

Mobistar Datacenter

Technical specifications



Mobistar Nossegem
Leuvensesteenweg 641
1930 Nossegem

Belgian Network Solutions bvba has its own dataroom within the datacenter of Mobistar in Nossegem. The colocation space is provided with emergency power, climate regulation via air optimization solutions (e.g.: Cold-corridor), fire protection and suppression, raised floors, access controls, network security etc. The core infrastructure behind the service portfolio of Benesol is hosted within this TIER 3.75 datacenter.

Facility - Ambient conditions

The surrounding conditions are security related within the building and the dataroom, such as the air conditioning, the fire-, lightning-, smoke- and water detection systems.

The oom has a grounding system with a copper compound per footprint of 50mm². is maintained at 21 ° C (+ / 4° C) and a humidity of 50% (+ / 10%).

Datacenter



Benesol room



Datacenter

The colocation center is equipped with a security checkpoint through which Mobistar- and Benesol staff and Benesol customers have access to the facility. The security includes a strict access procedure, a Burglar Alarm System, and CCTV inside and outside the building. The access is recorded and monitored from the Mobistar' central network control center (NCC).

- Type of construction: outstanding building
- Loading bay and space for temporary storage of material
- 24/7/365 on-site security guard Securitas (Group 4)
- Closed Circuit surveillance (CCTV) on the interior and exterior of the building.
- Keycard for access to building and dataroom Benesol
- Access policy

Benesol room

De Benesol dataroom has a surface of 110m² in which a tailor-made infrastructure has been installed. This High-Availability (99,999%) and High-Density infrastructure was built in association with Minkels NV.

- Floor
 - 80cm plus
 - Anti-static floor
- Cabling
 - Power cables under the raised floor
 - Data cables, copper and fiber optics, through fiber ducts mounted on to the ceiling
- Cold-corridor system
 - Built on raised floor
 - 90% perforated tiles in cold-corridors
 - Roof panels
 - Transparent
 - Safety glass
 - Sliding doors, self-closing, on both sides of the corridor
- Racks
 - Extra large racks 2,20m x 0,8m x 1,2m (H x W x D)
 - Electronic locks & automated intrusion detection
 - Unique code for access to the rack
 - Central management of keycards and codes
 - Registration of the siphon status: door and closing contact for intrusion detection
 - Logging of all events such as (non-) successful attempts to enter the rack
 - Remote management and remote access

Kiosk/Tower with touch screen to access rackspace



Locks driven by external circuit



Safety - Alarms and monitoring

Datacenter



The network support systems in the Mobistar datacenter include the detection of all power and air-conditioning, fire breaks, The Mobistar staff monitors all alarm signals related to the ambient and environmental conditions from the NCC.

- Earthing system and lightning protection
- Water detection
 - Water detection systems are installed in all areas that may be susceptible to leakage. The water detection alarms are relayed directly to the Mobistar Support Center.
- Fire detection
 - Fire-retardant walls
 - Smoke detectors (heat and optical smoke detectors) are installed in the ceiling and floor incremented.
 - Fire suppression occurs the integration of a VESDA system that detects smoke and sounds the alarm and through the emission of Argon gas. Argon gas will ban the oxygen and extinguish the fire without damaging equipment.

Benesol room

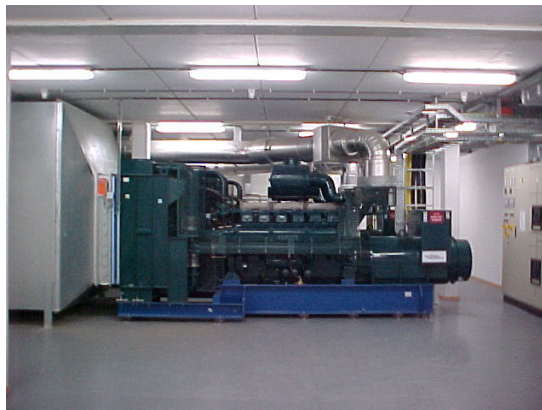
The control system of the rack with measurement:

- Rack Monitoring System and Intelligent power shuffle
 - Monitors the immediate vicinity of the rack
 - Power usage: Digital kWh / Amp module
 - Temperature (Degrees Celsius)
 - Integration into existing network management software



Power supply

Datacenter



- The 2 main power feeds have a capacity (full load) of 4,5 MWatt
- The electricity supplier Electrabel provides the power by 2 independent circuits of 230V AC.
- Benesol receives continuous power through a minimum of 230V AC, 48V DC, redundant power supply, UPS with battery and back-up generator.
- The tests are completed on a monthly basis (during the night)
 - The results of all the generator tests, monthly without load and every 6 months with full load are on paper-result-form kept at all times at the collocation.

Benesol room

- Belgian Network Solutions guarantees to offer a power supply up to 96Amp per 1/1 rack .
 - 1/1: 2 x 32Amp 3-phase (1 x A-feed + 1 x B-feed)
 - 1/2: 2 x 16Amp 1-phase (2 x A-feed + 2 x B-feed)
 - 1/4 : 1 x 16Amp 1-phase (1 x A-feed + 1 x B-feed)
- Belgian Network Solutions dispose of 227,7kVa (A-feed + B-feed) as total power supply.

Racks

1*32A breaker A-feed 3-phase
+
1*32A breaker B-feed 3-phase



2 x PDU/power block
(Standard in all 1/2 and 1/4 racks)



Power recovery

The colocation space supports protected services such as: redundant power supplies, battery and back-up generator.

- UPS back-up
 - N + N
 - Switches in about 20 seconds, in the case of power failure
 - Type? Socomec (different model types depending of time of installation)
 - 4 x 400KVA +1 x 800KVA => A-Feed and 4 x 400KVA +1 x 800KVA=> B-Feed
- Back-up Diesel Generators
 - 825 KVA each, with a capacity for 24 hours
 - N +1
- Battery back-up
 - 48 volt direct current (VDC), with an autonomy of 20min
 - A-feed + B-feed
- Network is powered by a 200 KVA MGE UPS with an autonomy of 1 hour
- The tests are completed on a 3-monthly basis (during the night)



Climate control – Cooling supply

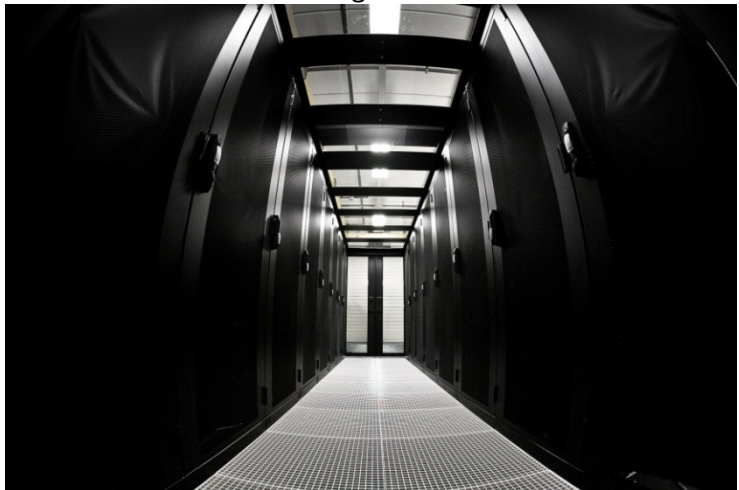
The Benesol room uses air optimization solutions such as cold-corridors and in-rack cooling. This allows Belgian Network Solutions guarantees to offer a cooling supply up to 3kW/m² and 20kW per rack (on rack level, in SLA). The average room temperature is controlled between 21°C (± 4°C) and a humidity level of 50% (± 10%).

- Cooling system (HVAC)
 - Multiple air conditioning units provide redundant capacity.
 - 3 single units of 122 KVA each
- Cooling by chillers (carrier) N + 1
- Belgian Network Solutions dispose of 244kW as total cooling supply.
- The tests are completed on a 3-monthly basis (during the night)

3 HVAC units,
Emerson



“Cold-corridor”
integration



Connectivity

In our datacenters we deliver connectivity and colocation services for all businesses, carriers, ISV's, ISP's, ASP's, etc. Also, the ability to connect you with your equipment via the Internet (IP / MPLS connection) fiber (CWDM / DWDM connection) or through a PSTN line.

Mobistar

Overview of the operators in the Mobistar datacenter:

- Belgacom
- Brutélé
- Telenet
- BT
- Syntigo
- Colt
- Others can be provided by Benesol

Benesol

Transit providers

The network of Belgian Network Solutions is third-party independent by using the best suppliers for all data traffic.

Benesol network is connected to different TIER-1 carriers:

ASN	Transit Provider	Speed
174	Cogent Communications	1000 Mbit
3356	Level3 Communications	2000 Mbit
3257	Tinet	1000 Mbit
12989	Highwinds Network Group	1000 Mbit

Local en international internet exchanges

Benesol has connections to the following international peering exchanges:

Internet Exchanges		
Macro	Internet Exchange	Speed
AMS-IX	Amsterdam Internet Exchange	1000 Mbit
FreeBIX	Free Belgian Internet Exchange	1000 Mbit

PoP facilities

PoP facilities
Colt Brussels, Belgium
InterXion Brussels, Belgium
LCL Brussels, Belgium
Level3 Brussels, Belgium
Mobistar Brussels, Belgium
Telecity 2 Amsterdam, The Netherlands

The network specifications

The highly qualified Benesol staff monitors the 24/7/365 multihomed Backbone network.

- Redundant network with 99,99% guaranteed Internet access
 - 2 switch uplinks (2 different circles to patch panel)
 - 2 x 100 Mbps up to 10 Gbps
- Fully redundant fiber (optical) network
 - Capacity of 320 Gbit/s between the Colocation PoP's and 622Mbit/s to regional PoP's
 - Cisco Powered
 - Optical Wave Length Channeling (DWDM / CWDM)
 - Metro Ethernet (I2vpn) over MPLS
 - SIP / VoIP infrastructure, gateways and managed services

