Redefining Hosting – Reinventing Security

kyberio.

Sustainability at kyberio.

Our contribution to a climate-neutral and sustainable digital transformation

kyberio.

Sustainability
at kyberio

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We are shaping the future with a conscious combination of advanced digitalization and sustainable action to leave a prosperous and ecologically stable world for future generations. At the heart of our vision are harnessing the opportunities of digital transformation, the contribution of each individual to shaping our working world in the spirit of New Work, and the highest possible energy efficiency of our data centers to ensure digital progress and the preservation of our planet. Our comprehensive sustainability strategy reflects our firm commitment to protecting the environment and actively helping shape a sustainable world that our grandchildren can be proud of.

MOTIVATION

Our Data Centers and Services as Enablers for a **Sustainable Digital Transformation**

Today, essential processes in the social or economic sphere are unthinkable without data centers.

Data centers have been the focus of greater political and public attention in recent years due to their significant absolute energy consumption and growth. However, compared to the global solid increase in computing power (by a factor of 10) and in the volume of transmitted data (by a factor of 20), the rise in energy demand (by a factor of only 1.55) is disproportionately low (*source: Bitkom position paper „Prospects for a sustainable data center economy up to 2030“*).

The figures also confirm the continuously improving energy efficiency of data centers. Outsourcing to a data center significantly increases efficiency compared to the decentralized operation of IT islands in smaller and inefficient server rooms.

Sustainable action and management require the responsible use of non-regenerative natural resources.

Kyberio aims to implement all economically feasible measures in proportion to its size and purpose to make data center operations as economical and environmentally friendly as possible. In addition to continuous optimization, Kyberio takes numerous additional measures to ensure our data centers‘ most sustainable management and operation.

To this end, the measures listed in this concept are introduced and regularly reviewed for relevance, proportionality, optimizability, and concerning the current state of the art. Using renewable energy sources for service provision plays an important role here.

ECOLOGICAL COMPETITION

We Rely on Renewable Energy

No Compromise:
100% Green Power

From January 2024, we will source 100% of the electricity for our services from renewable energy and the electricity for our colocation customers who operate their installations in our data centers.

This measure makes our data centers 100% CO2 neutral. The generation of natural electricity by our supplier is certified by certificates of origin following §79 of the Renewable Energy Sources Act (EEG) and by the certificates of origin register (HKNR) of the Federal Environmental Agency.

We also offer our colocation customers a corresponding certificate confirming 100% green electricity use for their server operation with public effect.

Energy Efficiency in the Data Denter

In the data center, power consumption is considerable due to the concentration of high computing power in a compact technical area and its cooling. Due to the high scaling factor, minor improvements already show a significant overall effect.

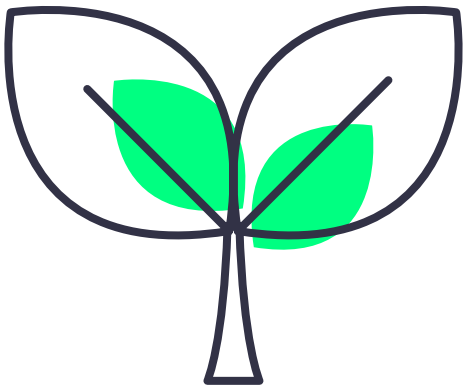
Efficient
Cooling

- Our **heat exchangers** support **free cooling** (use of cool outside temperatures for energy-efficient climate control). New heat exchangers (as replacements or capacity expansions) are selected exclusively with the most comprehensive temperature range for free cooling in mind.
- Operation is optimized according to demand by using an **intelligent central control system**. The heat exchangers are activated only to the extent required for the generated waste heat and the capacity of cooling needed, considering the weather conditions. The number and sequence of heat exchanger activation rely on pure efficiency criteria.
- **Air-conditioning units** in the technical footprint area are also used as required for cooling. Airconditioning units in spare technical areas that do not need (additional) cooling will thus remain out of operation as long as the total footprint does not require additional cooling.

ECOLOGICAL COMPETITION

Green Data Center

→ Double-floor sealing and **cold-aisle/warm-aisle separation** of the rack installations in the technical area eliminates the formation of „hot spots“ (heat concentrations at specific points). A simultaneous slight **increase in the chiller temperatures** and targeted **routing of the cold air into the racks** through suitable raised floor openings, further reduce the overall energy requirement of the data center. The rack rows are arranged according to their thermal profile. Cold air is drawn in at the front via the raised floor and discharged at the rear. Implementing a so-called hot and cold aisle arrangement, in which the rack rows‘ two front and rear sides face each other, ensures that the warm exhaust air does not mingle with the cold airflow. To realize further positive effects, we are gradually implementing cold aisle containment from 2024 and aim to complete this for the entire data center area in 2025. Cold aisle containment is generally planned for the implementation of new colocation projects.



Server Technology and Virtualization

→ We use **virtualization** for our systems. Physical server systems are consolidated on virtual machines for optimal use of server resources. Thereby, comparatively less hardware and power are required for operation.

→ Our services utilize only **brand-name hardware from well-known manufacturers** for the network (routing and switching) and server operation, which have proven themselves through reliability, performance efficiency, and long service life.

Lighting according to demand and target

Since data center access is possible around the clock, it is important to ensure energy-efficient lighting. The following measures are implemented for this purpose:

→ **Motion detectors** activate the lighting as required or when people enter the data center. The light goes out automatically when there are no people in the technical footprint area.

→ Segmentation of the illuminated technical area: The **motion detectors** control different areas of the data center. Only those areas are illuminated that are necessary for the safety of the persons inside.

→ Energy-efficient **LED lights** provide the ceiling lighting.

ECOLOGICAL COMPETITION

More than just Green IT: Additional **Sustainability Measures**

Energy Management in the Data Center

→ Our energy efficiency concept provides for a continuous review and improvement of the energy factors in the data center to keep the PUE factor („Power Usage Effectiveness“) as low as possible in the long term.

→ Sustainability requires continuous commitment and ongoing monitoring of existing measures and technical systems, considering technological and operational developments. We practice this as an organic process.

Mobility

Of course, we also occasionally have to move from one place to another. For this purpose, our employees have access to **job bicycles** and support for using public transport.

We have consistently converted our vehicle fleet to hybrid and electric vehicles, using the company‘s charging stations on our premises. **New vehicles** to be purchased have already been **100% electric since 2023**.

Short and Sweet Summary:

→ We only use renewable energies

→ Latest server technology and virtualization for energy saving

→ State-of-the-art energy management in the data center

→ Highly efficient air conditioning systems

→ Vehicle fleet consists of bicycles and e/hybrid vehicles

→ argeted Lighting according todemand

ECOLOGICAL COMPETITION

We will Continue Onwards – For a Sustainable Energy Production

With cooperation partners and our energy supplier, we are evaluating the test operation of up to 10 SOFC units on our computing center site.

This solid oxide fuel cell system supports green hydrogen power generation and mixed operation with a natural gas/water fuel mix until the energy supplier can guarantee pure hydrogen operation. The modular SOFC units are combined into an (expandable) cascade, forming a decentralized energy supply system. Heat recovery is also possible with this system.

Sustainable and efficient electricity production is possible with an electrical efficiency of more than 60 percent and an overall efficiency of over 85 percent. Our site in Hannover has been selected for a pilot project, which, according to current planning, is to be realized in 2024.

SOCIAL SYSTAINABILITY

On Machines and People – Love your Team!

Contrary to all prejudices, not everything in IT companies is IT-controlled and functions automatically. Every day in the office at Kyberio, we see the many people who give their best for our customers and motivate the machines to perform at their best. We know and appreciate every single one of them.

People

We are committed to **equal opportunities** and diversity in the company. We have successively optimized our application processes. Those who apply to us do not have to give their name or gender for the time being, and we read the application and get a picture without knowing who is behind it. Only the qualifications and skills are decisive for us.

Our team is made up of people from **different cultural backgrounds** and we speak an exciting mix of English, Greek, Spanish, Thai, Georgian, French and even German. ;)

Our employees are encouraged to create the best working environment for them. This includes factors such as

- the determination of the **individual weekly working time**. Whether 10, 20, or 40 hours - we will find a suitable arrangement for every lifestyle. And let's be honest, it's not the time that counts, but the result.
- the choice of **work location** (many employees like to come to our offices, others work from their home offices or even spend the winter in warmer climates. For us, satisfaction is a driver for positive development).
- We encourage **interdisciplinary and autonomous collaboration** and networking. Our data center teams are diverse and work together to manage the complexity of our work. In our company, we promote exchange across departmental boundaries to create synergies and integrate different perspectives.

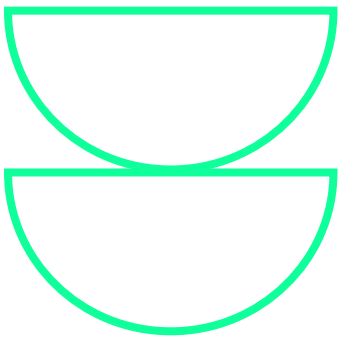
SOCIAL SYSTAINABILITY

On Machines and People – Love your Team!

→ We support individual **training** and promote continuous optimization processes in our company. We use regular meetings and feedback to optimize our work processes, products, and services constantly and to praise and celebrate all employees ;)

→ **Health** is also important to us. For all employees, we offer a company fitness membership. Kyberio is a member of a leading nationwide sports and health network and allows everyone unlimited use of the offers of the association partners and, thus a diverse range of sports and wellness offers.

→ **New working methods** in the sense of New Work and agile methods are taken up by us, implemented in the team, tested, and discussed. Good things stay, and bad things can move on.



Social Projects

→ Kyberio supports the initiative „Show your face!“ -part of the Transparent Civil Society initiative. „Gesicht Zeigen!“ encourages people to take action against racism, anti-Semitism, and radical right-wing violence. The association operates nationwide. It intervenes in the current political debate and takes a public stand.

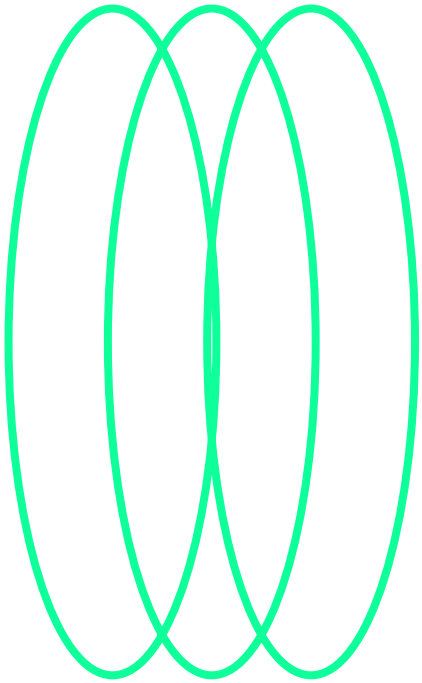
→ We a also support the „Förderverein für freie Netzwerke im Norden e.V.,“ which uses the „Freifunk“ network to promote free access to communication, information, and education.

→ Kyberio sponsors the youth soccer team of VfB Wülfel, a club near our company headquarters that offers many children from socially disadvantaged families a sporting home.

Machines

Of course, we know the sometimes poor working conditions in chip and hardware production abroad. We can‘t do without specific components altogether, but we use reputable manufacturers committed to humane working conditions or **hardware from fair production**.

Other Aspects
We Value



Efficiency

We use our resources efficiently and do not waste anything. For example, we do not hastily dispose of old hardware but rather compare it with new purchases. Since the manufacture of RAM, processors, and other system components requires not only a great deal of energy but also rare earth metals, which are difficult to procure, the reuse or recycling of hardware components can make perfect sense from an ecological and economic point of view. Depending on the overall balance, we can also reduce costs, minimize waste, and save energy.

Innovation

We are interested in the latest technical innovations and have made it our mission to improve at all levels. We pay particular attention to new environmentally friendly technologies and products because they help us to open up new markets and increase our competitiveness.

Long term planning

We work with foresight, think long-term, and consider the impact of our decisions on the future. As a team, we develop strategies to minimize risks and take advantage of opportunities arising from social and environmental changes.

Stakeholder Engagement

We work closely with our stakeholders: Employees, customers, suppliers, and society. We consider their needs and opinions when making decisions and strive for long-term partnerships.

Transparency and reporting

We regularly report on goals achieved and new projects and create realistic optimization scenarios for ourselves and our partners. New approaches are tested and documented.

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