

# SOLUTIONS FOR DATA CENTERS

Industrial Motors  
Commercial &  
Appliance Motors  
Automation  
Digital &  
Systems  
Energy  
Transmission &  
Distribution  
Coatings

Comprehensive  
solutions for  
**enhanced data  
center efficiency.**



Driving efficiency and sustainability



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Data centers are at the core of the debate around two of the most critical issues of our time: digital transformation and the energy transition. In a world increasingly driven by cloud-based data management, the continuous availability of servers and their ability to operate with energy efficiency have become pressing priorities—more important even than processing capacity itself.

With the rise of Artificial Intelligence, these factors have become even more crucial, as AI demands a more robust infrastructure from data centers—one capable of handling larger volumes of information at higher speeds, requiring

greater stability and intelligence in energy supply, consumption, and control.

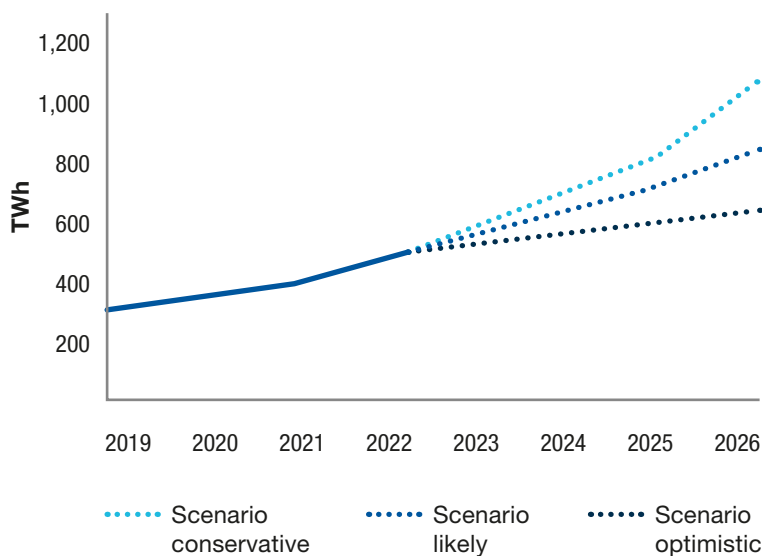
It is estimated that data centers already account for approximately 3% of global energy demand—a figure that could double by the end of the decade, reaching the equivalent of the total consumption of entire countries.

Balancing this equation—between the growth of digitalization and the pursuit of sustainability—requires high-technology energy solutions that ensure efficiency and stability.

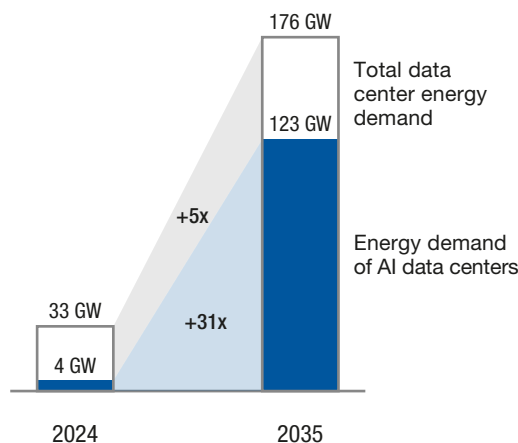
## Data center market growth

### Global Electricity Demand

Data Center, AI and Cryptocurrencies



### The energy demand from AI data centers in the United States is expected to grow significantly.



By 2035, Deloitte estimates that the energy demand of AI data centers in the United States could increase more than thirtyfold.

Source: Deloitte analysis based on data from DC Byte, Wood Mackenzie, S&P Global, Lawrence Berkeley National Laboratory, Center for Strategic and International Studies, and Wells Fargo.

The projection of additional consumption in AI Data Centers could vary between 160 TWh and 560 TWh by 2026.

(Source: IEA, Electricity 2024 - Analyses and Forecast to 2026, 2024 apud Thymos, 2024)



## WEG as a solution provider for data center challenges

The energy transition is, above all, a journey toward efficiency. It is about consuming better—with lower environmental impact and higher operational returns. Achieving this requires state-of-the-art equipment that delivers outstanding energy performance and reliability, reduced heat generation, and minimal maintenance needs. Equipment that not only operates within the data center but also communicates with smart grids and supports corporate decarbonization strategies.

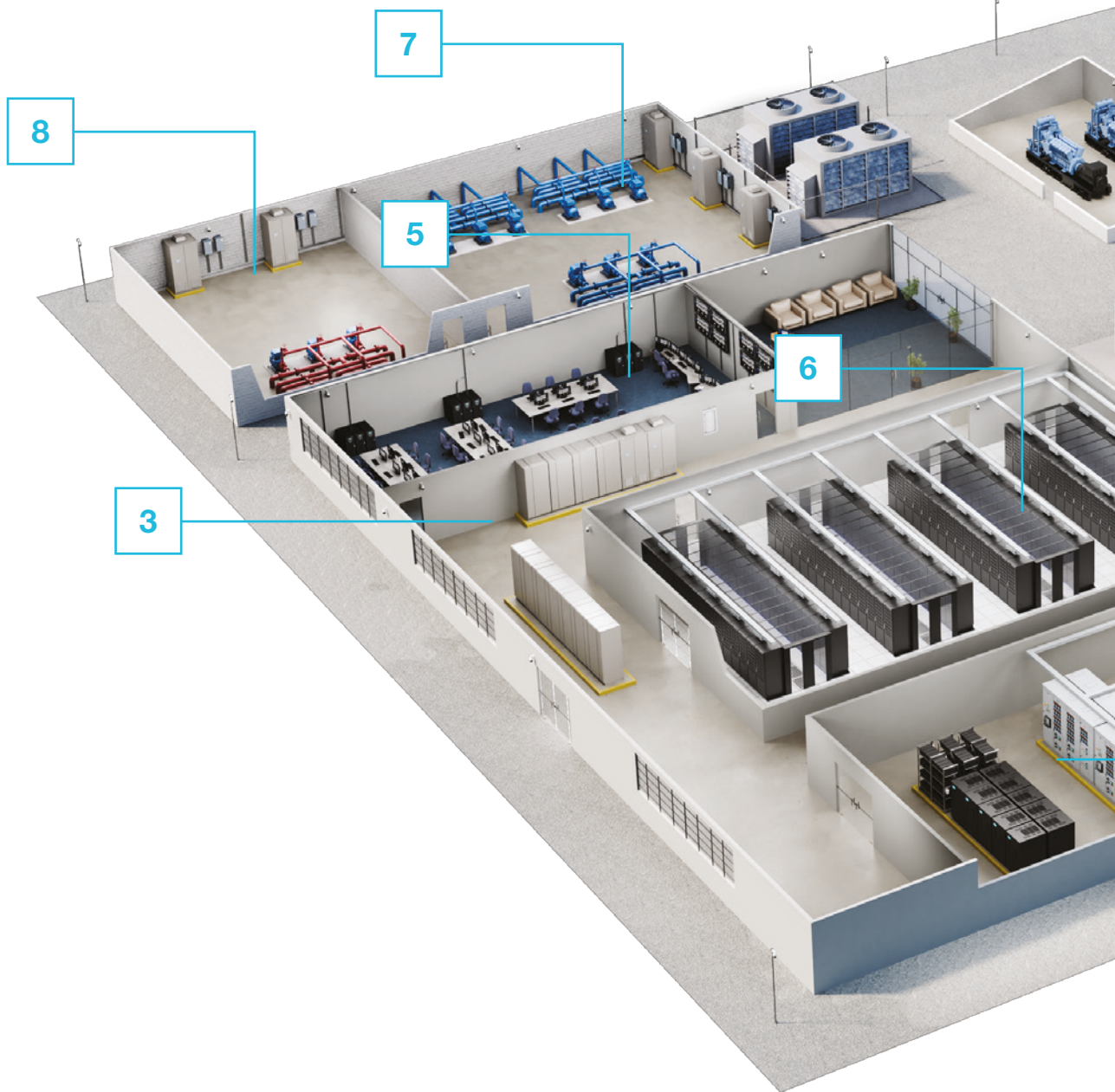
Aware of both the responsibility and the opportunity, WEG seeks to play a leading role in this new chapter of the global industry.

With decades of expertise in energy and industrial solutions, the company invests continuously in innovation to lead the transformation of a sector that is growing not only in consumption, but also in awareness.

This is the equation for the future: greater computational demand and higher energy consumption balanced by increased efficiency, intelligence, and commitment to a more sustainable planet. And WEG is part of this formula for the success of the sector.



# The anatomy of a data center



## 1

### High-voltage substation

Responsible for receiving high-voltage power directly from the utility company. This is where the primary energy transformation takes place, ensuring a safe and continuous power supply to the data center with high performance and reliability.

## 2

### Electrical room

Handles the internal distribution of transformed energy to the various systems within the data center. It integrates transformers, panels, and protection systems that ensure energy continuity and quality at the required operating voltages.

## 3

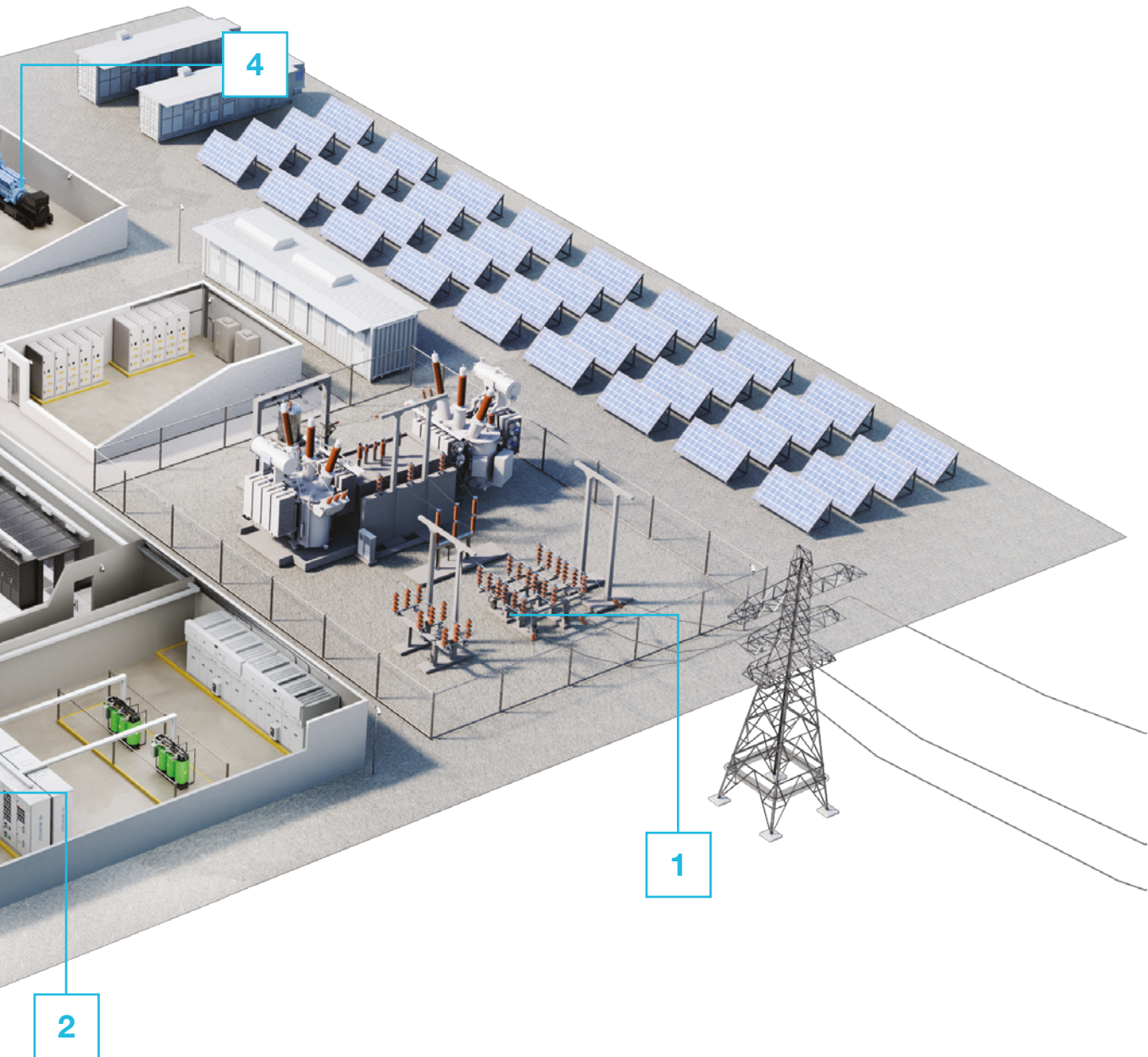
### Technical corridor/ PDU (Power Distribution Unit) room

Area dedicated to the refined distribution of power to racks and servers. PDUs provide control, monitoring, and redundancy, optimizing energy management and minimizing risks.

## 4

### Generator room

Houses the emergency power generation systems responsible for maintaining the data center's operation in the event of a grid failure. Robust and automated equipment ensures fast transition and continuous operation.



**5**

**NOC – Network Operations Center**

Control center that monitors all data center systems in real time: power, cooling, security, and data. It serves as the operational brain of the infrastructure, ensuring rapid responses and precise decision-making.

**6**

**Data hall**

The main environment where servers and IT equipment are installed. Designed with advanced thermal control, electrical redundancy, and physical security, it is the heart of the digital operation of any data center.

**7**

**Chilled water plant**

Responsible for producing and distributing chilled water to cool the areas housing the servers, preventing overheating.

**8**

**Firefighting room**

Dedicated facility for the fire prevention and suppression system. It contains pumps, reservoirs, and pressurization systems that ensure a rapid response to emergencies, protecting critical assets and lives.

# WEG complete solutions for data centers

## High-voltage substation



**Power transformer**  
Essential equipment for high-power energy transformation, offering high reliability and efficiency, ideal for supplying large data center loads.



**SPCS**  
WEG has extensive experience in supplying substation protection, control, and supervision systems, providing a complete solution for all project stages.



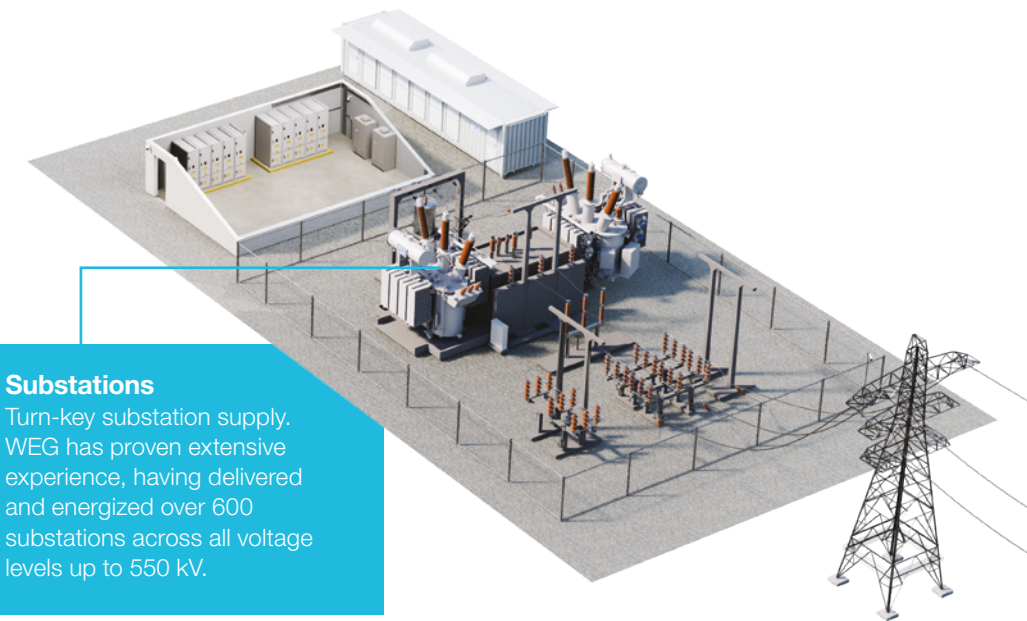
**CTs and PTs (Current and potential transformers)**  
Measurement and protection devices for medium- and high-voltage systems, ensuring accuracy and safety.



**Switch-disconnectors**  
Mechanical devices used to isolate sections of the installation during maintenance, ensuring operational safety.



**e-House**  
Custom-designed and manufactured to meet the customer's needs, WEG e-Houses have a modular design, providing flexibility to meet a wide range of applications across different sectors.



**Substations**  
Turn-key substation supply. WEG has proven extensive experience, having delivered and energized over 600 substations across all voltage levels up to 550 kV.



**Primary MV panels**  
Medium-voltage panels designed for safe and efficient power distribution at the substation's entry point.

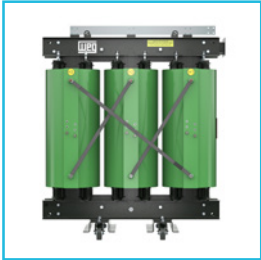


**RTDW rectifiers**  
Equipment that converts alternating current (AC) into direct current (DC), ensuring stable power supply for critical systems in the control and command area of the substation.

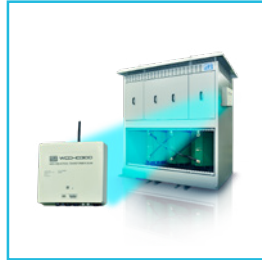


**Access control CCTV**  
Facial recognition terminals, turnstiles, and barriers ensure access only to authorized personnel, while cameras continuously monitor internal and external areas.

## Electrical room



**Dry-type transformer**  
Ideal for indoor environments, featuring low noise emission and oil-free operation, enhancing safety in sensitive areas.



**WEG Transformer Fleet Management**  
Online, remote, and intelligent management for transformers.



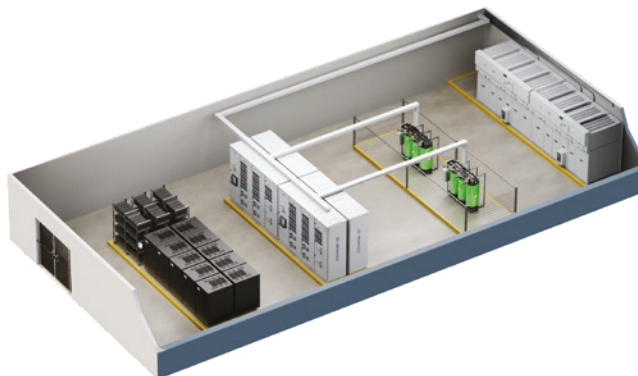
**LV distribution panels**  
Distribute low-voltage power with protection, control, and disconnection for critical loads.



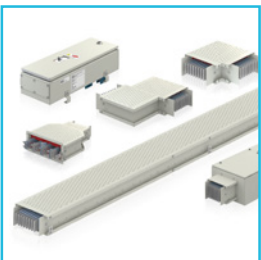
**RTDW rectifiers**  
Equipment that converts alternating current (AC) into direct current (DC), ensuring stable power supply for critical systems in the control and command area of the electrical room.



**Secondary MV panels**  
Responsible for distributing power within the site, safely connecting the main loads.



**Access control CCTV**  
Facial recognition terminals, turnstiles, and barriers ensure access only to authorized personnel, while cameras continuously monitor internal and external areas.



**Busbar trunking systems**  
Robust and modular power distribution system, providing a high level of protection against interference and faults.



**ACW molded case circuit breaker**  
Protects low-voltage circuits against overloads and short circuits, offering high performance and reliability.



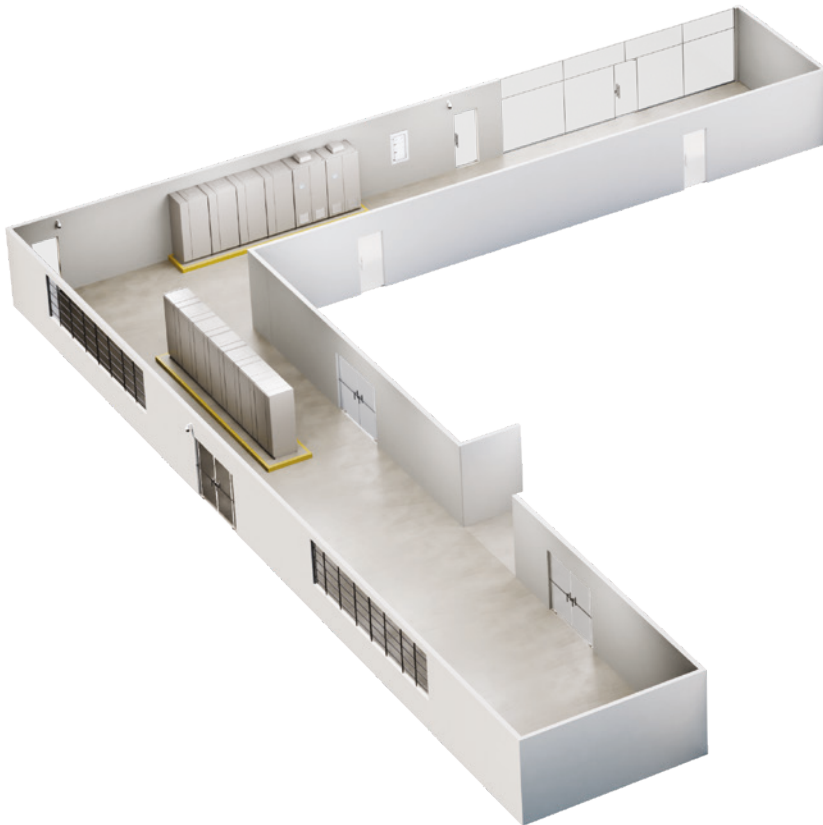
**WEG Modular UPS**  
Ensures continuous power supply to critical loads in the event of grid failures.



**Lead-acid and lithium batteries**  
Energy storage solutions for UPS systems, offering different technologies to suit each application.

# WEG complete solutions for data centers

## Technical corridor and PDU room



### **PDU - Power Distribution Unit**

First layer of power distribution, enabling intelligent power management and control.



### **TTW panel**

Designed for all types of requirements, WEG's totally tested panel and switchboard lines ensure safety, robustness, flexibility, and agility in commercial and industrial installations.



### **Lead-acid and lithium batteries**

Energy storage solutions for UPS systems, offering different technologies to suit each application.



### **SDPs (Secondary Distribution Panels)**

Distribute power in a sectorized and secure manner to specific areas of the data center.



### **Access control CCTV**

Facial recognition terminals, turnstiles, and barriers ensure access only to authorized personnel, while cameras continuously monitor internal and external areas.

## Generator room



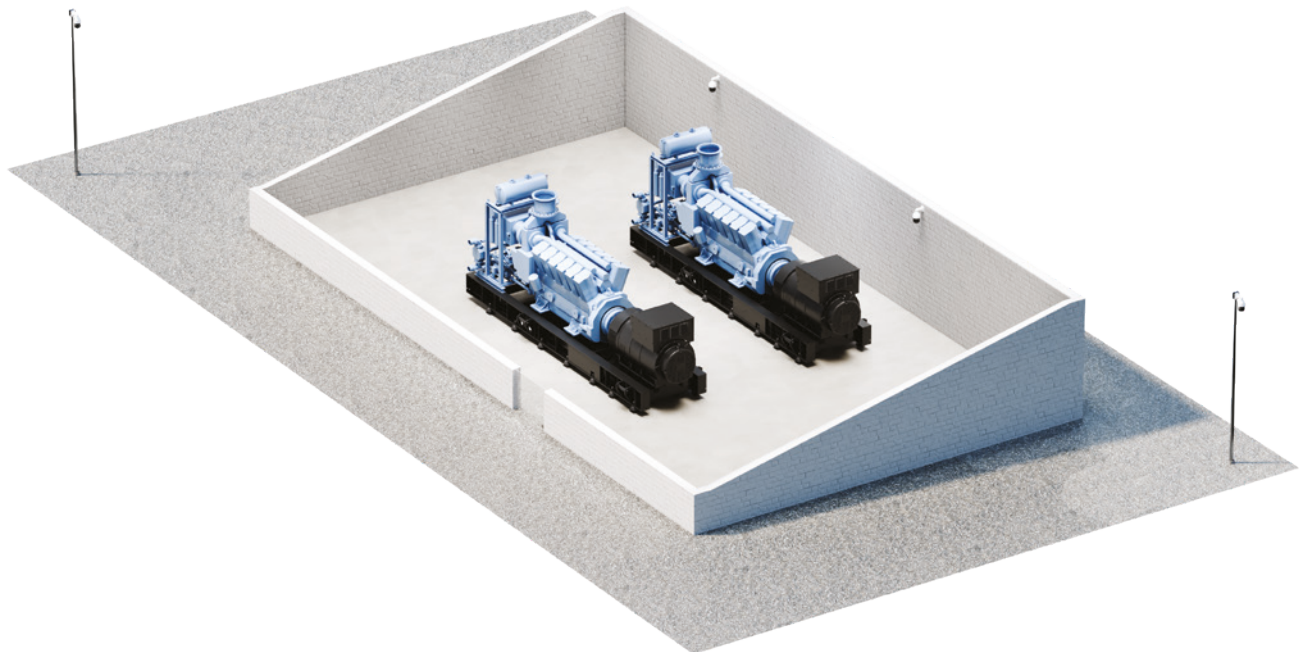
### Alternators

Reliable power sources for contingency, ensuring continuous operation in the event of a grid failure. Through the WEG and Marathon brands, the company can supply alternators for data center applications and deliver the equipment wherever the customer requires.



### Access control CCTV

Facial recognition terminals, turnstiles, and barriers ensure access only to authorized personnel, while cameras continuously monitor internal and external areas.



### BESS (Battery Energy Storage System)

Advanced battery energy storage systems, integrated with the power grid and UPS systems.



### ABW air circuit breaker

High breaking capacity, ideal for the protection and isolation of large loads.

# WEG complete solutions for data centers

## Network Operations Center (NOC)



### MFM (Motion Fleet Management)

Developed to provide greater convenience, speed, and efficiency in the operation, maintenance, and management of industrial facilities, WEG Motion Fleet Management is the ideal solution for monitoring your drive fleet.



### WEG Transformer Fleet Management

Online, remote, and smart management for transformers.



### WEG Modular UPS

Ensures continuous power supply to critical loads in the event of grid failures.



### Access control CCTV

Facial recognition terminals, turnstiles, and barriers ensure access only to authorized personnel, while cameras continuously monitor internal and external areas.



### SPCS

WEG has extensive experience in providing Protection, Control and Supervision Systems for substations, offering a complete solution for all stages of the project.



### D-CIM (Data Center Infrastructure Management)

Platform for centralized management of IT and physical infrastructure, providing real-time visibility and advanced analytics.



### BMS (Building Management System)

Intelligent system for automation and control of building subsystems (energy, air conditioning, security).

## Data hall



### Industrial sockets

Robust and secure connection points for critical equipment, featuring a high IP protection rating.



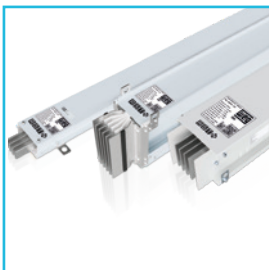
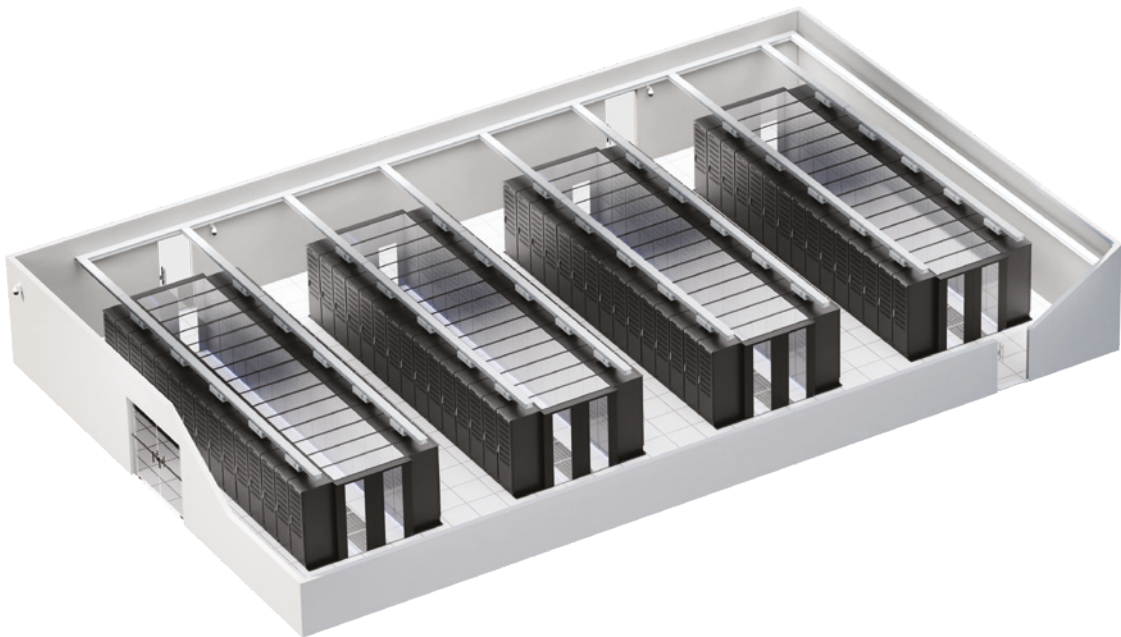
### RPP (Remote Power Panel)

Second layer of power distribution, extending the reach of PDUs, delivering power to the racks, ensuring efficient distribution and control, and enabling the management of delivery points and the monitoring of power quality.



### Access control CCTV

Facial recognition terminals, turnstiles, and barriers ensure access only to authorized personnel, while cameras continuously monitor internal and external areas.



### Compact busbar trunking system

A compact version of the busbar system, designed for power distribution in confined or indoor areas.



### WEG Modular UPS

Ensures continuous power supply for critical loads in the event of grid failures.



### Epoxy floor coatings

High chemical and mechanical resistance coating, ideal for high-criticality environments such as technical rooms.

# WEG complete solutions for data centers

## Chilled water plant



### WEGscan100

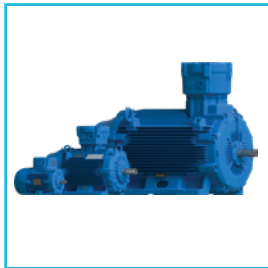
The WEGscan100 is WEG's innovative solution for online monitoring of equipment and assets. With predictive analytics technology, it ensures operational excellence by anticipating failures and optimizing performance.

The system collects and analyzes key data such as temperature, three-axis vibration, magnetic field, and other asset-related information—ensuring reliability and efficiency in every operation.



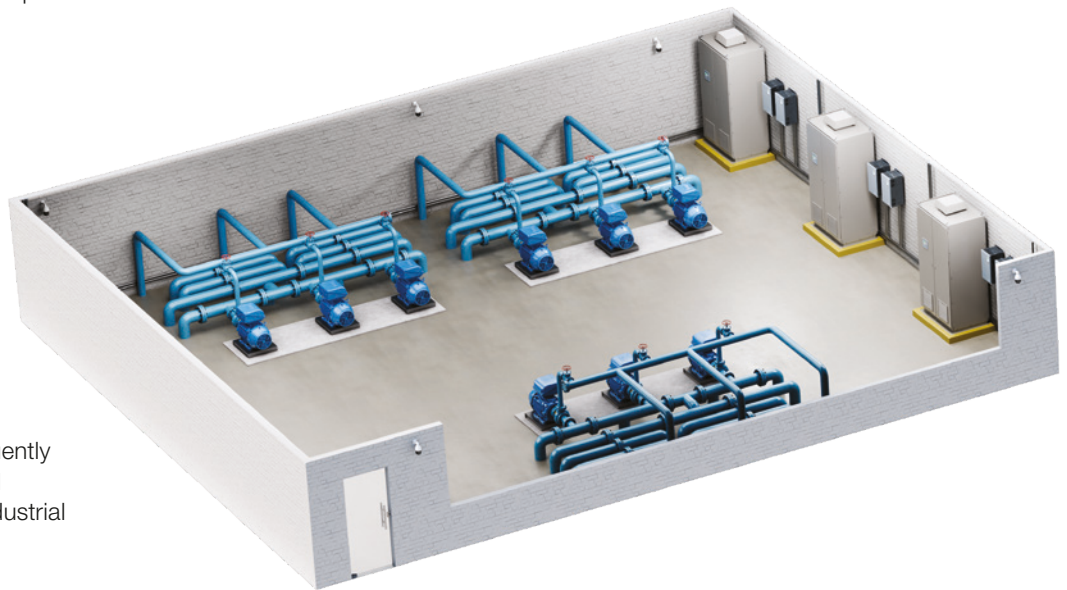
### Access control CCTV

Facial recognition terminals, turnstiles, and barriers ensure access only to authorized personnel, while cameras continuously monitor internal and external areas.



### W22 electric motor line

The W22 line promotes energy savings, offers an excellent cost-benefit ratio, and consequently delivers higher productivity and reduced operating costs for industrial applications.



### Variable speed drives

High technology for driving and controlling three-phase induction and permanent magnet motors. They deliver outstanding static and dynamic performance, with high precision in torque, speed, and position control. Their high overload capacity makes them suitable for a wide range of applications. Thanks to their advanced technology, they ensure energy efficiency, safety, increased productivity, and enhanced process quality wherever implemented.



### Distribution board

Designed to meet all types of requirements, WEG distribution boards are suitable for flush or surface mounting, supporting currents up to 630 A. Safety, robustness, flexibility, and simple installation are key features of their design. They include a removable rack with DIN rails for the installation of the modular line (MDW, SPW, RDW, etc.).

## Firefighting room



### WEGscan100

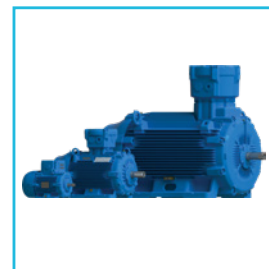
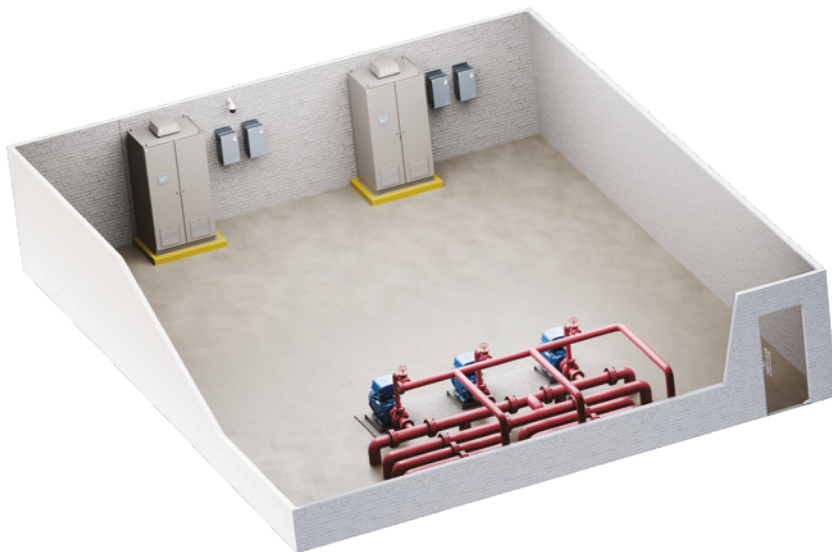
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# WEG production map

## Global presence and efficient solutions for data centers

WEG solutions stand out for the efficiency and flexibility of their electrical and mechanical design, adapting to the most demanding customer requirements across various applications with a complete range of products for data center management.

**CANADA**  
AC three-phase motors

**USA**  
Commercial motors, permanent magnet DC motors, low- and medium-voltage motors, drives, synchronous motors and generators, transformers, low- and medium-voltage panels

**MEXICO**  
Low- and high-voltage motors and generators, electrical panels, distribution and power transformers, substations, and industrial liquid and powder coatings

**COLOMBIA**  
Gearboxes, LV and MV panels, power transformers, and dry-type transformers

**ARGENTINA**  
Commercial motors, gearboxes, electrical panels, industrial liquid and powder coatings

**THE NETHERLANDS**  
Special motors for cranes, winches, and hoists; brake motors; low- and high-voltage motors; and marine-duty motors

**ITALY**  
AC, DC and custom drives, elevator drives, special motors for hazardous areas and brake motors

**SPAIN**  
Low-voltage panels

**PORTUGAL**  
Low- and medium-voltage motors, low- and medium-voltage drives

**ALGERIA**  
Commercial motors


**BRAZIL**  
Low- and medium-voltage motors, gearboxes, generators, drives, electronic components, photovoltaic solar generator, wind turbines, battery storage systems, panels, e-Houses, transformers, substations, turbines, industrial coatings and varnishes


**+ 48,000**  
employees around the world

**+ 4,700**  
engineers


**+ 1,400**  
technical service centers


 **GERMANY**  
Special motors, DC, AC  
and EC drives, gearboxes,  
steam turbines


 **AUSTRIA**  
Gearboxes and gearmotors

 **CHINA**  
Commercial motors, low-  
and medium-voltage drives,  
circuit breakers, electronic  
components, low- and  
medium-voltage motors,  
gearboxes, generators,  
transmissions and integrated  
solutions for the home  
appliance industry

 **AUSTRALIA**  
Air systems

 **INDIA**  
Low- and medium voltage motors,  
synchronous motors, low- and  
medium-voltage drives for elevator  
applications, low- and medium-voltage  
soft-starters, PLCs, safety and control  
components, AC/DC servo drives, turbo  
and hydro generators, and wind turbines

 **TÜRKIYE**  
Low-voltage industrial and  
commercial motors,  
gearboxes, and gearmotors

 **SOUTH AFRICA**  
Mini substations, mobile substations,  
transformers, low- and high-voltage  
panels, e-Houses, low- and high-voltage  
motors, gearboxes, and generator sets

 Distributors/  
agents in  
**120 countries**



Sold in over  
**135 countries**

Revenue  
2024 **BRL 38 billion**



After-sales support and service

**Whenever you need technical or commercial support, count on WEG!**



- ### Services
- Factory repairs and refurbishments
  - Field services
  - Installation and start-up services
  - Inspection and maintenance
  - Warranty
  - Technical and commercial training (at the factory or on-site)
  - Field support linked to engineering

**+1,400** technical service centers around the world.



# Learn More

High performance and reliable products to improve your production process.



Excellence is to provide a whole solution in industrial automation that improves our customers productivity.

Visit: [www.weg.net](http://www.weg.net)

 [youtube.com/wegvideos](https://youtube.com/wegvideos)

The scope of WEG Group solutions is not limited to products and solutions presented in this catalogue.

**To see our portfolio, contact us.**

**For WEG's worldwide operations visit our website**



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The values shown are subject to change without prior notice.  
The information contained is reference values.