Tallinn DC-1 Shared Data Hall

Available and connected!

GREENERGY
DATA CENTERS

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Summary

The state-of-the-art facility of Greenergy Data Centers in Tallinn provides the reliability, security, and flexibility needed for today's business. Co-locate your computing, storage, and networking assets in GDC's data centers and increase your IT security and efficiency while removing the need to build, staff, and manage in-house server rooms or data centers. Co-location will also offer a much more predictable expenditure model compared to many public cloud service providers, meaning that IT investments can be budgeted more accurately.

Reasons why companies have chosen our co-location:

- Resilience and uptime obtained with best-in-class technology, guaranteeing business continuity
- A peace of mind ensured by multiple security layers; IT equipment is well protected
- Flexibility and scalability that allows additional capacity (space, power, and bandwidth) to be brought on quickly. The possibility to expand rapidly
- A variety of connectivity providers offering a freedom of choice
- An ecosystem of partners in the same facility for cooperation projects
- Certification against the highest standards in Europe (EN 50600)

With us, your data runs only on sustainable energy. We aim for a level of energy efficiency 25% higher than the industry average and reuse the excess heat generated by the servers. Our facility is certified against the highest EU standard.

Key facts

- Floor space in the data center: 14,500 m2
- Total power capacity 31,5 MW
- Availability class: 3 (uptime 99.982%)

Key operating principles

- Reliable. Currently, 100% uptime.
- Sustainable. 100% renewable energy.
- Efficient. Using the best people and AI to optimise operations and processes.
- Customer-focused. Our goal is to offer the customer long-term value and a solid relationship.

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Shared Data Hall

Co-located deployment – whether with a customised private cage or a simple single cabinet – housed within GDC is your reliable, private, and secure physical entryway to managing the digital side of your growing business. We provide the infrastructure, connectivity options, and a partner ecosystem; you install your IT systems. You can use it as the main site or a back-up.

- A scalable and flexible co-location data hall
- 42U Standard Rack (600×1,200×2,200 mm) or 42U Premium Rack (800×1,200×2,200 mm)
- Dedicated and flexible security solutions, including cages, available upon request
- Multi-layer security control with an anti-passback system
- Round-the-clock armed security
- CCTV surveillance, analytics, and forensics
- Rack locking with a key (standard). Additional options: RF card, biometrics, or PIN
- Renewable energy
- Dual-feed redundant power supply (UPSs, generators)
- Smart managed PDUs 16 A (default) or 32 A (optional)
- Standard Transfer Switch (optional)
- AI cooling optimisation
- Cold aisle containment, fully separating the cold supply from the hot exhaust air
- Carrier- and cloud-neutral, giving freedom to choose your service providers
- Two meet-me rooms on the floor
- Oxygen reduction-based fire prevention systems
- Loading area
- Warehouses for storage
- 24/7 services of the Network Operations Center
- Remote Hands services
- Additional services upon request
- Contracted maintenance partners for the data center infrastructure, regular testing of equipment

Compliance

Our systems and processes are certified against international standards:

- EN 50600 – the highest standard for data centers in the EU
  It is a comprehensive standard that looks at the data center as a whole, including security, reliability, and environmental performance, and we are the only company in the Baltics and Finland that has it.

- ISO 27001 Information security management

- ISO 9001 Quality management systems

TÜVIT
TÜV NORD GROUP
EN 50600
Infrastructure
2022
tuvit.de
ID: 66637.22

bm certification
ISO 9001
ISO 27001
System certification

Security

Your assets are guarded 24/7 by multi-layer perimeter defence solutions, such as 2D security fencing, security microphone cable, intelligent surveillance cameras equipped with motion sensors, thermal imaging, and forensics for fast analytics. The gate access solutions and road barriers of GDC are managed around the clock by security personnel.

Even if someone would manage to slip past the outer perimeter, they are stopped by additional security measures, such as access-controlled doors (all doors are equipped with card readers and electronic locks) and mantraps with multi-factor authentication, as well as various monitoring systems.

For security reasons, the infrastructure management (power, cooling, etc.) is only possible on site and not over the public Internet. The aim is to make it impossible to enter the systems from outside to prevent any malicious acts.

Greenergy Data Centers has three Protection Class areas: PC1, PC2, and PC3 (highest-security area).
PC1 –Territory of the facility, administrative areas, and stairways
PC2 – Support and tech rooms, loading areas, power distribution areas
PC3 – Data rooms and vital tech rooms

The security systems were successfully audited by the German certification body TÜV Informationstechnik GmbH in 2022 as part of the EN 50600 certification process.

Greenergy Data Centers' security solution was chosen as best in an annual competition arranged by the Estonian Security Association in 2023.

Fire protection

First and foremost, we focus on fire prevention and fire detection.

- Oxygen reduction-based fire prevention system in data rooms. Less oxygen means no fire.
- All rooms are built out of non-combustible materials and as separate fire-protection zones.
- Fire-resistant doors, walls, firestop cables and pipeline penetrations (fire resistance up to 90 minutes).
- All data rooms are equipped with VESDA aspirating smoke detectors. This solution means continuous air sampling providing the earliest possible warning of an impending fire hazard.
- In selected technical rooms, a gas-based fire suppression system is used.
- Only CO2 hand-held fire extinguishers are used inside the facility (which are not harmful for IT equipment)

Connectivity

We understand that you want to be free to choose your suppliers and providers – that is why our data center is cloud- and carrier-neutral. Our ecosystem of connectivity providers is constantly expanding. Should you choose an organisation we are not yet partnered with, we will gladly help to set them up.

- Carrier- and operator-neutral
- Fibre optics approach the facility by 8 and enter by 4 different routes, offering redundancy
- Selection of ISPs
- Various cloud service providers
- Option to rent dark fibre or wavelengths
- Any location in the data center can be connected to any other location

Internet and L2 providers:

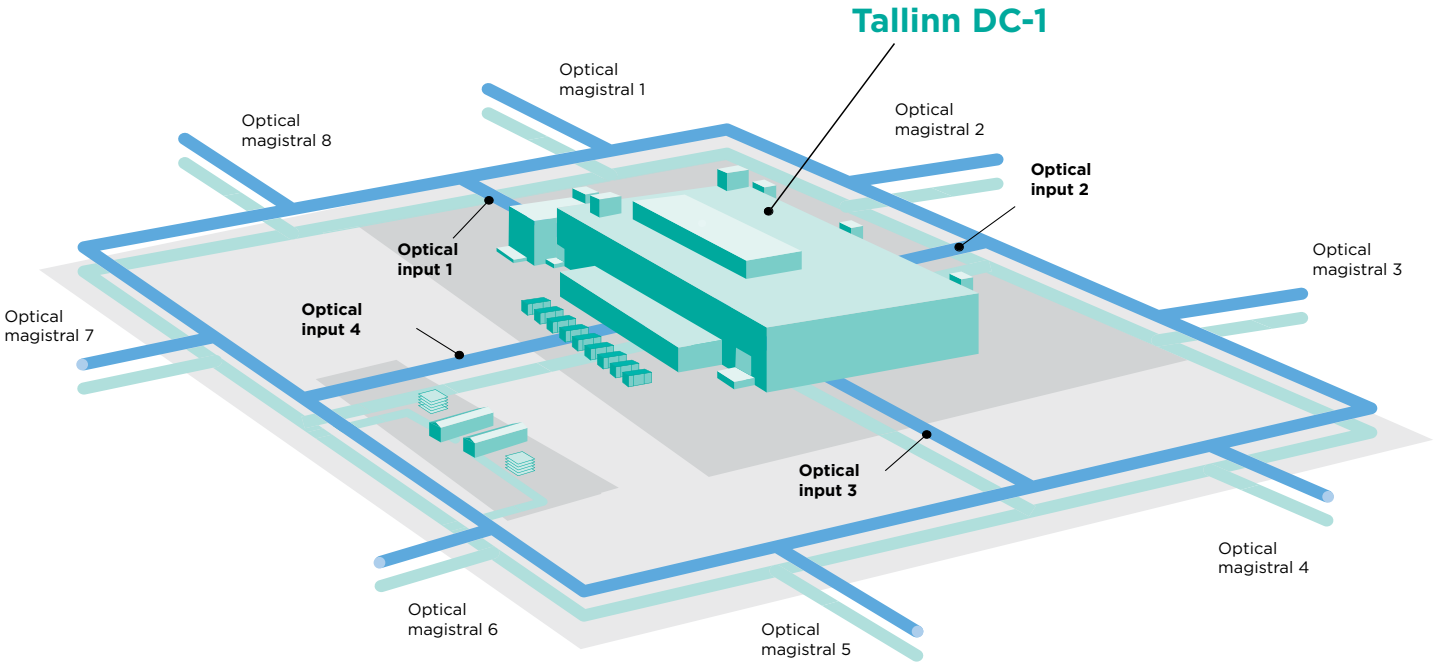
- Tele2 Eesti AS
- Telia Eesti AS
- Elisa Eesti AS
- CITIC Telecom CPC Estonia OÜ
- RETN Baltic AS
- Riigi Infosüsteemi Amet
- Astrec Data OÜ
- Cogent Communications Estonia OÜ

Wavelength providers:

- Tele2 Eesti AS
- Elisa Eesti AS
- RETN Baltic AS
- CITIC Telecom CPC Estonia OÜ
- Lumen Technologies Estonia OÜ
- SIA Tet
- BITĖ Group
- Riigi Infosüsteemi Amet

Dark fiber providers:

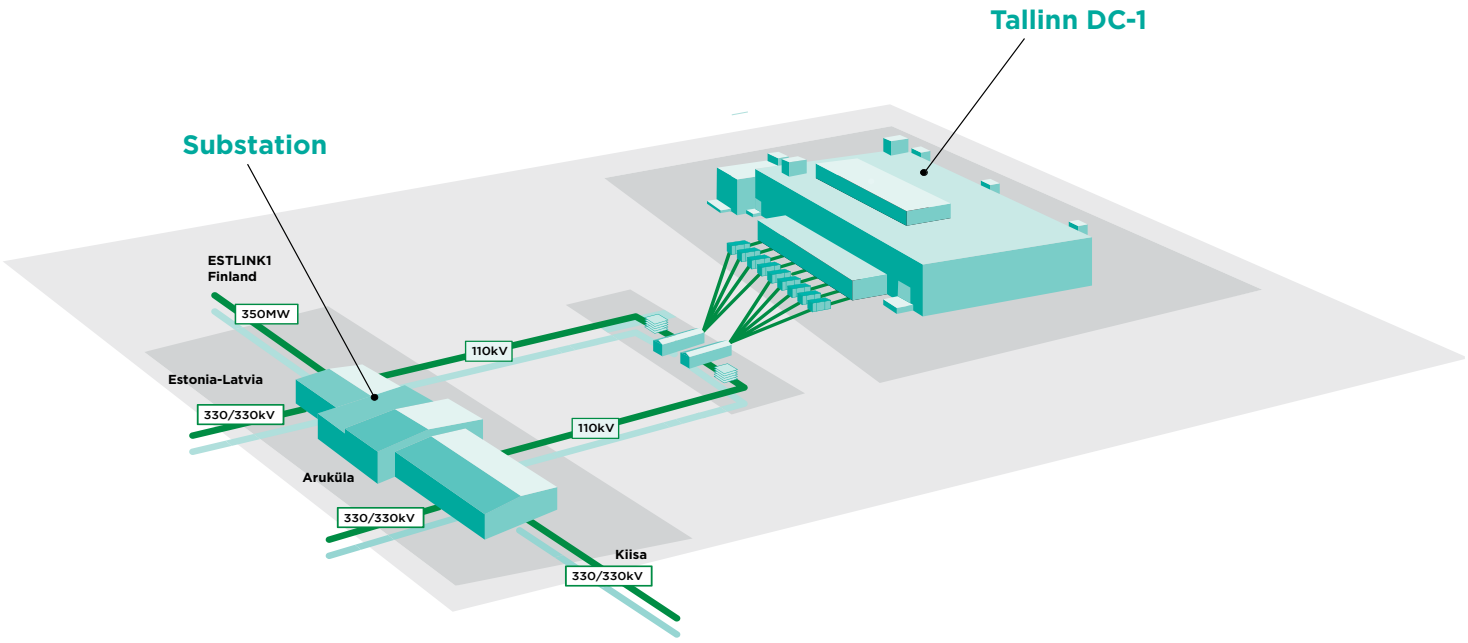
- GDC
- Tele2 Eesti AS
- Telia Eesti AS
- Eesti Lairiba Arenduse SA
- Elisa Eesti AS
- Riigi Infosüsteemi Amet



Power Features

The power is supplied to the data center through several inputs, which are duplicated by uninterruptible power supplies (UPSs) and backup power generators. Our power infrastructure is there to ensure uptime.

- Dual electrical power feed connection (2 × 110 kV AC) from Elering's (TSO) Harku substation (which has 2 × 330 kV AC connections, 6 × 110 kV AC connections, and an ESTLINK-1 DC connection with Finland)
- SIEMENS end-to-end electrical infrastructure and management system
- 2 × 110/20 kV; 31.5 MW; 50 Hz; SIEMENS transformers
- 6 × 20 kV distribution SIEMENS dry transformers
- Up to 6 × 0.4 kV generator – SDMO 1650 kVA
- 2 × 100,000-litre fuel tanks with redundant fuel lines
- Generator capacity and on-site fuel supplies designed to be sufficient for the building to be independently operational for 72 hours at full workload. Refilling starts within 24 hours
- Redundant and modular UPS (A + B feeds) in separate electrical rooms
- Dual overhead busbar distribution system throughout the facility and into data rooms
- 3 MW allocated power for the floor of the Shared Data Hall



Cooling

Cooling plays an important role in shrinking your carbon footprint while allowing more computing power. We are using free air cooling approximately 95% of the year. Free air cooling means that we utilise the cold Nordic air outside to cool the servers (while also reusing the waste heat). The Siemens AI helps us to estimate the need for cooling in the different areas of server rooms and adjust the cool air flows, maximising the energy efficiency.

Facility:

- Maximum utilisation of free air cooling
- N+1 redundancy in cooling systems
- Cooling systems operate with a low GWP (Global Warming Potential) refrigerant
- Temperature and humidity conditions according to the ASHRAE guidelines for data centers
- Independent cooling modules with chillers, dry coolers, and reserve chilled water tanks
- Redundant coolant water pipeline system which is concurrently maintainable
- Cooling systems have a redundant power supply backed up by UPSs and generators

Shared Data Hall:

- Siemens AI cooling optimisation (WSCO)
- Cold and hot aisle separation
- All CAH (Custom Air Handler) units are located outside the Shared Data Hall in a separate room
- Cold aisle temperature and pressure controls
- 12×CAH dedicated units configured N+2 for each Shared Data Hall
- Variable speed technology to optimise efficiency

Core Operating Principles

We are:

- Reliable. Multiple layers of security and infrastructure redundancy. Currently, 100% uptime.
- Efficient. Target energy efficiency 25% better than the industry average. Tested operational processes.
- Sustainable. Renewable energy, excellent power usage efficiency, and reuse of excess heat.
- Customer-focused. Our goal is to offer the customer long-term value and a solid relationship.

Sustainability

We keep your data green by using the most advanced technological solutions to achieve a power usage effectiveness (PUE) of < 1.2 (25% better than the industry average). Our facilities are powered by sustainable electricity from renewable energy sources, and we reuse our excess heat. While some data centers will evaporate water to transfer heat away from servers, we use closed water circuits, which means that 100% of the water can be reused. So, our water usage efficiency is 1.0.

With us, your data has the smallest possible ecological footprint while utilising the benefits of secure large-scale data management.

- Top-class PUE
- AI-optimised cooling to preserve energy
- 100% renewable energy
- Free air cooling approx. 95% of the time
- Reuse of excess heat
- Waste management and recycling

Location

Estonia consistently ranks as a world leader in human capital, digital capability, and ease of doing business. This creates a competitive environment which allows solutions and services to be researched, developed, and delivered globally.

#1

globally in tax competitiveness

#1

in number of unicorns per capita

98%

of companies established online

GDC is less than 15 km from the city center of Tallinn (the capital of Estonia), in a geographically safe location, and away from possibly dangerous traffic or production facilities.

- Northern Europe, Estonia – a cool Nordic climate
- Very reliable power supply (Estonia is capable of producing its own electricity)
- Low environmental risks
- The data center is situated 43.5 metres above sea level
- Easily accessible for vehicles and trucks

Ownership

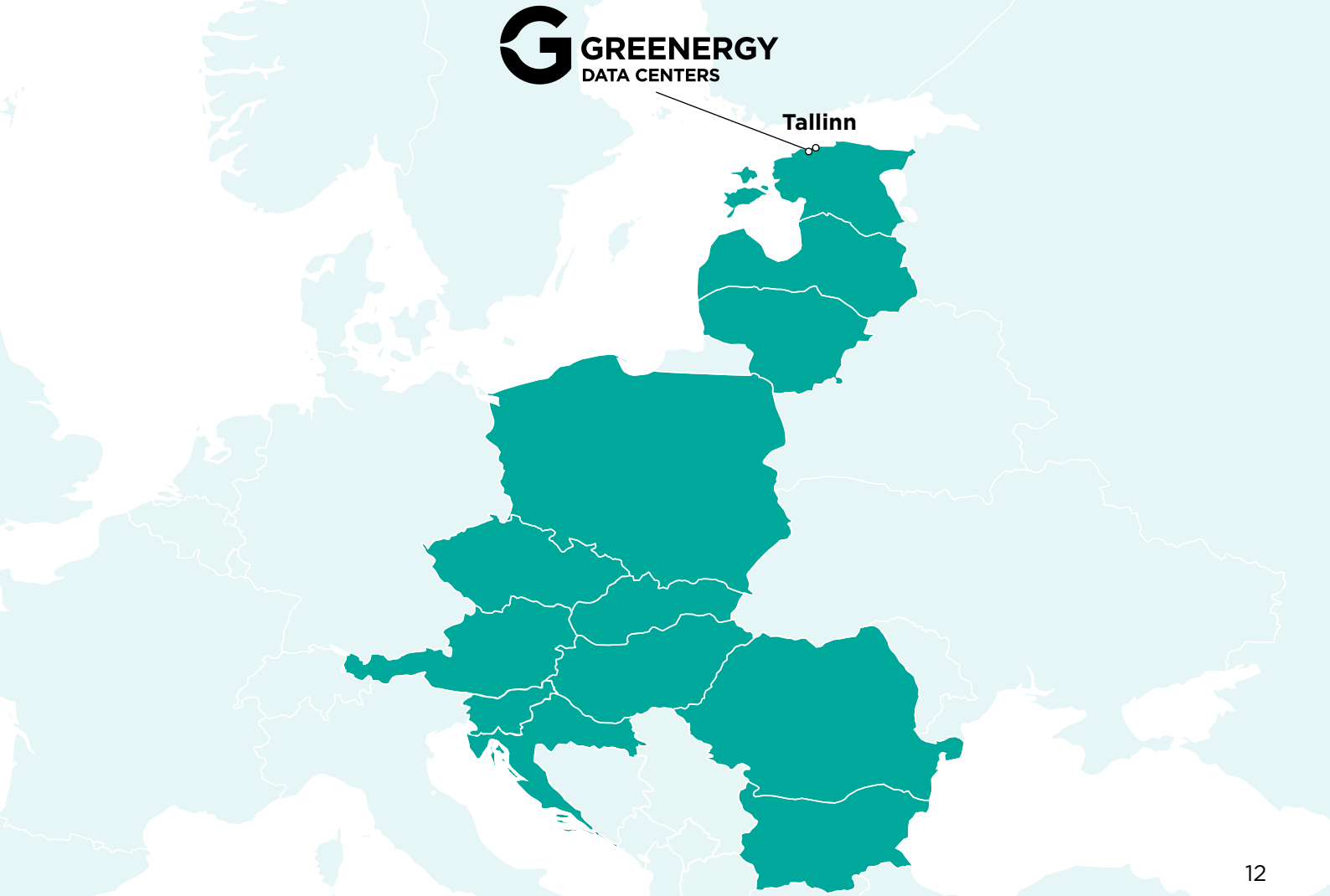
The majority of the shares of GDC belong to the Three Seas Initiative Investment Fund, which is an investment vehicle to finance key infrastructure projects in the Three Seas region (12 countries located between the Baltic, Black, and Adriatic seas – Estonia, Latvia, Lithuania, Poland, the Czech Republic, Slovakia, Hungary, Slovenia, Austria, Croatia, Romania, and Bulgaria). The main objective of the Three Seas Fund is to invest in transport, energy and digital infrastructure on the north-south axis in the Three Seas countries. The cornerstone of the Fund is formed by the national development financing institutions of the Three Seas countries.

The Three Seas Initiative is designed to facilitate cooperation in the development of energy, transport, and digital infrastructure. The objectives of the initiative are to boost economic growth and the well-being of people, to increase Europe's competitiveness, and to achieve energy security and climate goals by making smart investments.

To meet the objectives, the Three Seas Initiative Investment Fund (3SIIF) was established in 2019. As an international venture, the Three Seas Fund was created under Luxembourg law, which is a renowned fund domicile for international investors. One of the investors in the fund is, among others, the Estonian state.

Read more:
3siif.eu

Three Seas region



Available and Connected

With us, you benefit from the highest standards of security, availability, and connectivity while leaving the smallest possible ecological footprint.

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References

Eesti Energia

‘The clear advantages of GDC are a high technological level, excellent data connections, and energy efficiency, which is a step on the way to carbon neutrality, which Eesti Energia plans to reach by 2045. From the point of view of the reliability of our systems, it is also a plus that the complex is located at a suitable distance from other important locations for us.’

Tarmo Tulva
Head of IT infrastructure at Eesti Energia

OIXIO

‘The biggest value is knowing that our business-critical IT infrastructure is well protected and runs energy-efficiently on renewable electricity.’

Martin Luhari
Data Center and Cloud Services at OIXIO