

# SOLUTIONS FOR WATER

We deliver **efficient** and  
**sustainable solutions**  
for the Water Industry  
contributing to a  
**better tomorrow.**

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



Driving efficiency and sustainability



# Working in partnership with the water industry

WEG solutions stand out for the efficiency and flexibility of their electrical and mechanical design, adapting to the most demanding customer requirements in different applications, with a full range of products for the water industry.

Bergen Point WWTP  
(U.S.A.) 2017

SACMEX  
WWTP  
(México) 2011

Pirangi Pumping  
System (Brazil) 2017

Atacama Desalination Plant  
(Chile) 2019

General Belgrano  
WTP (Argentina) 2017

## WEG at a glance

**59.1** % of 2023's  
revenues came  
from products  
that were  
launched in the  
last 5 years

Distributors in  
**+120**  
countries

**60k**  
motors produced daily

**63** manufacturing sites in **17**  
countries with commercial  
operations and technical  
support in **40** countries

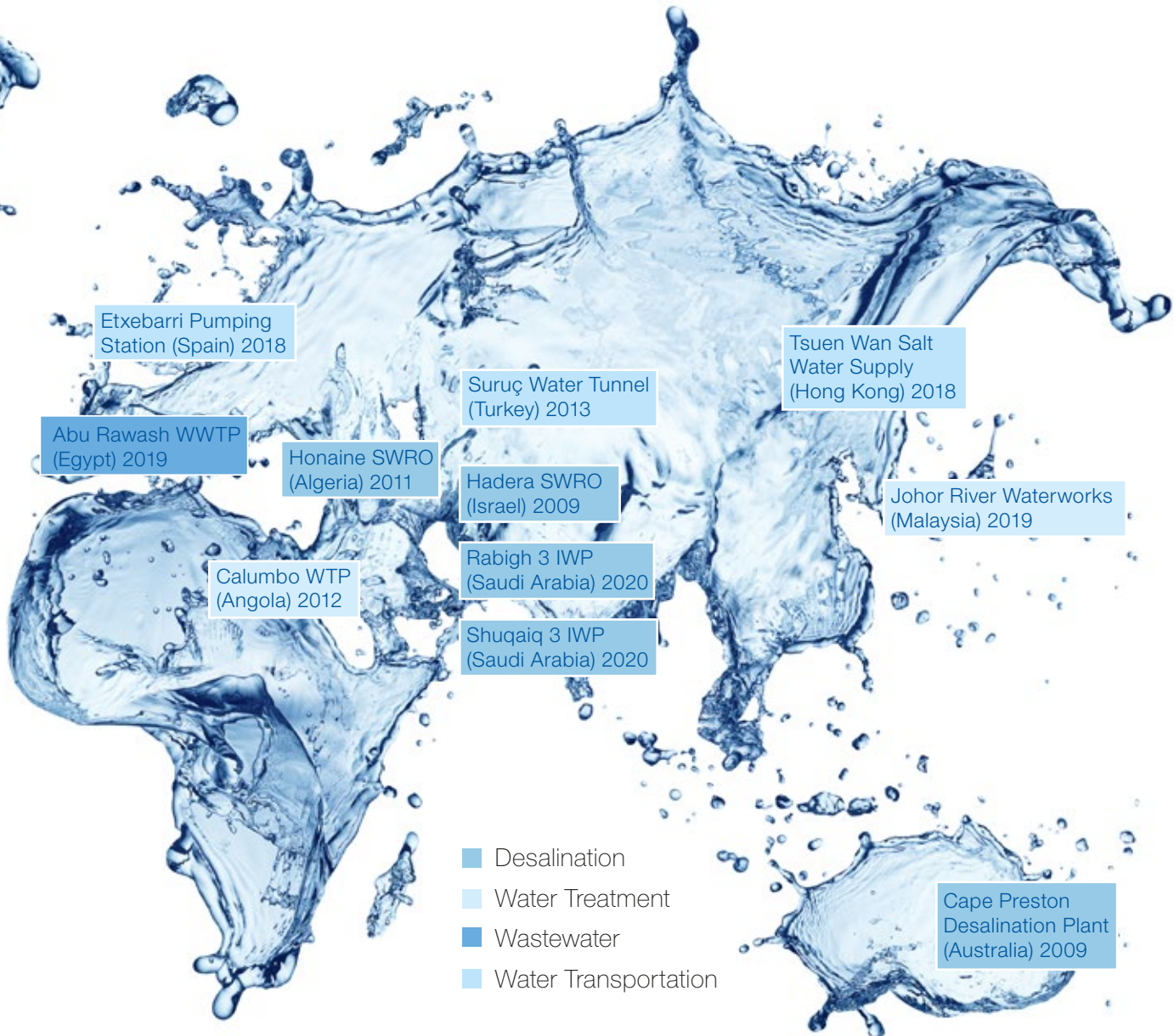
**2.5** % of the net  
operating  
revenue is  
invested in R&D



Largest manufacturing site for  
LV electric motors in the world with  
**+1 million m<sup>2</sup>**



# Some WEG water projects references



## Global water facts



**1 in 3** people do not have access to safe drinking water



**2 out of 5** people do not have a basic hand-washing facility with soap and water

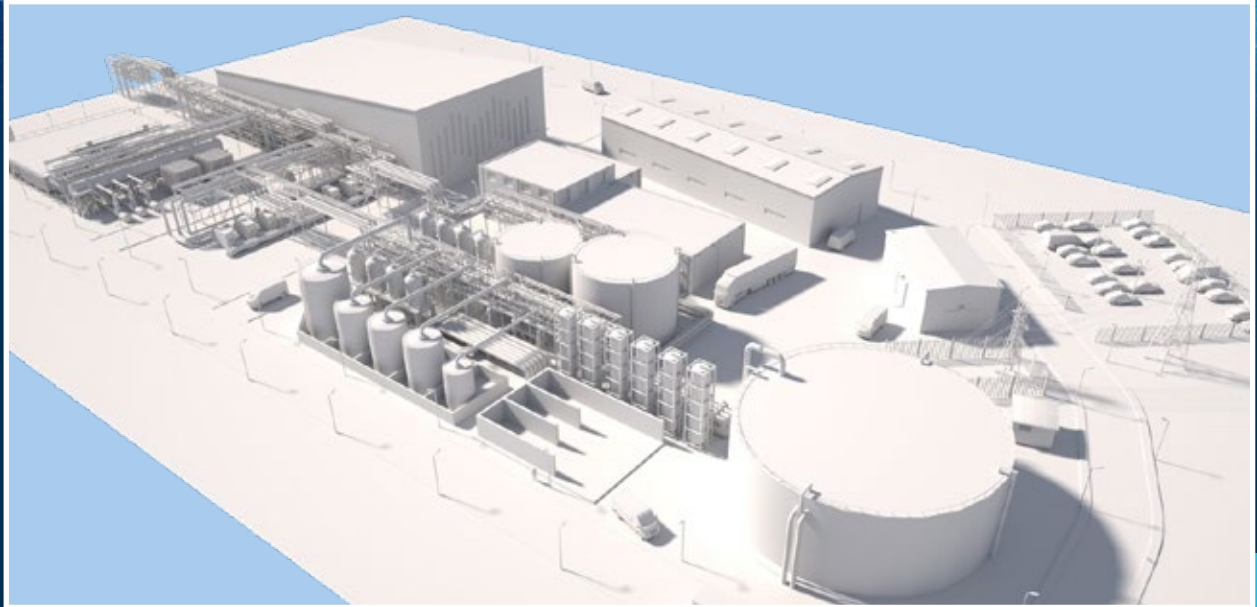


**1 in 10** people lack access to clean water

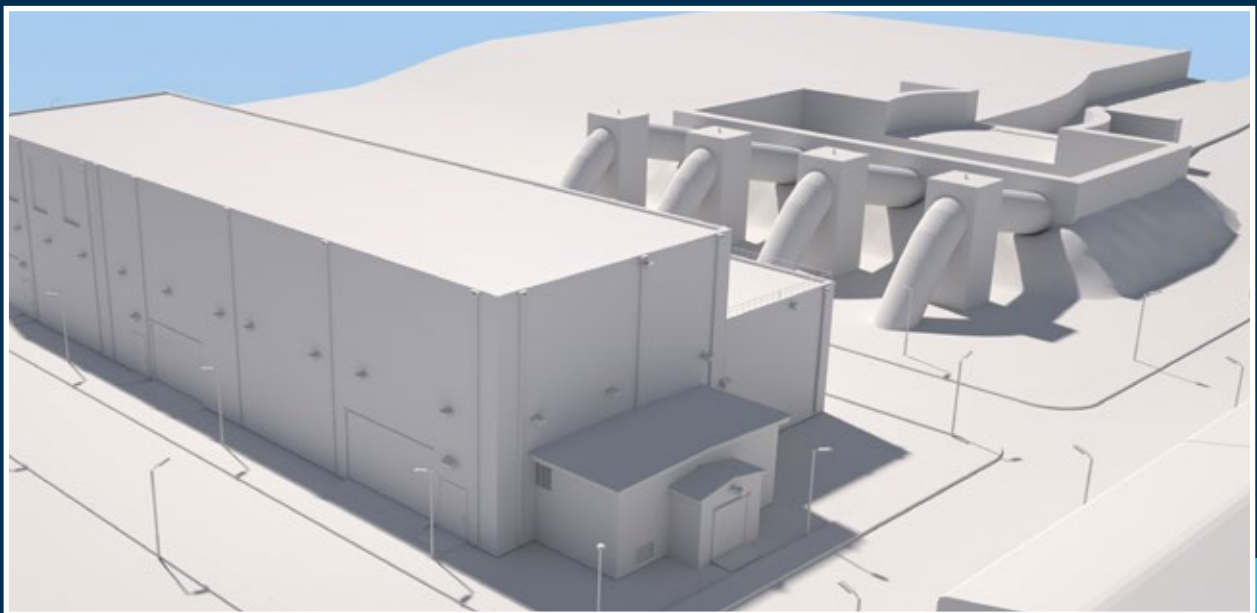


**Inadequate sanitation** facilities often cause contamination of drinking water

# Water segments

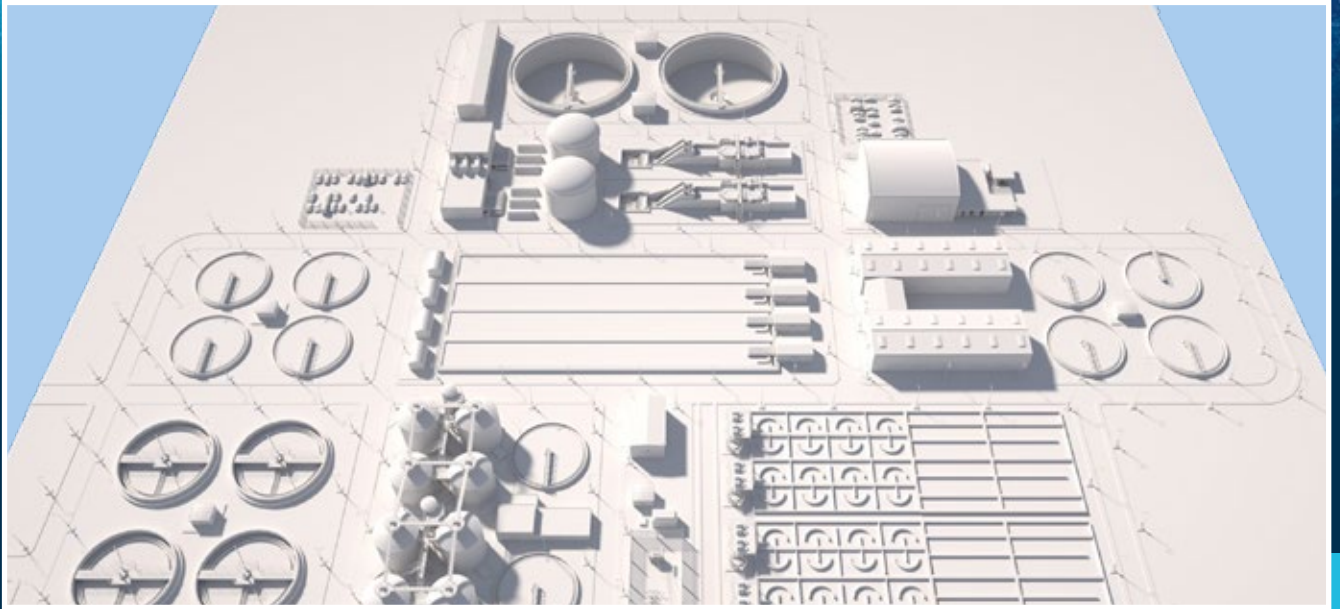


## Desalination

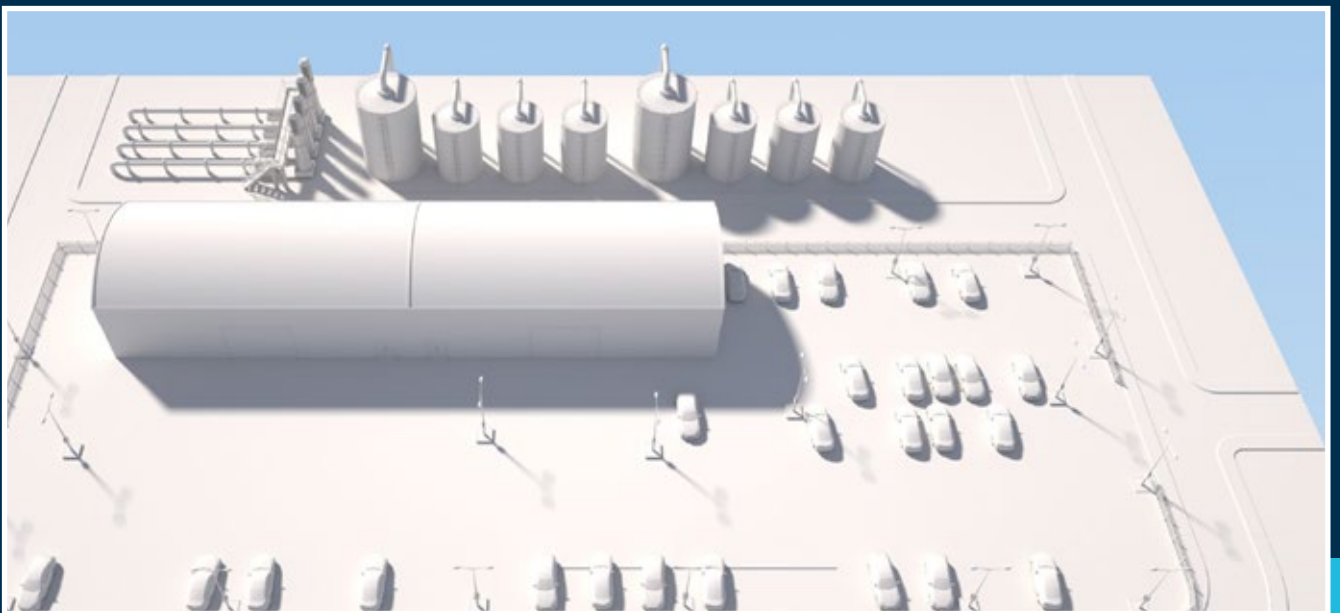


## Water distribution system





**Wastewater**



**Process and potable water**

# Desalination



## Products



**W60**



**W22  
IE4 Super Premium**

WEG motors were designed to meet the requirements of water industry applications, ensuring high efficiency and low maintenance, even under severe operating conditions such as “salt” environments.



## Applications



### Sea water intake pumping station

WEG offers a complete service for the whole-life-cycle of supply and management of the pumping station from design, manufacturing and commissioning for low voltage and medium voltage electrical systems.



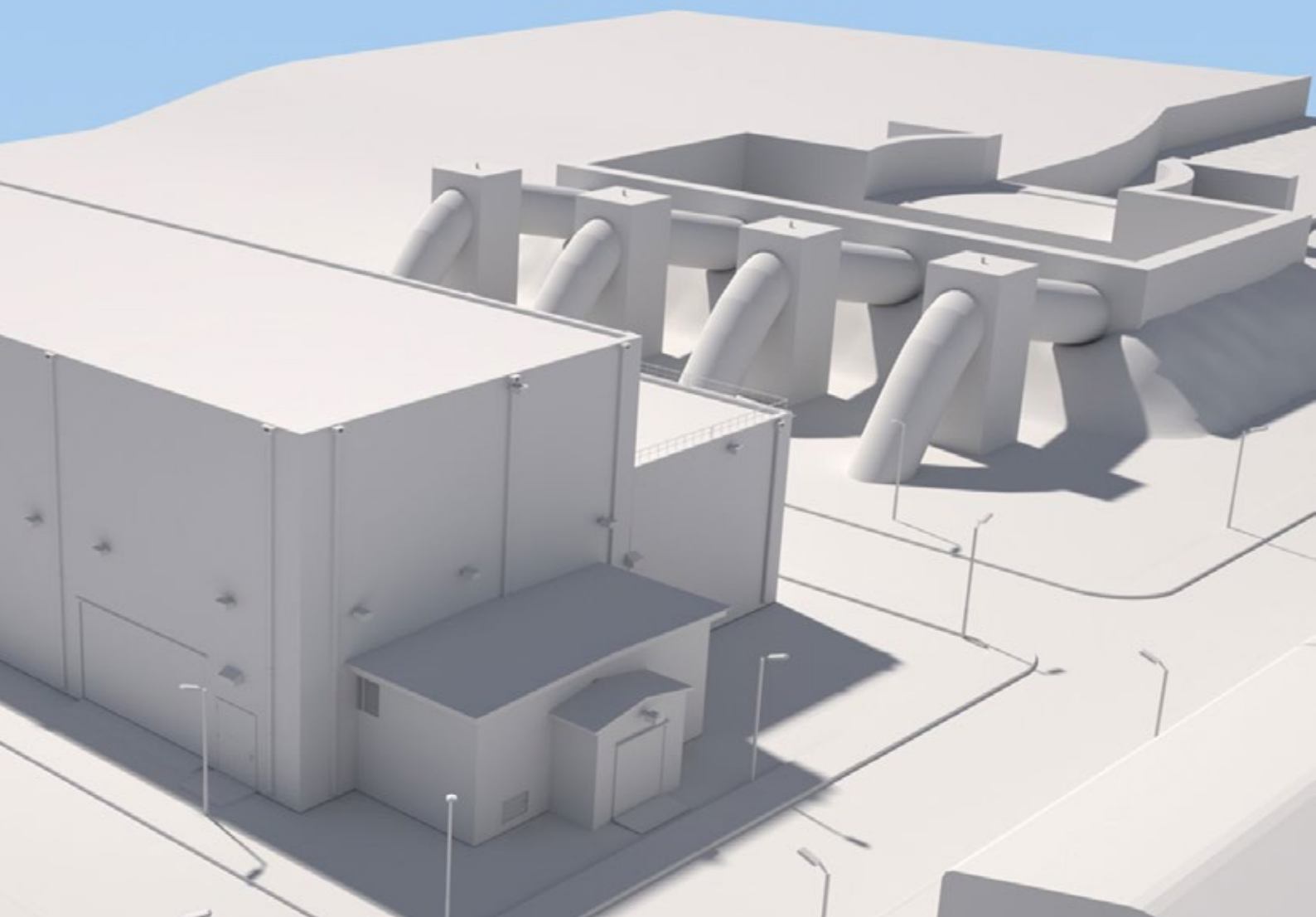
### High pressure pumps

The latest design innovation ensures that WEG standard line medium voltage motors offer very high energy efficiency in addition to outstanding reliability.



Medium Voltage Drives are perfect for a wide range of industrial applications that required speed variation such as pumping control. For new installations or retrofits, the Medium Voltage Drives are an efficient and robust solution to control the speed and streamline the process, reducing energy consumption and maintenance costs.

# Water distribution system



## Products

**Master**



**W60**



**W60 vertical**



**Vertical**



**Horizontal**



**Induction motors**

**Synchronous motors**



## Applications



### Booster pumps - pumping stations

Water transfer pumps transport water from one place to another. Transfer pumps can be used for an abundance of applications, including commercial and residential needs.



### Medium voltage induction and synchronous motors

Moving large quantities of ground water is a fundamental aspect of water transportation in many areas.



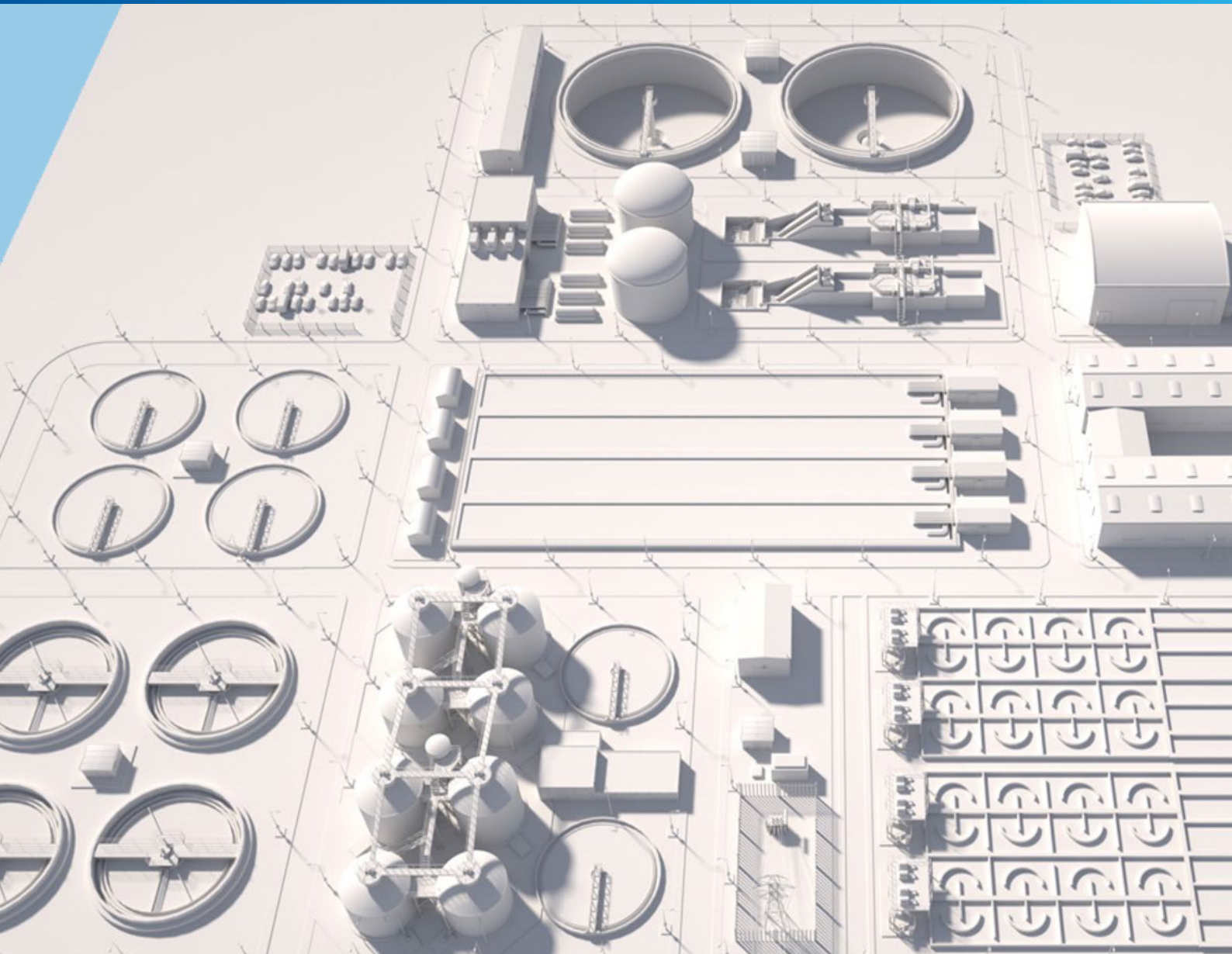
### Pumping power control

Medium voltage soft-starters SSW7000 uses latest technology to provide start/stop control and protection for three-phase induction and synchronous medium voltage motors.



MV drives and soft-starters

# Wastewater



## Products



**W22**  
**IE4 Super Premium**



**W51 HD**



**WG20**  
**(geared motor)**



**W60 vertical**



## Applications



### Sewage intake pumps/ effluent pumps

Are used for pumping wastewater or sewage from a lower to higher elevation, particularly where the elevation of the source is not sufficient for gravity flow and/or when the use of gravity conveyance will result in excessive excavation and higher construction costs.



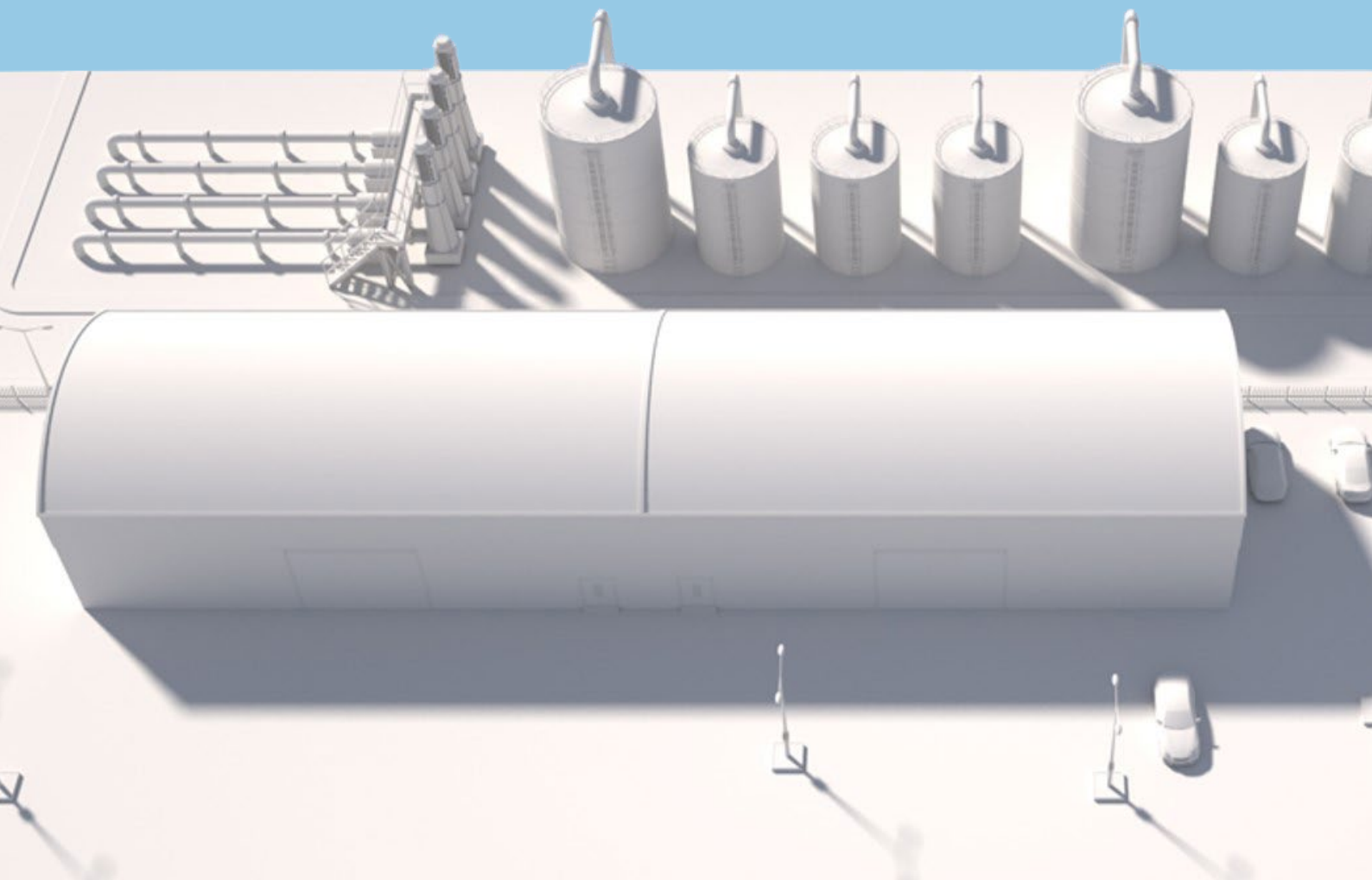
### Aeration

Wastewater aeration is the process of adding air into wastewater to allow aerobic bio-degradation of the pollutant components. It is an integral part of most biological wastewater treatment systems.



**Variable  
frequency  
drives**

# Process and potable water



## Products

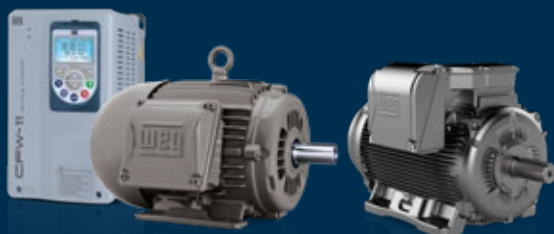
### Permanent Magnet Motors

#### W23 Sync+

Easily interchangeable, the W23 Sync+ was developed to provide maximum performance at all speeds.

#### W22 Magnet

W22 Magnet motors are synchronous motors with permanent high performance magnets inside their rotor resulting in differentiated characteristics.



### WEGscan100 and X2000 Asset management with WEGscan

- Ready for the Industry 4.0
- Connect all factory sensors
- Synchronize data through the WEG Motion Fleet Management
- Name and monitor how many assets you need
- Analyze data uploaded to the cloud
- Set the asset location





## Applications



### Raw water intake pump

A range of robust WEG motors are available with high efficiency ratings as standard and outdoor specification options. Ideal for lift pump applications with large heads of water and frequent operation.



### Booster pumps

WEG's W22 line of electric motors, including W22 Magnet – permanent magnet motor and W23 Sync – reluctance and magnet motor, are IE5 efficiency class, ensure energy reduction and has an excellent cost-benefit with increased. Offer outstanding energy efficiency performance in continuous or high duty-cycle applications, particularly when used with matched WEG CFW inverter drives.

### Pump Genius

Pumps, pipeline and fittings can get seriously damaged if pressure or flow are out of control and such occurrences are not tracked early. The Pump Genius is a customizable feature of WEG drives that enables your standard VSD to become dedicated for pumping systems. It ensures accurate pressure / flow control throughout the processing cycle, starting with raw water and its usage, ending on wastewater treatment. With an easy-to-use programming wizard, Pump Genius helps you to minimize downtime and maximize energy savings. Everything you need is selecting one of the three options that best fits to your application.



**simplex**



**multipump**



**multiplex**

# Gears for the water sector: efficiency and reliability at every stage

In the water sector, the efficiency and reliability of equipment are crucial to ensure the proper treatment of water and wastewater. Gearboxes play an important role in various applications, providing the necessary torque for the operation of essential equipment.

## Typical applications

- Agitator: gearboxes ensure proper mixing in treatment tanks, optimizing biological and chemical processes.
- Sedimentation tank: the slow and precise movement provided by gearboxes helps in the sedimentation of solid particles.
- Screw conveyors: efficient transport of solid materials is achieved with the use of gearboxes in conveyors.
- Screening: the removal of coarse solids is facilitated by screens driven by robust gearboxes.
- Mixers: the homogenization of fluids and dissolution of chemicals are optimized with the use of gearboxes in mixers.

## Features and benefits of WEG gearboxes

- Variety: we offer a wide range of gearboxes, with different sizes, transmission ratios, and configurations to meet the specific needs of each application.
- Robustness and durability: our gearboxes are designed to operate in harsh environments and under heavy loads, ensuring a long service life and low maintenance costs.
- Energy efficiency: the advanced technology of gearboxes minimizes energy losses, contributing to the sustainability of operations.
- Reliability: WEG gearboxes are recognized for their high reliability, ensuring continuous operation and preventing unplanned downtime.

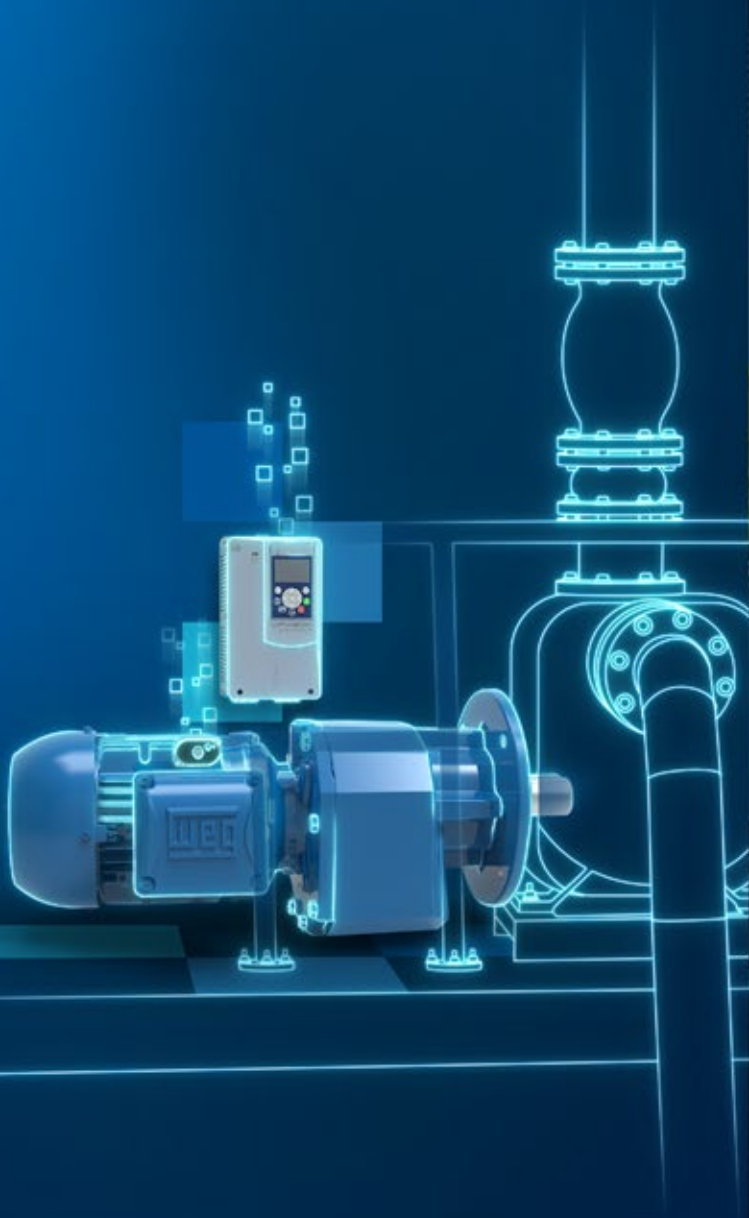
In addition to gearboxes, WEG offers a complete line of electric motors, drives, controls, digital and systems, providing an integrated solution for the water sector.





# WEGmotion Drives

From motors, drives and gears to an **integrated motion package.**



Industry is always on the move. And WEG doesn't stop evolving. Thinking on this, we developed WEGmotion Drives, an integrated and flexible package that combines motors, gearboxes, drives and digital solutions to improve productivity of your manufacturing plant. Do you know what that means? It means reliability, better control of machines and equipment, more intelligence in operational processes and more efficiency for your industry. It is WEG's partnership getting you ready today for tomorrow's challenge.



**WEGmotion**  
Drives

Driving efficiency and sustainability



# Expertise & Service

**Service support** complying with the **quality** of our products

## Energy efficiency

Identification of potential reduction of power consumption in electric motors, drives and deviations in the power factor, proposing solutions and defining the necessary retrofit. Results presented with individual return deadlines, making the decision flexible.

## Commissioning and start up

Bearing in mind the magnitude of the water projects and complexity of the installed equipment, WEG offers specialized technical support for the installation, from beginning to end including supervision services. Also included is verification of equipment details and concept integration with the entire system.

## WEG Manufacturing System (WMS)

The WMS is a manufacturing management system, which aims to identify losses and waste and eliminate them, reducing product transformation costs and improving results financial.



## Project management

Complex projects usually require very strict control of technical documents, production schedule, inspections and logistic procedures. In those cases WEG offers dedicated staff structure to support tasks at different stages of the project execution. With these initiatives WEG provides clear and up to date information on the equipment manufacturing stages and keep all parties involved informed on the production and delivery progress.

## Preventive maintenance

Checkup and preparation of preventive plans according to maintenance concepts focused on reliability and adjustments according to operating conditions for each plant.

## Partnership program

- Global sourcing
- Local support
- Procurement solutions
- Design and engineering
- Industry knowledge base
- Managed maintenance
- Environmental focus





# Energy efficiency

WEG solutions stand out for the efficiency and flexibility of their electrical and mechanical design, adapting to the most demanding customer requirements in different applications, with a full range of products for the water industry.

If we can build motors, energy and automation that use resources responsibly, run on less fuel, and create fewer emissions, we're doing our job well. And we're helping you do your job even better.

Get to know our energy efficiency products, learn how you can save money, and take advantage of our resources to help your work environment become more efficient and productive.

Several countries have already finalized or are in progress of approving federal regulations that will mandate a minimum level of efficiency for electric motors that are manufactured or sold within their borders. Do you know the regulations in your country and region? When working with energy efficiency products and solutions, you can achieve much more than just saving money due to higher system efficiency levels. Indirect gains associated with energy efficiency projects are always achieved, such as water savings, increased equipment lifespan, and most importantly, aiding in global efforts to conserve our environment by reducing the amount of CO<sub>2</sub> (carbon dioxide) produced globally.



## Pumping systems

Pumping systems are used in the most diverse segments and applications to transport different types of fluids from water to chemicals.

The solution consists in the application of the high efficiency motor with inverter, for flow and pressure control:

- W22 IE3 Premium, W22 IE4 Super Premium, with CFW11 or CFW500 inverter
- W22 Magnet Motors, W23Sync + Motors with CFW500 or CFW11 inverters

Due to the fact that centrifugal pumps have a parabolic curve, small reductions in the rotation of the high efficiency motors result in significant energy consumption reductions. Optimizing your process with suitable motors can lead to substantial savings.

## Features & benefits

- Precise control of process variables (pressure, flow, temperature, etc.) through a PID regulator superposed to the speed control
- Optimization of power consumption through speed control with an adjustable V/F curve
- Safety and maintenance signaling and alarms of pumps
- Availability of PID regulators to control other process accessories like valves, dumpers, other VSDs, etc.
- Built-in PLC for equipment automation
- Alarm logging, faults and event control
- Power saving mode
- Communication networks for interconnection with supervision and control





IA

WEGnology

IoT

MES

# WEGdigital SOLUTIONS

**A new way to combine people, companies and smart products.**

We have formatted all of our expertise and provided the market with a new way of combining people, companies, software and smart products, producing a global solution that transforms energy into more reliable, efficient and smart solutions.

**Regardless of the size of your industry, we can help you:**

## Scalable and Flexible Solutions

- Easy implementation regardless of the industry characteristics.
- Flexible, customized solution.

## WEG Expertise

- We can help increase the operating efficiency of our partners and reduce waste from the various industrial processes.

## Co-working

- We assist in the transition from traditional industry to Industry 4.0.
- We share technologies and experiences for your business.



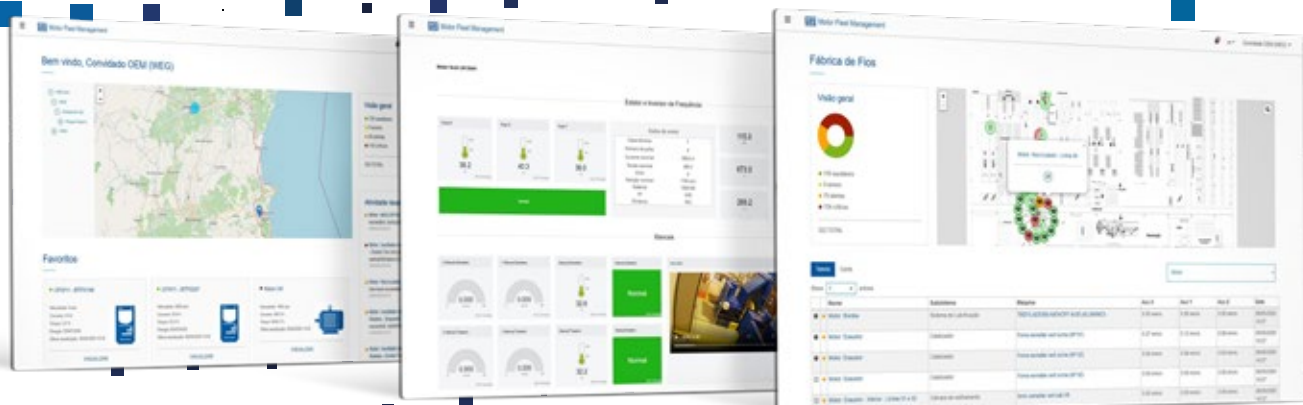


# WEG Motion Fleet Management

Manage your drive fleet in real time

Developed to simplify and speed up the operation, maintenance and management of industrial plants, WEG Motor Fleet Management is the ideal solution for monitoring your drive's fleet. Based on cloud computing, the performance of assets can be monitored at any time, from any part of the world.

With WEG Motion Fleet Management, it is possible to connect the operational status of different types of drives for low voltage motors (VSDs, soft-starters and smart relays) and medium voltage motors (VSDs and soft-starters), gearboxes, gearmotors and other assets in any type of industry or installation. Through periodic data collection, valuable insights are generated to increase the performance and availability of the machine fleet on the shop floor. Thus, it is possible to establish and schedule predictive maintenance plans, significantly reducing the unplanned downtime.





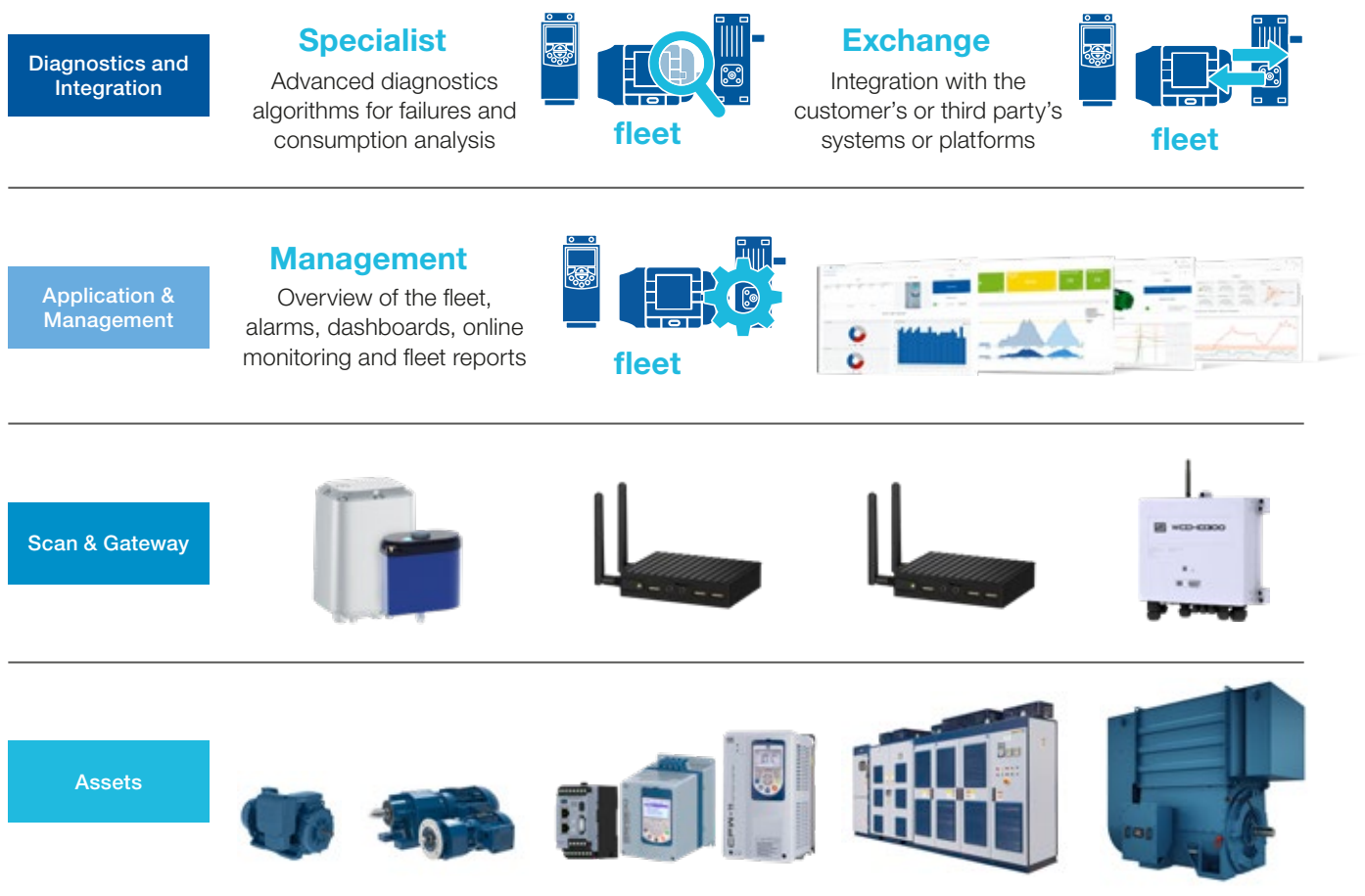
# Structure

WEG Motor Fleet Management is a modular solution, with a flexible structure based on layers, which meets the customers' needs.

## Assets and scans

WEG Motor Fleet Management allows online monitoring of low and medium voltage motors and drives, as well as gearboxes, gearmotors, compressors, pumps and fans/exhausters.

WEG Scans and Gateways are hardware designed for collecting data and connecting assets to the WEG cloud server, which hosts the WEG Motor Fleet Management application. For motor monitoring, the WEG Motor Scan and Cassia X1000 Gateway are used—data can be uploaded via gateway or smartphone. For low or medium voltage drives, data is sent through the WEG Drive Scan.



## Diagnostics and integration

With active subscriptions to the Management layer of WEG Motor Fleet Management, users will be able to complement their experiences by subscribing to specific modules such as WEG Specialist and WEG Exchange.

# Structure

## Specialist module

The Specialist module uses algorithms specially developed by WEG for advanced data analysis through Machine Learning and Artificial Intelligence. Those algorithms are applied to the data collected by WEG Scans and thus generate useful information, something essential for efficient fleet management.

WEG Motor Specialist has a submodule for diagnosing mechanical failures and another for evaluating the motor energy consumption. Both features were developed by the WEG team of experts and validated in the company's laboratories.

With WEG Drive Specialist, the user can analyze the energy cost involved in the process and correlate the periods of operation with those of highest consumption. It is also possible to identify and solve problems related to the cooling system in advance, in addition to providing insights into the quality of energy applied to the VSDs, thus increasing the availability and reliability of assets. Regarding the actions involved in maintenance, the customer can act preventively for the health of the VSD. Those advanced analysis algorithms follow and learn the operating patterns and deviations of the monitored electric motor, generating indicators of failure due to imbalance, misalignment, bearing (advanced failure) and external vibration.

This type of information is very useful for the operation and maintenance team, as it helps in the decision making processes, speeds up the repairs and minimizes unscheduled downtime. To benefit from the Specialist layer, the respective assets must have an active subscription to the WEG Motion Fleet Management layer. Both subscriptions are annual and per asset.



# MEGATRENDS

## Energy efficiency

- Solutions that make electric motors, gearboxes and drives even more efficient.
- Energy Managing Systems which optimize operational processes.
- Higher productivity and better performance.



## Digital solutions

- Increasingly automated industries and machines.
- Operational processes becoming increasingly digital.
- IoT, Big Data and AI will drive productivity.
- Growth of data centers and rise of new "communication network" technologies and solutions.

## Renewable energy

- Solar power will become more representative in the power grid.
- Solar energy generation, along with wind generation, should grow significantly in the coming years.
- Energy storage will be crucial in the new phase of electrification, as well as systems with batteries, also the use of hydrogen should become more viable.



## Electric mobility

- Electrical Mobility global growth.
- Increase of infrastructure for battery charging.
- Expansion of the electric vehicles market.
- Powertrain solutions for the transport segment.



# Sustainability

## UNFOLDING THE SUSTAINABILITY STRATEGY

There are four pillars, eight themes, and eighteen strategic objectives that guide the structuring of programs, actions, and commitments in the Environmental, Social, and Governance dimensions.



## SUSTAINABLE PRODUCTS AND SOLUTIONS

### Technology and innovation for energy transition and decarbonization

- Provide products and services with the highest efficiency and lowest carbon footprint, being the partner in our clients' decarbonization journey.
- Improve circular design by enhancing recyclability, dematerialization, and durability of materials, products, and packaging.

### Responsible supply chain

- Engage a supply chain with ethics in Human Rights, Labor Relations, and environmental preservation, assessing risks and fostering its development.
- Promote the traceability of restricted materials, considering the business's social and environmental impacts.

# COMPETITIVE ADVANTAGES

A UNIQUE BUSINESS MODEL CREATES IMPORTANT COMPETITIVE ADVANTAGES



## Vertical Integration

Production flexibility that reduces costs and optimizes processes.



## Modular Expansion

Our production system is dedicated to maximize return on capital and minimize risks of demand.



## Simple and Committed

We keep the commitment and the simplicity in our relationship with the stakeholders.



## Financial Flexibility

Financial flexibility allows WEG to pursue growth opportunities as they become available. These opportunities range from raw materials procurement at attractive conditions to acquisitions of new business.



## Wide Portfolio

Varied mix of solutions that meets several markets and consolidates our global presence.



## Mass Customization

We understand needs in order to meet objectives and thus develop customized solutions.

# Learn more



## Solutions

### Control panels

Designed to address all kinds of requirements, WEG lines of fully tested distribution boards and panels ensure safety, robustness, flexibility and speed in business and industrial installations. They are manufactured according to Regulatory Standard, which makes them the ideal solution for distribution, protection and control of electrical installations.



### Complete substations

WEG offers solutions for turn-key conventional and mobile substations, from the basic design, to the detailed engineering comprising electrical studies, product and material supply and specialized works and services, which include commissioning and after-sales support, coordinating and integrating all the participants of the process.

#### SKID

The Transportable Solution (SKID) is the result of WEG know-how in the manufacture of mobile solutions added to the alignment with the needs of the market, increasingly demanding for safety and reliability in temporary or permanent applications. Thus, we have developed a complete line of portable, compact and modular substations, which optimize implementation time and reduce civil construction costs.



### Coatings for pipelines and tanks

Water treatment and Wastewater treatment plants are environments with high chemical aggressiveness. Due to this WEG offers high durability liquid and powder coatings for painting and maintenance of the structures. The coatings are certified by external laboratories, complying with the main standards of the industry, such as AWWA C210, AWWA C222 and for contact with drinking water (NSF/ANSI 61:2016), in compliance with the resolution of the Brazilian Health Regulatory Agency and SABESP (São Paulo State Water and Waste Management Company).







## E-house

Designed to meet the most rigid metallic construction standards WEG E-House are suitable to integrate a wide range of electro-electronic components in Generation, Distribution, Protection and Control segments.

Designed and built to meet strict metal construction standards, the Integrated Electric Systems are capable of receiving and integrating a wide range of electro-electronic equipment in the generating, distribution, protection and command sectors, in addition to other applications, always seeking to meet to the most diverse requests and needs of each project.



## BESS

### Energy Storage – Commercial and Industrial (C&I)

The WEG Energy Storage System - Commercial and Industrial (C&I) is a complete solution for electrical energy storage and management that can be configured to perform numerous functions, being mainly indicated for applications in systems installed behind the meter.



## PLC 500, PLC410

### PLC500 programmable logic controller

The PLC500 and PLC410 are new in the WEG family of controllers. They stand out for their tailored hardware and excellent performance Both are fully programmable through the powerful CODESYS® platform.



## SSW900

### Soft-starters SSW900 series

Soft-starters are drives dedicated to the smooth acceleration and deceleration of three-phase electric motors, by controlling the voltage applied to the motor. With proper adjustment of the variables, the torque produced is adjusted to the load requirement, thus ensuring that the requested current is the minimum required for starting. The SSW900 is a soft-starter with three-phase motor control, built-in bypass and torque control. Suitable for motors from 3 to 2,650 HP.

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**



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



 **+55 47 3276.4000**

 **info-br@weg.net**

 **Jaraguá do Sul - SC - Brazil**

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