

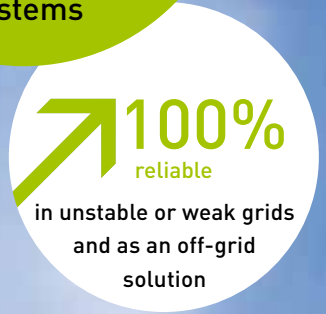
Intelligent power supply for telecommunication systems.

Reliable connections – everywhere and at all times.



tele solutions

First choice for telecommunication systems



100%
reliable

in unstable or weak grids and as an off-grid solution



→ Facts

Powerful performance:

The CellCube can be used for base stations with power up to 10 kW. The high capacity enables the CellCube to be charged quickly, for example when availability of the mains supply is interrupted. The **100 kWh storage capacity** is sufficient to supply all the needs of a base station with an average power of **2.65 kW for more than one and a half days** in the absence of the mains supply or if the generator should fail.

Reliable power supply:

Conventional battery systems suffer frequent charging and discharging when the availability of the mains supply is erratic. With the **unlimited cycling** provided by the vanadium redox flow technology used in the CellCube, this is no problem.

Straightforward to use:

The CellCube is a ready-to-use system including all the necessary components. In contrast to frequently used lead-acid batteries for which an additional battery room is required, the weatherproof CellCube can be sited outdoors.

self-sufficient

- low-maintenance
- durable lifespan
- remote maintenance

optimal

in unstable or weak grids, long autonomous time

up to
13,140 l
of diesel

are saved by one
CellCube each year

→ Benefits

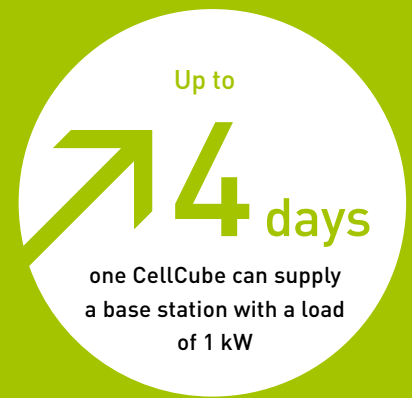
- No expensive replacement of lead-acid batteries
- Extremely long life
- No use of heavy metals
- Remote or online maintenance possible

→ Comparative benefits

Using a CellCube can avoid many problems in comparison with diesel generators:

- Enormous diesel and transport costs
- Dependency on diesel prices
- Easy integration into DC telecom networks
- Low maintenance

Emission-free and independent power supply for the telecommunication industry.



The initial effects of climate change, the rising global population, ever-greater use of dwindling resources – even at first glance, there are many good reasons to consider alternative forms of energy.

→ From generation with the WindCarrier or SunCarrier to storage and provision of power with the CellCube storage system, GILDEMEISTER **energy** solutions provides **complete system solutions for renewable energy**. Efficient, long-life, low-maintenance, reliable. And with many uses – for example with telecommunication systems.

Base stations rely on a stable and reliable power supply in order to guarantee the best area-wide communication for the digital GSM mobile wireless network. Diesel generators are often used for operating telecom base stations, particularly in areas where there is no mains electricity or where the power supply is uncertain. These are associated with high costs for operation and maintenance and a heavy usage of fossil fuels.

→ CellCube highlights

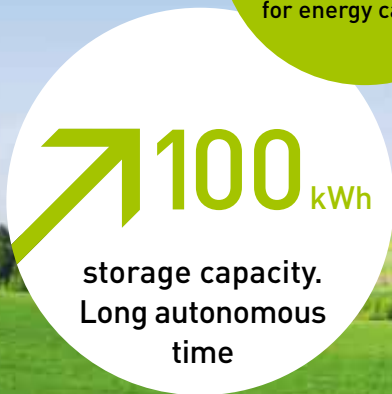
→ Simple replacement of existing battery solutions in telecom **backup power supply systems** → **Simple serial connection** makes the standard telecom power supply solution independent of energie fluctuations → CellCube can easily be incorporated into existing DC telecom systems by using a plug-in solution, which is simply inserted between the electricity supply and the telecom power supply → **Complete system solution** including specially matched charge controller and DC transformer; can be connected to different energy sources → **Ready-to-use energy storage** in weather-proof and tamper-proof housing → **Unlimited cycling** (charging/discharging) of energy carrier → **Deep-discharge capability** → **Nominal power 10 kW**, peak power up to 15 kW, fast power intake → **Up to 100 kWh storage capacity**, long autonomous time → Can also be used in areas with **high ambient temperatures** → **Works without power and ageing losses** → **Monitoring system** enables remote maintenance and access to the system via the Internet

→ Applications of the CellCube battery system

- As a replacement for high-maintenance and environmentally damaging battery systems and diesel generators
- In weak grid connections
- As an off-grid solution in areas without grid connection
- Universally for all signal transmission stations

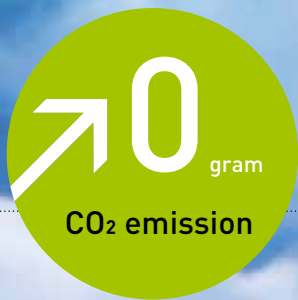
The future is already on air. Clean electricity at all time.

→ The SunCarrier 70 (up to 14 kWp), WindCarrier (10 kW) and CellCube FB 10-100 provide a perfectly matched system for the reliable operation of telecommunication systems. SunCarrier and WindCarrier are scalable and ensure an adequate supply of power. The CellCube battery can be relied upon to make the stored energy available as required in the absence of wind and in darkness. The CellCube is of course ideal for integrating into the telecom power supply in mains-coupled operation.



→ Energy of tomorrow for the communication of today

→ **Maximum energy yield** and exceptional amortisation times → **140 years of engineering tradition** from the GILDEMEISTER Group
→ **New ideas and concepts** within the whole value-added chain at a competitive price → **Resource conservation and sustainable power** in conjunction with expertise, efficiency and commitment. **Using CellCube and state-of-the-art technology.**



GILDEMEISTER **energy** solutions for telecommunication systems:

→ WindCarrier

The new generation of small vertical wind turbines with a rated power of 10 kW is independent of the wind direction, start-up as of 3m/s wind speed and guarantees efficient power generation. Operating without a gearbox using the Darrieus principle with high efficiency, low-maintenance and long life, the WindCarrier with a hub height of 10 m opens up completely new fields of application.

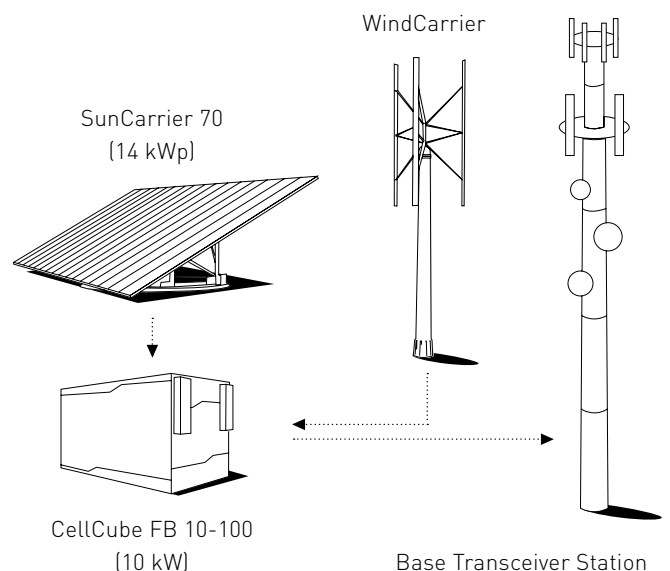
→ SunCarrier 70

Even with small dimensions, make big things: The new addition to the globally proven SunCarrier range. Thanks to its low installed height of around 4 m, the small footprint and a module area of up to 84 m², the system provides an output of 14 kWp and offers high flexibility in the choice of location. The SunCarrier 70 is distinguished by a well-conceived assembly concept and by simple and extremely fast system installation.

→ CellCube

Innovative energy storage: the CellCube is a long-lasting, low-maintenance, vanadium-based redox flow battery. It draws power from a variety of energy sources, such as the electricity network, generators, solar power systems and wind turbines, and delivers it continuously. Even in the dark and when there is no wind. Cleanly, without emissions and fast. Regardless of where and what for. And of course, 24 hours a day, 7 days a week.

→ Example



→ Dimensions

CellCube FB 10-100: 4,5 m × 2,2 m

SunCarrier 70: 84 m²

Module area WindCarrier: 10 m hub height

Generate up to 20% of your power requirements.

Free yourself from increasing power costs with innovative and fully integrated solutions to generate, store and utilise 100% sustainably generated energy.



Global presence: GILDEMEISTER **energy** solutions operates a global service network in cooperation with 75 international GILDEMEISTER sales and service locations.



MORE INFORMATION HERE!
If your mobile phone comes with QR-Code recognition software, you will be directed to www.gildemeister.com.

→ generate

→ **SunCarrier:** The SunCarrier is a **unique tracking system** which continuously aligns the surface of its modules with the current position of the sun via its vertical axis.

→ **WindCarrier:** The new generation of small wind turbines using the Darrieus principle with a rated power of 10 kW **guarantees efficient power generation.**

→ store

→ **CellCube:** A new generation of stable electricity storage devices – the long-life and low-maintenance vanadium-based **redox flow battery** provides **uninterruptible power, supplied for example by solar- or wind-powered systems.** The large, weather-proof battery is extremely low-maintenance and is therefore able to supply clean electricity 24 hours a day.

→ utilise

Intelligent products and technologies for modern energy management:

→ e-mobilitysolutions → telesolutions
→ backupsolutions → off-gridsolutions
→ industrialsolutions → powersolutions

→ Visit us at our **energy solutions Park in Bielefeld** and experience modern energy supply first-hand: Gildemeisterstrasse 60, 33689 Bielefeld, Germany

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