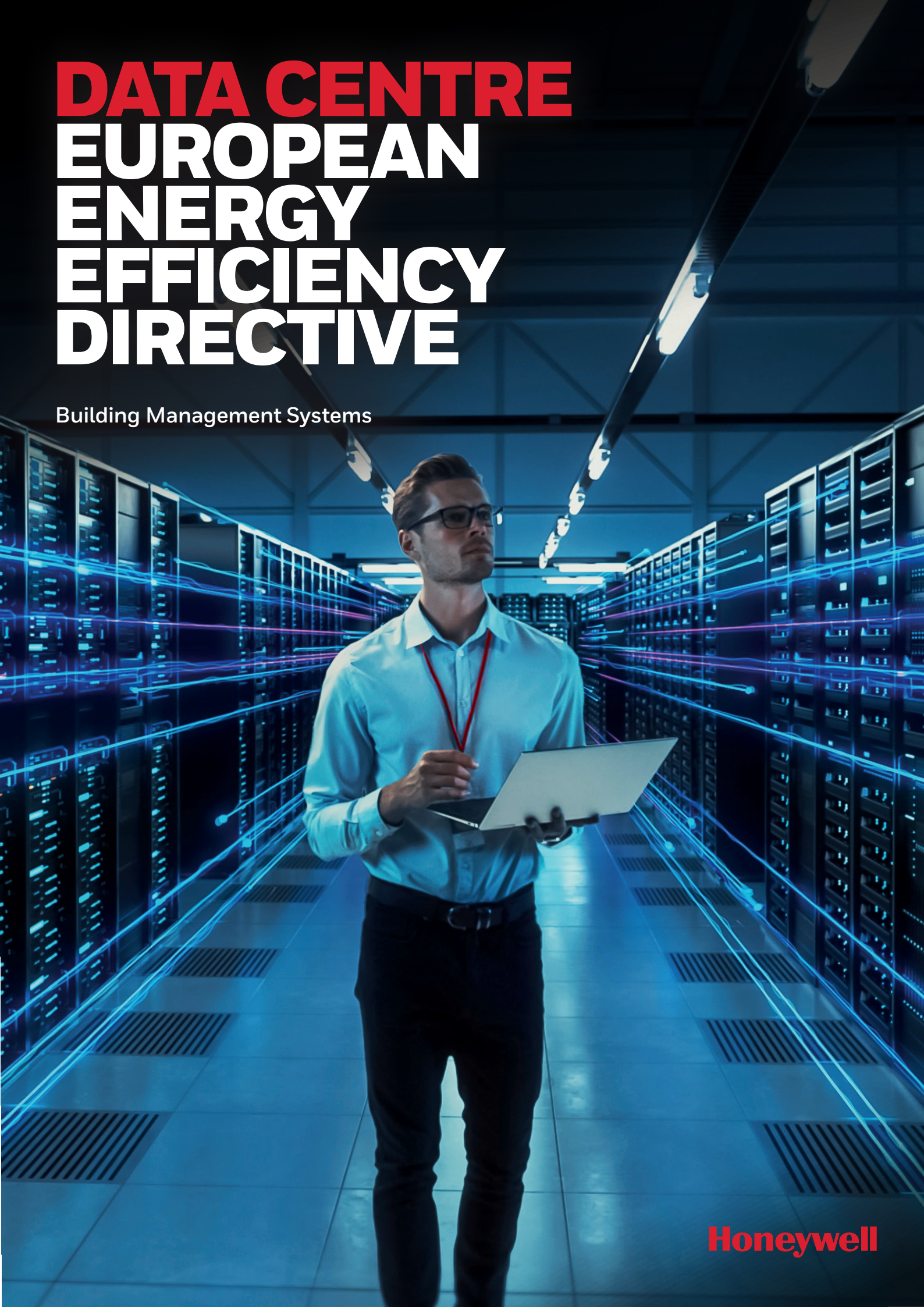


DATA CENTRE EUROPEAN ENERGY EFFICIENCY DIRECTIVE

Building Management Systems



Honeywell

DATA CENTRE LANDSCAPE EVOLVES

As the Data Centre landscape evolves under the European Energy Efficiency Directive (EED), compliance becomes a paramount concern for operators.

Mandating comprehensive reports for Data Centre surpassing the 500kW mark, this directive underscores the necessity for meticulous monitoring and reporting of key efficiency metrics.

Some of the key metrics include floor area, installed power, data volumes, energy consumption, PUE (Power Usage Effectiveness), temperature controls, waste heat utilization, water usage, and reliance on renewable energy sources.

Enhancing Data Centre Reporting Metrics and Procedures

To ensure transparency and adherence to European Energy Efficiency Directive, data centers implement rigorous processes and procedures for reporting key metrics. Here are examples focusing on energy consumption, temperature and water utilization.



1. Energy Consumption

Regular Energy Audits:

Conduct periodic energy audits to assess the overall energy efficiency of the data center. Identify areas for improvement and implement energy-saving measures.

Power Usage Effectiveness (PUE):

Track PUE as a standard metric to evaluate how efficiently energy is used for IT operations versus supporting infrastructure like cooling and lighting through the analytics.



2. Storage

Temperature controls and waste heat utilization:

Develop a comprehensive capacity planning strategy to forecast storage needs. Regularly assess storage utilization and implement optimization strategies.

Data Compression and Deduplication:

Implement technologies that reduce redundant data, optimizing storage space and improving overall efficiency.



3. Water Consumption

Water Usage Effectiveness (WUE):

Measure WUE to assess the sustainability of water usage in relation to energy consumption. Implement water-efficient cooling systems to minimize direct and indirect water consumption [6].

These processes not only align with industry best practices but also contribute to the overall sustainability and efficiency of data centre operations.



LOOKING FORWARD A FUNDAMENTAL SHIFT

Commencing on May 15, 2024, Data Centre owners and operators are obligated to furnish annual reports on their Data Centre's energy performance for the preceding year.

This critical data must span from May 2024 onwards, marking a pivotal moment in the accountability and optimization journey for these facilities.

At present, the European Commission focuses primarily on reporting, yet an imminent shift is anticipated. The trajectory points toward a future where adherence to the right Building and Electrical Monitoring Systems, coupled with robust analytics, will be pivotal in not only meeting mandatory reporting requirements but also optimizing energy and water usage within these Data Centers.

Looking forward a fundamental shift in the mindset of Data Centre operators is imperative. Moving away from traditional metrics like PUE, WUE, and CUE, a deeper granularity in data monitoring is becoming indispensable.

The ability to monitor the performance of individual mechanical, IT, and electrical system components such as chillers, CRAH/CRAC units, pumps, UPS, generators, and IT equipment will significantly impact the overall energy efficiency of these infrastructures over time, aligning with the common theme of Data Centre customer requesting such information to help them to report on their own ESG (Environmental, Social and Corporate Governance) metrics.



PARTNER CHANNEL

Building Energy Management Solutions (BEMS), delivered through approved and accredited Partners emerge as the cornerstone in managing and monitoring Data Centre assets, offering an end-to-end suite capable of efficient data collection, analysis, and management.

BEMS stands out through:

1 Compliance Assurance:

Ensuring alignment with the European Code of Conduct, providing a framework for energy efficiency standards in BEMS solutions.

2 Cost-Effective Energy Reduction:

Enabling operators to curtail energy consumption cost-effectively while maintaining critical functionalities.

3 Whole System Optimization:

Optimizing the entire Data Centre ecosystem, covering space, power, cooling, IT infrastructure, and software, aligning with European Energy Efficiency Programs.

4 Award-Winning Solutions:

Recognized for excellence in implementing BEMS for energy-efficient Data Centres. aligning with European Energy Efficiency Programs.

As Data Centres navigate this transformative regulatory landscape, BEMS emerges as a pivotal ally. Beyond compliance, these solutions promise efficiency optimization and sustainability, supporting Data Centre operators in not just meeting but surpassing stringent standards.

End to end hardware and software solution

Key component of any BEMS system

- Core monitoring and control functions
- User interface (setpoints, schedules overrides)
- Data collection and presentation (graphics / alarms / logging)



Enhanced presentation layer

- Energy or KPI data
- Kiosk mode
- Instant and automatic reporting
- Flexible dashboard designs
- Specialist energy tools, with import or export facility



Analytics

- Report on area's of non conformance / risk
- Identify optimisation opportunities
- Present data in a variety of formats reports or dashboards



Like and engineer 24/7 - only more efficient

BEMS / PRESENTATION LAYER / DATA ANALYSIS & OPTIMISATION

TREND

SBC
SAIA BURGESS CONTROLS

BEMS leverages best-in-class DDC (Direct Digital Control) and PLC (Programmable Logic Controller) hardware components from global establish brands including SBC, Trend, and Honeywell's Optimizer Advanced Controller.

Coupled with a Supervisor and Energy Manager, it facilitates KPI tracking through instant and automated reporting, flexible dashboards, and specialist energy tools, providing seamless import/export functionalities.

For more information

buildings.honeywell.com

saia-pcd.com

trendcontrols.com

Optional social media link examples

Follow us on Twitter : [@honeywellcpro](https://twitter.com/honeywellcpro)

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