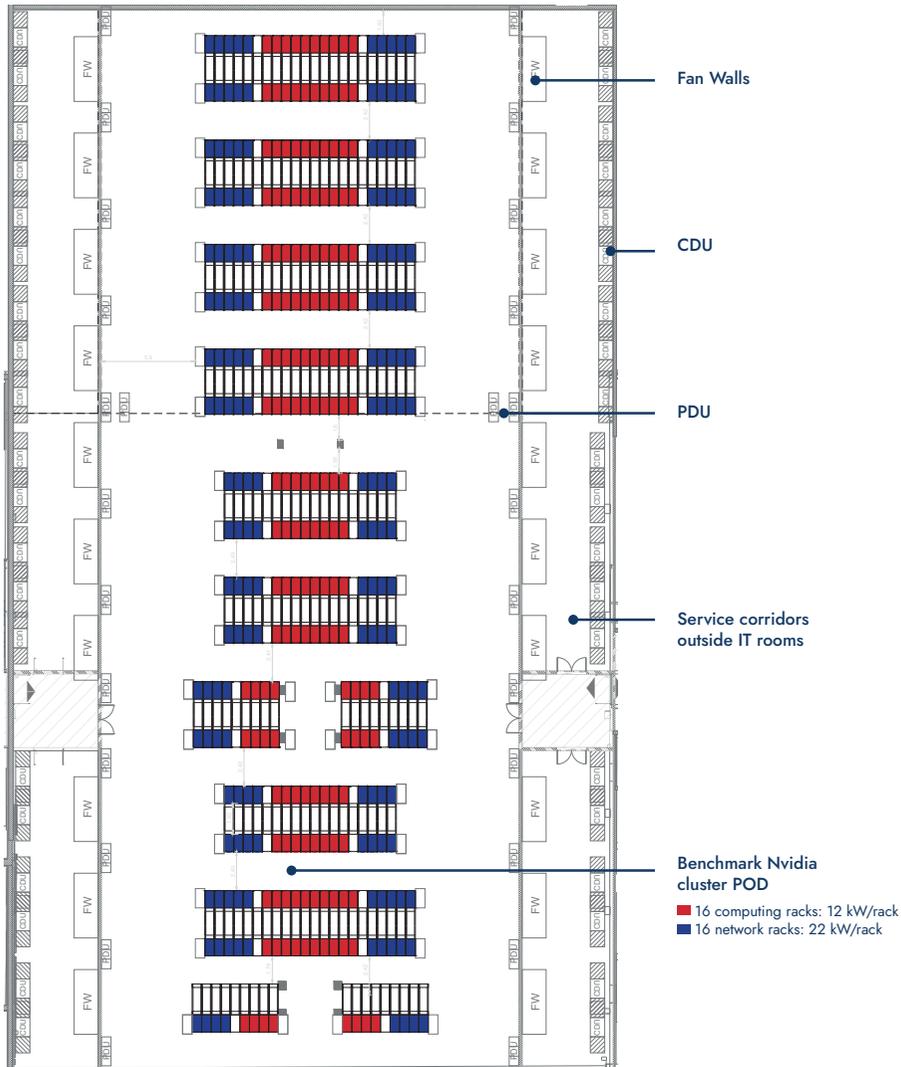
Standard IT Layout plan
Based on NVIDIA AI Cluster reference design
Configuration: 26.5 MW IT - 15.6 kW/m²

DESIGNED FOR AI

NDC Normandy data center features scalable technical architecture able to host the latest Nvidia configurations for AI. The standard layout shown houses Nvidia POD DGX GB200 clusters, with a mix of high-density DLC direct-to-chip cooled computing racks and traditional air-cooled racks.

The 1,700 m² IT room and scalable electrical architecture can accommodate up to 26.5 MW IT, equivalent to over 12,000 BlackWell GPUs in this benchmark configuration.

NVIDIA cluster technical specification:

— 16 computing racks: 132 kW/rack

— 16 network racks: 22 kW/rack

SCALABLE TECHNICAL ARCHITECTURE

The scalable configuration offered by the technical architecture, based on 12 complete power chains, delivers a custom response to the requirements of AI companies. For example, the following different technical architectures have been examined:

Option	Power supply architecture	Total IT power	Tiering	Redundancy level
Design 1	Hexaload 3x(4/3)	19,5 MW	Tier III	+++
Design 2	Catcher 10+2	22,5 MW	Tier III	++
Design 3	12 powerchain used at 100% capacity (no redundancy)	26,5 MW	Tier I	ø

In all configurations, all 12 power chains have UPS capacity and can be backed up by gensets.

8. A secure power connection

A SECURE AND FAST POWER CONNECTION

Initial 20 MW power connection

Connection of the delivery substation in radial configuration via the creation of two 20 kV feeders from the Vaudreuil substation, using 2 × 3 km of underground 240 mm copper medium-voltage cables.

This initial connection is secured for H2 2026, to operate all necessary commissioning stages priori to the delivery mid-2027.

40 MW power connection
Requests for an increased power supply to 40 MW have been made, and all design preliminary requirements have been taken for a scheduled delivery in 2028, which will enable the site's full IT capacity to be deployed.

9. Connectivity

## THE SITE BENEFITS FROM EXCELLENT NETWORK CARRIER COVERAGE

Network Carriers present on-site:
NDC Normandy already has connections with the following carriers: SFR, Orange, Aristee, Blue Infra.

Nearby networks:
A number of additional carriers are to be found in the vicinity of the site, in particular important long-haul network for the national network to deliver optimal latency times to Paris (<1.5 ms RTD) and London (3-5 ms RTD).

Carrier	Infrastructure owner	Cable owner	Leased FON	Distance
SIPARTECH	X	X		< 5 km
COLT	X			< 10 km
SANEF-SAPN	X			< 5 km
TELIA	X			< 15 km
GLOBAL CROSSING	X			< 20 km
BOUYGUES				< 5 km
NEXLOOP				< 5 km
COVAGE			X (via GC BLO)	< 5 km
EUROFIBER		X	X (via SANEF)	< 10 km
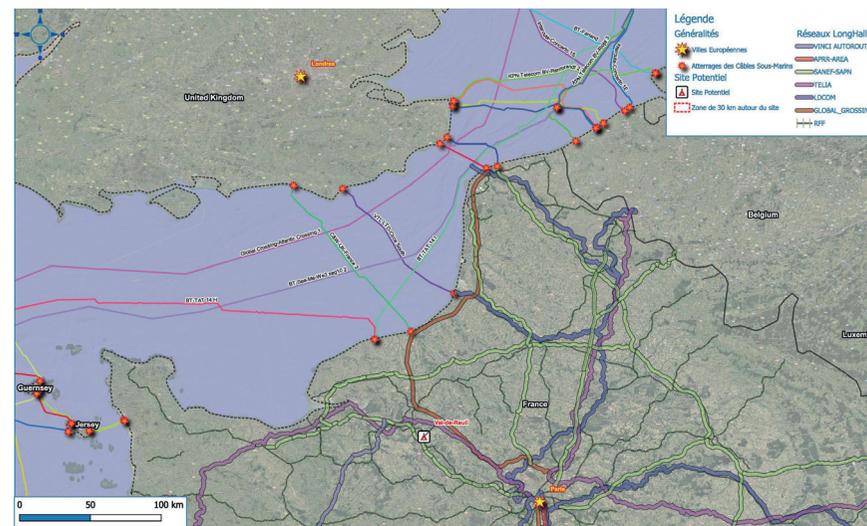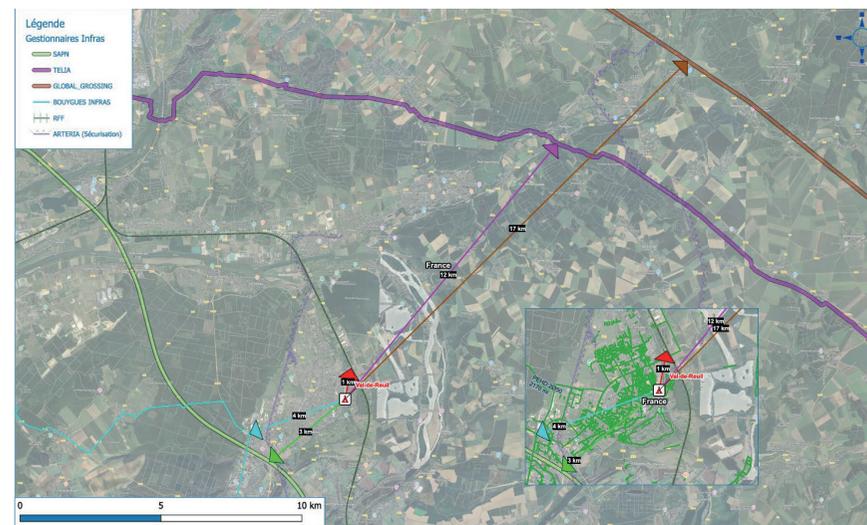
10. Risk assessment

MAJOR RISKS

Val-de-Reuil is covered by a DICRIM (Municipal Information Document on Major Risks).

Two main risks have been identified for the town as a whole:

Flood risk:

— Val-de-Reuil is covered by the Flood Risk Prevention Plan for the Boucle de Poses area. The site itself is not within the zones liable to flooding, and is affected only by a risk of rising water tables. However, the entire building is raised by a crawl space, so that the lowest level of the ground floor is above the level at which flooding is possible.

Industrial risks:

— Seveso industrial risk: the town has two lower tier Seveso-classified sites; however the NDC Normandy data centre is outside their impact zones.
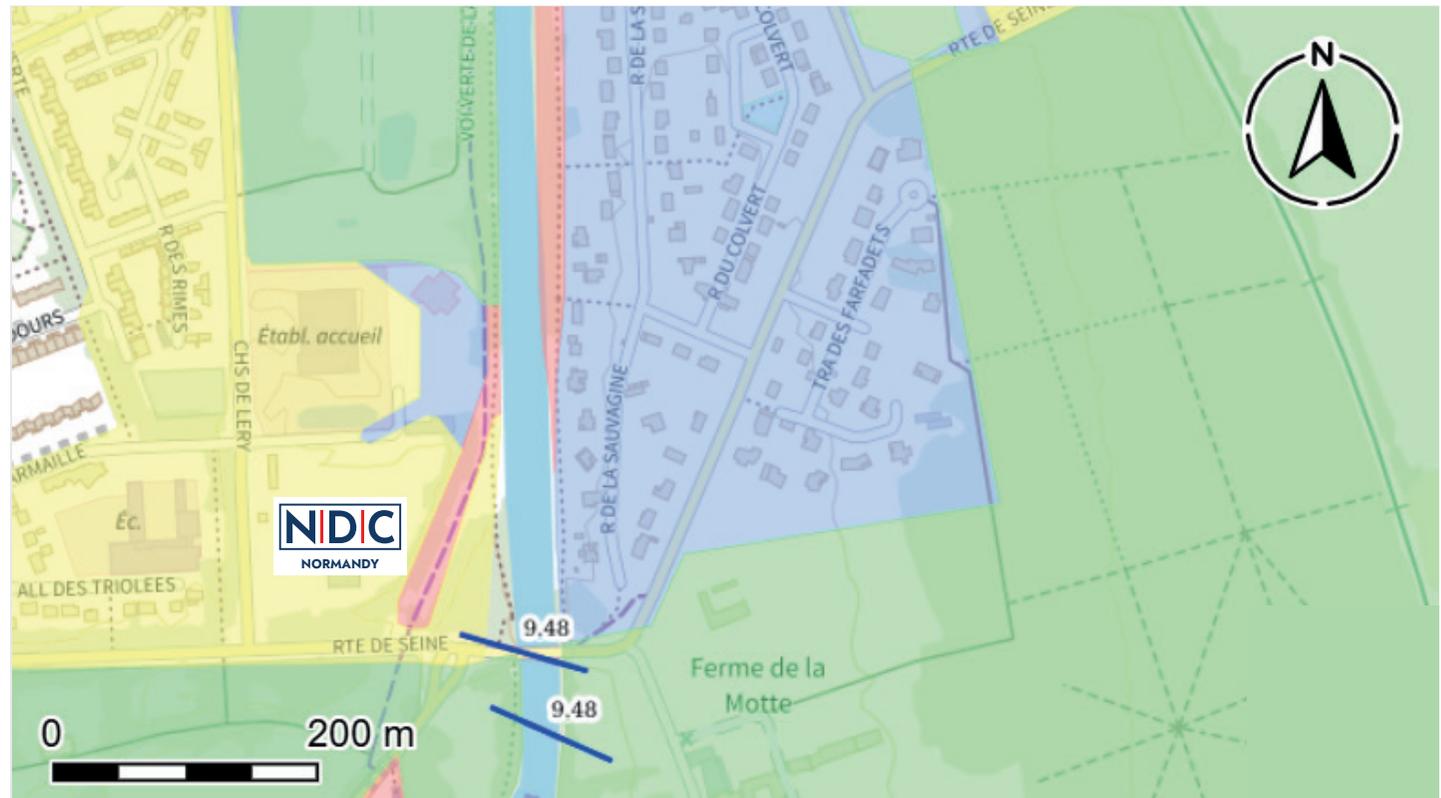
Source : Flood risk prevention plans for the Eure département (produced by the local government planning and sustainability unit known as DDTM 27) — Data © MTES

Key:

- Flood overflow zone
- Construction prohibited
- Construction permitted (urban center in dark blue)
- Zone at risk from rising water table

11. Environmental performance

A DATA CENTER AT THE CUTTING EDGE OF ENERGY PERFORMANCE TECHNOLOGY

— **Annual PUE of 1.2**

With a design achieving PUE (Power Usage Effectiveness) of 1.2, NDC Normandy exceeds current energy efficiency standards. Such an efficiency level anticipates the requirements of the European directive on power efficiency (EU 2023/1791) which requires new data centers to achieve a PUE under 1.2 from July 2026. Consistent with the «Fit for 55» plan, this directive aims to reduce greenhouse gas emissions by 55% by 2030. Choosing NDC Normandy means choosing an infrastructure that is already aligned with upcoming legal obligations and the challenges of digital restraint.

— **The WUE is close to zero**

WASTE HEAT RECOVERY AND GEOTHERMAL ENERGY

In addition to the data center's performance in terms of its design, it will be able to take advantage of the possibilities offered by the town's district heating network, and the use of geothermal energy.

Waste heat: Designed from the beginning to be incorporated into the Val-de-Reuil district heating network, NDC Normandy is able to recover part of its waste heat. This "plug-and-play" approach enables a swift and effective connection to the local infrastructure, without onerous building work or complicated adaptations. This architectural choice reflects a strong desire to make the datacenter part of a circular economy and the local energy transition.

Geothermal energy: The NDC Normandy data center has been designed to make use of a renewable local resource, namely geothermal energy (or ground heat). By means of an integrated geocooling system, some cooling requirements are met by this natural energy, significantly reducing the facility's carbon footprint. This system, part of the design from the beginning, can be implemented quickly and efficiently, while boosting the use of local renewable energy sources.

THE DECISION TO REFURBISH

Located in an entirely refurbished data center, NDC Normandy combines the solidity of a banking data center with the modernity of cutting edge technology. This strategic choice guarantees optimum reliability, while at the same time following a sustainable and responsible philosophy curbing the carbon impact of new building construction.

NDC NORMANDY

Your sovereign hosting for AI services

N|D|C

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