

**You supply power to a world in flux**  
**We've got the future covered**  
**Let's connect.**

Energy



**Weidmüller** 

**Why is power supply one of the greatest challenges of the future?**





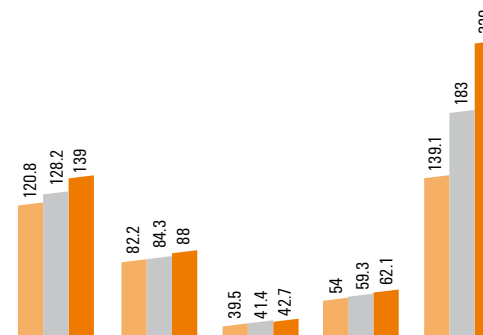
## Globalisation requires new power concepts

The paradigm shift is opening up new opportunities

The demand for power continues to grow. Experts predict an increase in global power consumption of around 60 percent by 2030. Industrialisation in the emerging markets and changes to power concepts in industrialised nations involving an increased amount of renewable energies form the background to the paradigm shift: smart processes and new technologies for generation, distribution and consumption are gaining in importance. Added to this are changes in the power plant landscape, the integration of renewable energies, the expansion of networks and the development of power storage solutions. New power concepts like these represent both an opportunity and a challenge for the entire industry.

The world's power consumption (in quadrillion BTU)

2010  
2020  
2030



Source: statista.com; EIA

OECD  
North America

OECD  
Europe

OECD  
Asia

Non-member OECD  
in Europe/Eurasia

Non-member OECD  
in Asia



**How will the power landscape change in the long term?**



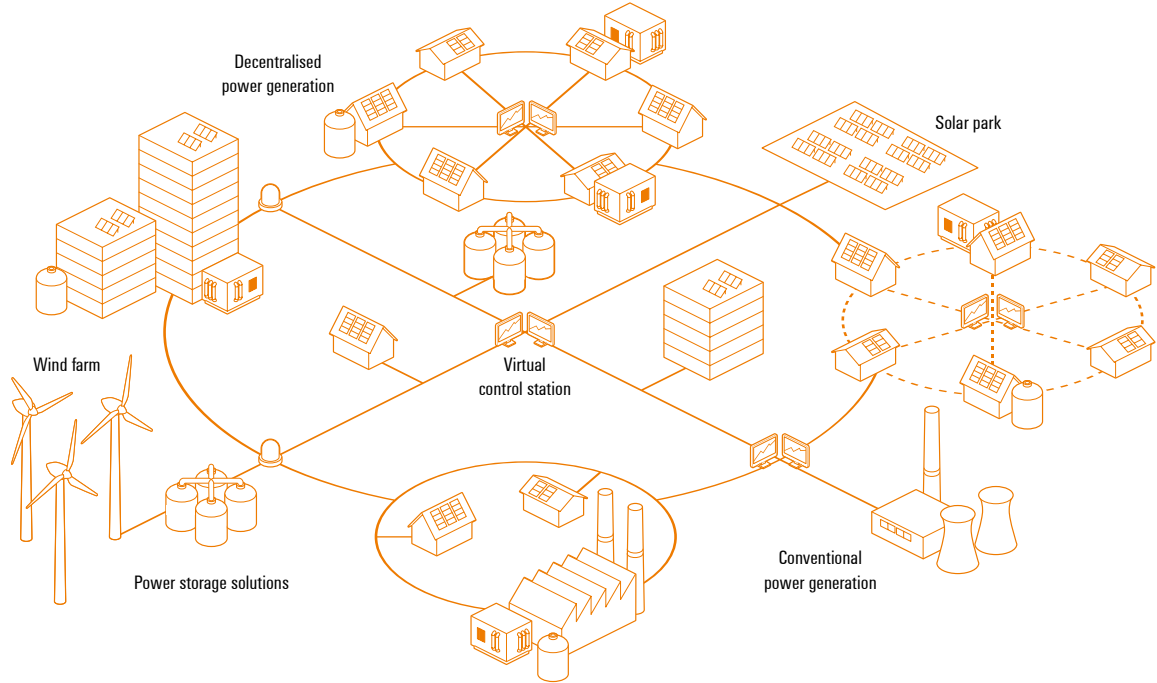
# An new era in power has begun

## Smart technologies are taking over the industry

Our power supply will change in the future. Renewable and conventional power sources are complementing one another and being put to optimum use. To ensure crucial supply security, intelligent power networks – known as smart

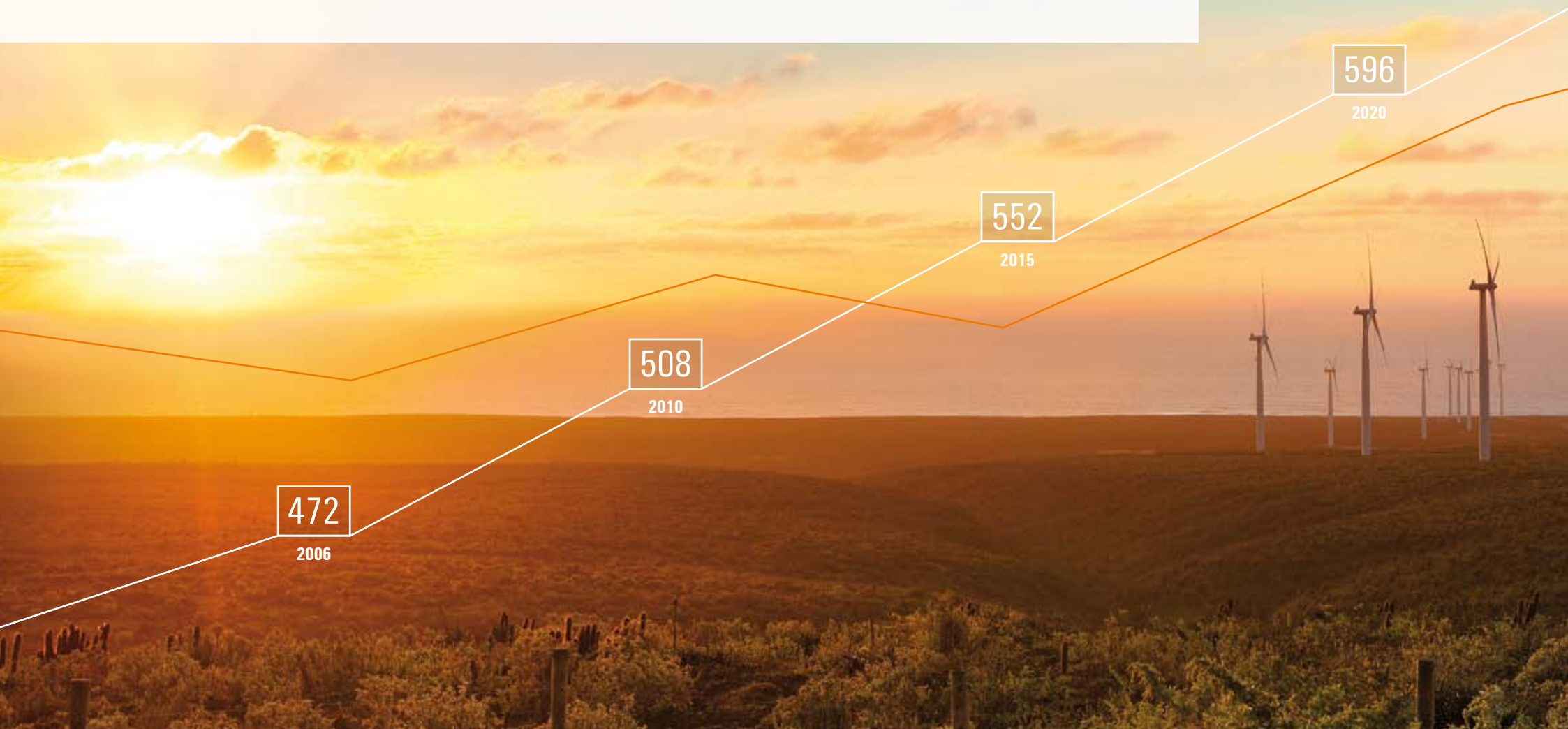
grids – are being developed to make possible communicative networking and control of power generators and consumers. This development means a shift from central to virtual control stations and solutions. The ultimate goal is to

optimise, monitor and safeguard the supply of power. By using smart grids and smart applications, suppliers are winning new business segments and the industry is treading new paths.



**Vision for the future**  
Intelligent power networks

# Going forwards together: Weidmüller – the competent partner in intelligent power supply





Forecast of global power consumption up to 2030 (in quadrillion BTU)

Source: statista.com; EIA

## Power supply is changing dynamically

### New requirements offer opportunities for innovative providers

The importance assigned to low CO<sub>2</sub> energy production with zero emissions is growing all the time. The challenge is to ensure plant availability through transmission reliability. At all times.

As an international industrial connectivity partner, we provide a wide range of powerful modules and components developed especially for these requirements. Our products help to improve efficiency and simplify commissioning and maintenance in the long term.

**The big picture:  
excellent support through  
integrated solutions**





# Power generation solutions

## Smooth plant operation with few faults and little maintenance

Only when one dovetails with the other is smooth plant operation with few faults and little maintenance ensured. And the power yield is optimum. Weidmüller provides integrated, practical solutions with products perfectly matched to one another.

### Wind power

The main priorities for forward-looking operation of wind farms in all climate zones and under all weather conditions are turbine availability and efficiency. Offering resistance to shock and vibrations, heat and cold, fluctuating air humidity and a high air salt content, our components support safe and fault-free turbine operation under even the toughest environmental conditions. Our products for wind power applications are used, for example, in the top box of the enclosure, in the pitch box in the lift and in the bottom box in the tower base.

### Photovoltaics

With our wide range of specially designed components for ensuring output, we are helping to improve the efficiency of photovoltaic systems. An example of this is the junction box for photovoltaic modules. This enables fully automatic process handling, helps to optimise the production costs of photovoltaic modules and is designed for special, industrial requirements.

### Conventional power plants

Combined heat and power plants such as gas-fired power stations and block-type thermal power stations use Weidmüller products, such as the most compact marshalling terminal block currently found anywhere in the world. Our ready-for-installation housing configurations with integrated electronic products and modular terminals are individually adapted to the specific requirements of every customer. Our development work is known for its great proximity to the customer.

# The best connections: reliability and safety in transmission and distribution





Forecast of global investments in intelligent power networks between 2010 and 2015 (in billion US Dollars)

Source: statista.com; Thomas Reuters

## Intelligent grids form the basis for changing the power system

### Power and information networks are merging to form the smart grid

A key question when changing the power system is how centralised and decentralised systems can be integrated into the supply network. Grid operators face the challenge of meeting tougher grid stability requirements and driving forward expansion in grid technology. By networking within an intelligent power network, for example, maximum use can be made of peaks in solar and wind power, energy demand can be optimally covered and efficient use made of stored power.

We have set ourselves these challenges. Weidmüller provides intelligent products for use in the control and protection systems deployed in transformer stations. In secondary technology, our plug-in connector system enables simplified and secure access to the switchgears' protective systems. We are therefore helping to create safe and smooth processes, ensure supply security and simplify plant maintenance. As a reliable partner, we convert, protect and transmit power, signals and data using efficient electronic products with international approvals.

We've got the future covered – for the power supply of tomorrow. Let's connect.

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