



## Case study

Greenenergy and A-Kaabel  
deploy Vertiv<sup>™</sup> rack PDUs  
to power scalable data  
center growth in Estonia



## Background

Greenergy builds energy-efficient data centers using Estonia's low carbon energy sources and cold climate to power and cool its facilities. Over time, its vision is to expand operations across the Baltics, harnessing alternative energy sources and proving that high-performance data centers can operate responsibly.

Now Estonia's leading colocation provider, Greenergy targets HPC and AI customers with IT loads exceeding 10 MW, prompting upgrades to its power and liquid cooling infrastructure.

Supporting this evolution is **A-Kaabel OÜ**, an established technology company in Estonia delivering comprehensive design, construction, and maintenance of technical systems, 24/7 infrastructure support and monitoring services across Europe. Since 2020, A-Kaabel has been an authorized sales and service partner for Vertiv in Estonia.

### Project milestones

- **New facility opening:** Built and opened a new facility in late 2022.
- **Initial capacity allocation:** Allocated 1/3 of the new capacity to customers shortly after opening.
- **Ramp-up of remaining capacity:** Ramping up and consuming the remaining capacity based on increasing AI and HPC capacity demands.
- **Future expansion:** Well-positioned to promptly react and build out to meet further customer demands.



#### Company profile:

Provider of DC Colocation services in Estonia.

**Industry:** Data Center

**Region:** Estonia



## Challenge

Greenergy faced several challenges that impact their ability to deliver responsible and efficient data center solutions:

- **Supply chain reliability:** Maintaining consistent equipment availability and service continuity under geopolitical procurement constraints.
- **Infrastructure scalability:** Meeting accelerated deployment timelines (3-4 months) for large-scale colocation projects (10-20MW capacity) driven by AI workload demand.
- **Variable power requirements:** Customer hardware specifications (particularly GPU clusters) with fluctuating power demands per rack (4-6kW initially, now exceeding 10kW).
- **Energy efficiency maintenance:** Aiming to reach and sustain a PUE of 1.2 or lower, in line with continuously increasing IT load and rack density.
- **Cooling transition complexity:** Implementing liquid cooling solutions amid evolving customer hardware roadmaps and compatibility requirements.



“Vertiv’s monitored PDUs have played a key role in our ability to scale while staying efficient and reliable. Initially designed for 4-6kW racks, they’ve adapted seamlessly as our power demands more than doubled. The built-in monitoring features provide real-time data that feeds directly into our predictive maintenance system, helping us prevent issues before they occur. Their modular design and socket flexibility meet a wide range of customer needs, and the units have proven incredibly resilient - even under stress testing. With their support, we are on track to reach our PUE target of 1.2 as IT load continues to grow, and we have consistently exceeded our uptime expectations, far exceeding industry standards.”

— **Toomas Kell,**  
*Greenergy Chief Technology Officer*



## Solution

As technologies advance rapidly, close coordination between vendors and operators is essential. This is where the partnership between A-Kabel and Vertiv has been key to supporting Greenergy's performance and energy-efficiency targets.

- **A-Kabel's regional expertise, combined with Vertiv's global portfolio** of digital infrastructure technologies, provides scalable, high-reliability power and thermal solutions tailored to Greenergy's operational and energy-efficiency objectives.
- **Long-term operation of Vertiv rack PDUs (rPDUs):** Initially deployed with 16/32A configurations to support 4–6 kW per rack, these units have been operational at Greenergy for several years. They have effectively adapted to meet power demands that have now more than doubled.
- **Monitored PDUs** provide hourly data feeds to Greenergy's predictive software platform, supporting proactive maintenance scheduling and rapid issue resolution.
- **Flexible design:** The rack PDUs feature multiple socket configurations and modular Engineer-to-Order (ETO) options can accommodate diverse requirements. All units undergo rigorous testing in accordance with Greenergy's specifications.
- **Energy monitoring and PUE reduction:** With Greenergy having a PUE target below 1.2, continuous energy monitoring through the rPDU system is vital for tracking power consumption patterns. As IT loads have increased, operational optimizations informed by this data have helped Greenergy reduce its PUE to the current level of 1.4. The company is targeting a PUE of less than 1.2, a goal that is closely tied to the continued ramp-up of IT load within the facility.



## Outcome

The rPDU deployment has successfully enabled precise measurement of IT load at the customer level and optimized capacity utilization, allowing Greenergy to meet the EN 50600 standards required for climate-conscious compliance. EN 50600 is a comprehensive European standard covering the entire data center lifecycle—including design, construction, operation, and management—with a focus on power supply, cooling, physical security, and energy efficiency, aiming to harmonize national standards across Europe.

Vertiv's rPDU solution has played a key role in achieving and maintaining Greenergy's target PUE levels while operating reliably with minimal disruptions. Although the operational standard allows up to 1 hour and 32 minutes of annual downtime (99.982% uptime), the system has consistently exceeded this threshold, operating virtually without interruption for several years.