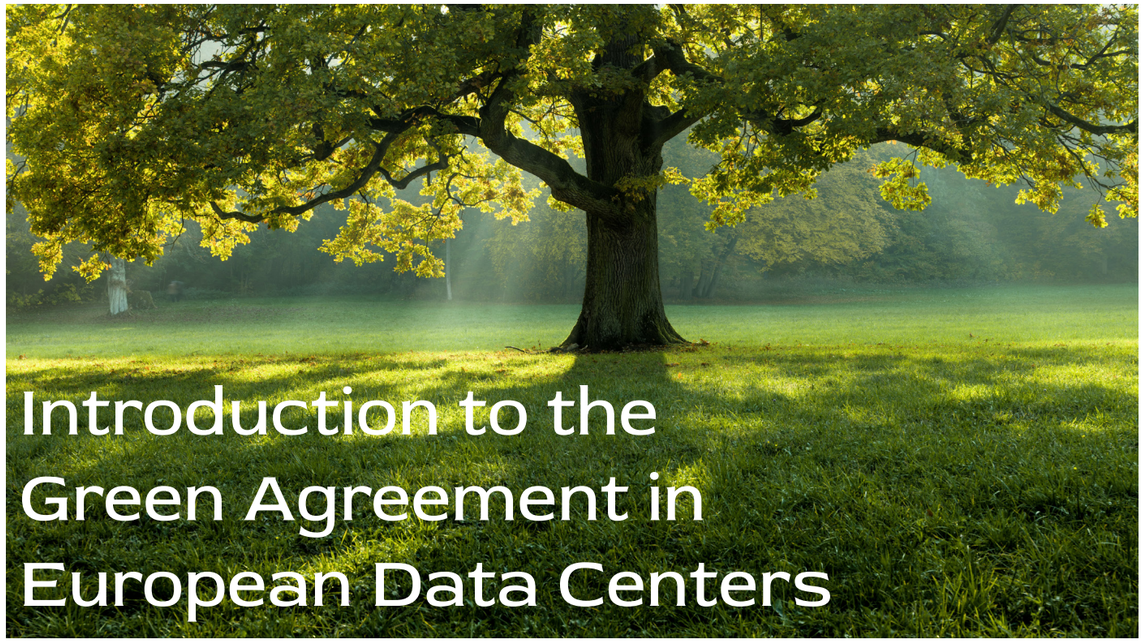
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# Green Pact in European Data Centers



# Introduction to the Green Agreement in European Data Centers

In the context of the European Green Deal, the European Union is placing renewed emphasis on **energy efficiency, aiming to achieve climate neutrality by 2050.**

This approach extends to **data centers, which are significant energy consumers** and thus have a significant role to **play in reducing greenhouse gas emissions.**

The information and communications technology (ICT) sector is an important one, and increasing attention is being paid to its sustainability and the reduction of its energy footprint.

In 2018, energy consumption in European Union data centers amounted to 76.8 TWh. This figure is expected to increase to 98.5 TWh by 2030, representing a 28% increase 28%.

This increase in absolute terms of their energy footprint can also be contextualized: in 2018, data centers accounted for 2.7% of the electricity demand in the Union, and if the current trajectory is maintained, they will reach 3.21% by 2030.

These projections are expected to be revised upwards considering the strong growth of services and emerging technologies such as continuous emission, cloud gaming, blockchain, artificial intelligence, machine learning, and virtual reality.

The EU Digital Strategy already emphasized the need to achieve highly energy-efficient and sustainable data centers, calling for transparency measures regarding the environmental footprint of telecommunications operators.



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# Overview of European Regulations

European regulations mandate that data centers must disclose data regarding their energy performance and sustainability. This is part of a broader effort to reduce reliance on fossil fuels and increase transparency in energy usage. Directive (EU) 2023/1791, known as the revised EED, raises the EU's energy efficiency target in response to the need to reduce the EU's dependency on fossil fuel imports from Russia.

# Key Aspects of the Regulations for Data Centers

European regulations establish new standards and obligations for data centers to improve energy efficiency and promote sustainability throughout the European Union. Data centers are now required to monitor and report on a series of critical KPIs reflecting their energy performance and sustainability.

These include:



## 1. Total Energy Consumption (EDC)

Data centers must measure and report the total energy consumption, including electricity, fuels, and other energy sources used for cooling and operations. This metric helps understand the overall environmental impact of the data center and is essential for calculating Energy Usage Effectiveness (PUE).

## 2. Renewable Energy Usage

Data center operators must report the amount of renewable energy used, promoting the transition to more sustainable energy sources. This is divided into several subcategories, such as on-site generated energy and energy acquired through guarantees of origin or power purchase agreements (PPAs).

## 3. Water Usage Efficiency (WUE)

The total water usage must be measured and communicated, emphasizing the importance of conserving this vital resource and minimizing the environmental impact of the data center.

## 4. Temperature and Humidity

Regulation requires monitoring of environmental conditions within the data center to ensure they operate within optimal ranges, which can help reduce energy consumption associated with cooling.

## 5. Measurement and Reporting

The regulation establishes standardized methods for measuring these KPIs to ensure consistency and comparability of data across different operators and EU countries. Data centers must use certified measurement equipment and software to ensure the accuracy of the reported data.

## 6. Transparency and Public Disclosure

A fundamental part of the regulation is the obligation for data centers to make information related to their energy performance and sustainability publicly available. This includes publishing the measured KPIs, as well as other relevant information, in an accessible format for the public, increasing transparency and enabling consumers and stakeholders to make more informed decisions.



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## 7. Implications and Responsibilities

European regulations not only set performance requirements but also define the responsibilities of data center operators in terms of monitoring, reporting, and continuous improvement. Data centers must adhere to these requirements, which may require investments in new technologies or processes. Non-compliance with these obligations can result in penalties, but more importantly, it represents an opportunity to enhance the efficiency and sustainability of the data center.



# DCIM Technology and Its Importance

Data Center Infrastructure Management (**DCIM) has become an essential tool for data center operators** seeking not only to comply with regulations but also **to improve their efficiency and sustainability.**

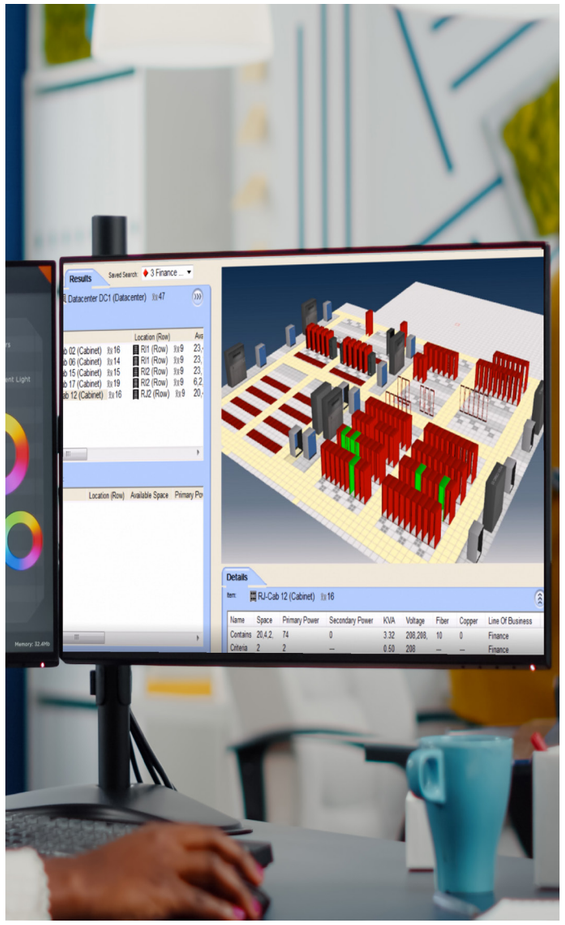
This chapter breaks down the importance of DCIM technology in the current context of regulations.

**DCIM combines software solutions, hardware, and sensors** to provide a comprehensive view of a data center and its operational performance.

**DCIM platforms enable operators to monitor, measure, manage, and control data center resources and infrastructure,** including energy consumption, ambient temperature, humidity, and the use of cooling and power capacity.

Under the new European regulations, d**ata centers are required to report numerous KPIs related to energy efficiency and sustainability**.

**DCIM technology facilitates the collection and analysis of these real-time data,** ensuring that the information is accurate and up-to-date, which is essential for compliance reporting and identifying




areas for improvement. One of the main objectives of the regulation is **to reduce energy consumption and promote the use of renewable energy sources.**

**DCIM helps identify and eliminate inefficiencies in energy usage, optimize cooling systems, and improve workload distribution**, which not only reduces operational costs but also decreases the carbon footprint of data centers.

**DCIM solutions enable detailed resource management**, ensuring that data centers can operate within their optimal capacity without resource overutilization. **This includes**





**energy management, cooling capacity, and physical space management**, which is essential for prolonging the lifespan of facilities.

**DCIM** platforms not only provide insight into the current state of a data center but also **allow modeling of different future scenarios and planning according to growth projections or changes in technological demands**. This ensures that data centers can proactively adapt to new regulations and market requirements.

The implementation of **DCIM solutions is essential** for data centers seeking **not only to meet the growing demands for energy efficiency and sustainability** but also to remain competitive in an industry increasingly focused on reducing carbon footprint and resource optimization. **Investments in DCIM technology translate into long-term savings, operational improvements, and alignment with global environmental goals.**

# Conclusions

It is vital for data centers to adapt to new regulations not only to comply with legal requirements but also to contribute to the broader climate goals of the EU.

DCIM technology and services from companies like Bjumper play a crucial role in this adaptation process, enabling data centers to operate more efficiently and sustainably.

## Do you want to be part of the change?

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