

Specsheet

# Previder Datacenters

previder

it starts here

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### Introduction

Previder has two sustainable, energy efficient and carrier-neutral datacenters in the Netherlands. Both datacenters have a number of unique features that ensure an extremely high level of reliability. The power supply, cooling and connectivity are completely redundant. Security is at the highest level and Previder is ISO 27001, ISO 14001 and ISO 9001 and NEN7510 certified. Offering a Twin Datacenter concept provides IT solutions based on the highest possible level of continuity.



### BREEAM

Energy efficiency and sustainability were major factors in the design and set-up of the datacenters. According to BREEAM (a leading independent assessment method for determining the sustainability of buildings), our PDC1 is the very first datacenter in the world to be given the BREEAM "Excellent" designation. This has partly been achieved by the innovative gas engine heat pump that ensures that the heat from the datacenter is used to heat the head office. In addition, sustainable building materials have been used and existing materials reused where possible.

### Previder contact details

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# General

Datacenter - general info		PDC1	PDC2
			
Address	Expolaan 50 7556 BE Hengelo (Ov.) The Netherlands	Barnsteenstraat 15 7554 TC Hengelo (Ov.) The Netherlands	Barnsteenstraat 15 7554 TC Hengelo (Ov.) The Netherlands
General	Box-in-box datacenter	Brand new datacenter. Concrete and steel supporting structures with aluminium façade cladding and concrete inner shell.	Brand new datacenter. Concrete and steel supporting structures with aluminium façade cladding and concrete inner shell.
TIER classification	TIER 3+	TIER 3+	TIER 3+
Certification	ISO27001, ISO14001, ISO9001 NEN7510	ISO27001, ISO14001, ISO9001 NEN7510	ISO27001, ISO14001, ISO9001 NEN7510
Sustainability	100% green energy BREEAM-Excellent PUE 1,16	100% green energy PUE 1,25	100% green energy PUE 1,25
Altitude	14.5 metres above sea level (Amsterdam Ordnance Datum NAP)	19.2 metres above sea level (Amsterdam Ordnance Datum NAP)	19.2 metres above sea level (Amsterdam Ordnance Datum NAP)
Area	11,000 m <sup>2</sup>	2,500 m <sup>2</sup>	2,500 m <sup>2</sup>
Data floor area	4,500 m <sup>2</sup>	1,600 m <sup>2</sup>	1,600 m <sup>2</sup>
Generator room	Next to datacenter, containers	Separate building	Separate building
Number of rooms	8+ private suites	4	4
Space per room	540 m <sup>2</sup> , 316 racks	400 m <sup>2</sup> , 216 racks	400 m <sup>2</sup> , 216 racks
Other facilities	Lounge Boardrooms Meeting rooms Work rooms Canteen Wi-Fi	Lounge Boardrooms Meeting rooms Work rooms Canteen Wi-Fi	Lounge Boardrooms Meeting rooms Work rooms Canteen Wi-Fi
Parking spaces	80	32	32
Accessibility	24 x 7 access Directly off the A1 10 minutes from the German border 30 minutes from Apeldoorn 85 minutes from Amsterdam	24 x 7 access 5 minutes from the A1, off the A35 15 minutes from the German border 35 minutes from Apeldoorn 90 minutes from Amsterdam	24 x 7 access 5 minutes from the A1, off the A35 15 minutes from the German border 35 minutes from Apeldoorn 90 minutes from Amsterdam
Loading and unloading	Three secure loading/- unloading areas	Secure loading/unloading area	Secure loading/unloading area
Maximum floor load	18 kN/m <sup>2</sup>	18 kN/m <sup>2</sup>	18 kN/m <sup>2</sup>
Clear height above data floor	3 metres	5,5 metres	5,5 metres
Height of data floor	210 cm, all cables under the floor	105 cm, all cables under the floor	105 cm, all cables under the floor
Type of data floor	Anti static	Anti-static	Anti-static
Maximum roof load	N/A, box-in-box	100 kg/m <sup>2</sup>	100 kg/m <sup>2</sup>
Racks	19" racks with perforated door (dimensions 600 x 1000 x 46U)	19" racks with perforated door (dimensions 600 x 1000 x 47U)	19" racks with perforated door (dimensions 600 x 1000 x 47U)
Flexibele co-location (on request)	Footprint / Private corridor / Private Cage / Private Suite	Footprint / Private corridor / Private Cage on request	Footprint / Private corridor / Private Cage on request

## Connectivity

Connectivity	PDC1	PDC2
Physical supply	Three geographically-separated supply points (manholes)	Three geographically-separated supply points (manholes)
Meet-me rooms	2, geographically separated rooms	3 separated rooms
External connectivity (Previder network)	Geographically-separated fibres to Amsterdam (Nikhef), Equinix EN1 and PDC2	Geographically-separated fibres to Amsterdam (Telecity2) and PDC1
Carriers	PDC1 is carrier neutral Available carriers <ul style="list-style-type: none"> <li>• Tele2</li> <li>• TrenT</li> <li>• Relined</li> <li>• Eurofiber</li> <li>• Ziggo</li> <li>• KPN</li> <li>• Cogas</li> <li>• Unet</li> <li>• UPC</li> <li>• Atrato</li> <li>• Breedband Nederland</li> </ul>	PDC2 is carrier neutral Available carriers <ul style="list-style-type: none"> <li>• Tele2</li> <li>• TrenT</li> <li>• Relined</li> <li>• Eurofiber</li> <li>• Ziggo</li> <li>• KPN</li> <li>• Unet</li> <li>• UPC</li> <li>• Atrato</li> <li>• Breedband Nederland</li> <li>• BT</li> </ul>
Internet Exchanges	<ul style="list-style-type: none"> <li>• AMS-IX</li> <li>• NLIX</li> <li>• NDIX</li> <li>• DE-CIX</li> </ul>	<ul style="list-style-type: none"> <li>• AMS-IX</li> <li>• NLIX</li> <li>• NDIX</li> <li>• DE-CIX</li> </ul>
Internal connections	Managed by Previder in an automated system	

## Power supply

Electricity supply	PDC1	PDC2
Power supply	10 Megawatts	6 Megawatts
Transformers	2 x 1.000 kVA per room	2 x 2.500 kVA total plant
Redundancy	2N	2N
Power supply to the racks	230V, via two separate paths (2N)	230V, via two separate paths (2N)
Distribution to rooms	10kV ring systems (medium voltage)	Bus duct system (low voltage)
Power current	Three phases / 420V available on request	Three phases / 420V available on request
Standard capacity	2 * 32 Amps per rack	4 * 16 Amps per rack (room 1) 2 * 32 Amps (room 2)
High Density	Available on request	Available on request
UPS	2 x 2 x 320 kVA (2N) per room	2 x 2 x 550 kVA (2N) per room
Diesel generators	8 * 2100 kVA (N+1)	4 * 2100 kVA (N+1)
Diesel tanks	24 hour operational stocks Contract for 24/7 fuel delivery	48 hour operational stocks Contract for 24/7 fuel delivery

## Cooling

Climate control	PDC1	PDC2
Cooling principle	Environmentally-friendly free-to-air cooling system with closed-cold corridors on the data floor. Heat reused to heat office premises.	Environmentally-friendly free-to-air cooling system with closed-cold corridors on the data floor.
Capacity	Average 1,2 kW/m <sup>2</sup> Maximum 24 kW/m <sup>2</sup>	Average 2 kW/m <sup>2</sup> Maximum 24 kW/m <sup>2</sup>
Pipes	Fitted with leak detectors, placed under the data floor	Fitted with leak detectors, placed under the data floor
Cooling	N+1 ACUs per room (N+2 optional)	N+2 ACUs per room
Heat dispersion	N+1 chillers	N+1 chillers
Configured temperature	22° +/- 1° Celsius discharge air temperature measured at chillers	22° +/- 1° Celsius discharge air temperature measured at chillers
Absolute humidity	40% +/- 15%	40% +/- 15%
High Density	Up to 24 kW per rack on request	Up to 24 kW per rack on request

## Security

Security	PDC1	PDC2
Datacenter surveillance	24*7*365	24*7*365
Physical security	<ul style="list-style-type: none"> <li>• High steel fencing around the site</li> <li>• Electric sliding gates for incoming and outgoing vehicles</li> <li>• Secure loading and unloading areas</li> </ul>	<ul style="list-style-type: none"> <li>• High steel fencing around the site</li> <li>• Electric sliding gates for incoming and outgoing vehicles</li> <li>• Secure loading and unloading areas</li> </ul>
Alarm system	<ul style="list-style-type: none"> <li>• Certified security classification 3, structural security classification 4</li> <li>• Closed-circuit television (CCTV) inside and outside</li> </ul>	<ul style="list-style-type: none"> <li>• Certified security classification 4</li> <li>• Closed-circuit television (CCTV) inside and outside</li> </ul>
Access control	<ul style="list-style-type: none"> <li>• Secure Access List (SAL)</li> <li>• Electronic card in combination with valid proof of identity</li> </ul>	<ul style="list-style-type: none"> <li>• Secure Access List (SAL)</li> <li>• Electronic card in combination with valid proof of identity</li> </ul>
Fire safety		
Fire prevention	Special steel construction and rooms separated by fire-retardant walls with a 60 minute delay	Special steel construction and rooms separated by fire-retardant walls with a 60 minute delay
Fire detection	Aspiration system with smoke detection	Aspiration system as a pre-alarm with separate smoke detection
Extinguishing systems	<ul style="list-style-type: none"> <li>• Environmentally-friendly Argonite system in the rooms</li> <li>• Fire hose reels in the corridors</li> </ul>	<ul style="list-style-type: none"> <li>• Environmentally-friendly Argonite system in the rooms</li> <li>• Water mist extinguishing system in the emergency power generator room</li> <li>• Fire hose reels in the corridors</li> </ul>



Building management	PDC1	PDC2
Advanced building management system (BMS)	<ul style="list-style-type: none"> <li>• Stability of the environment</li> <li>• Important electrical and mechanical systems</li> <li>• Interaction between various systems</li> <li>• Critical parameters, report on system performance</li> <li>• Connection of safety systems if fire alarm is activated</li> <li>• Power consumption meters</li> <li>• Water consumption meters</li> <li>• Cooling/heat transport meters</li> </ul>	<ul style="list-style-type: none"> <li>• Stability of the environment</li> <li>• Important electrical and mechanical systems</li> <li>• Interaction between various systems</li> <li>• Critical parameters, report on system performance</li> <li>• Connection of safety systems if fire alarm is activated</li> <li>• Power consumption meters</li> </ul>

## Twin-datacenter

Twin-datacenter concept	
Distance between PDC1 and PDC2	4,7 km as the crow flies
Inter-datacenter connectivity	<ul style="list-style-type: none"> <li>• Redundant dark fibers</li> <li>• WDM</li> <li>• Ethernet VLANs</li> </ul>