

PHOTOVOLTAIC SOLUTIONS

IoT Solutions for photovoltaic projects



About us

MTX & Webdyn are the two brands of the tech holding **Flexitron Group** dedicated to the design, development and manufacture of connectivity devices for IoT projects.



Multipurpose IoT routers, modems and gateways for wireless communication GSM, wired and short-range wireless.



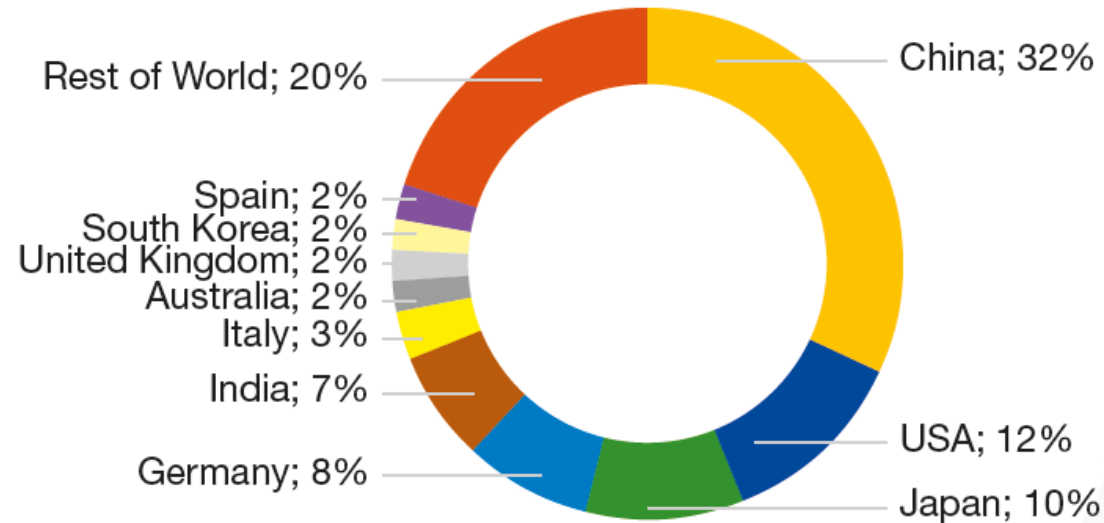
Hardware and software solutions for M2M communication in the Energy, Environment, Smart Grids and Transport markets

Solar market: worldwide situation

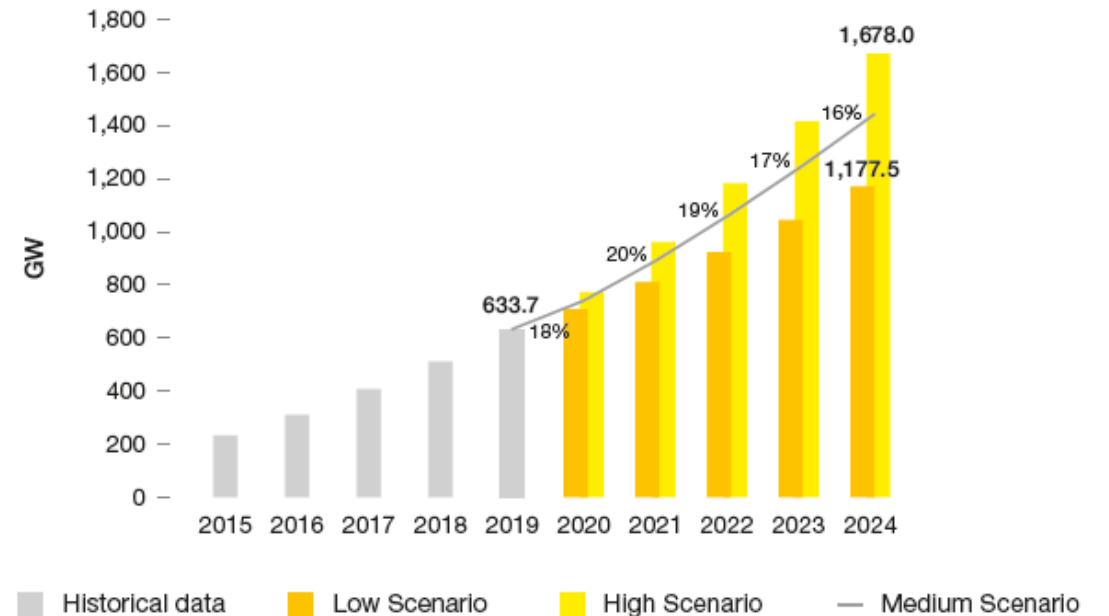
Until 2016: 300 GW of cumulative solar installed worldwide

2017: 100 GW of new solar added worldwide

TOP 10 TOTAL SOLAR PV INSTALLED SHARES 2019

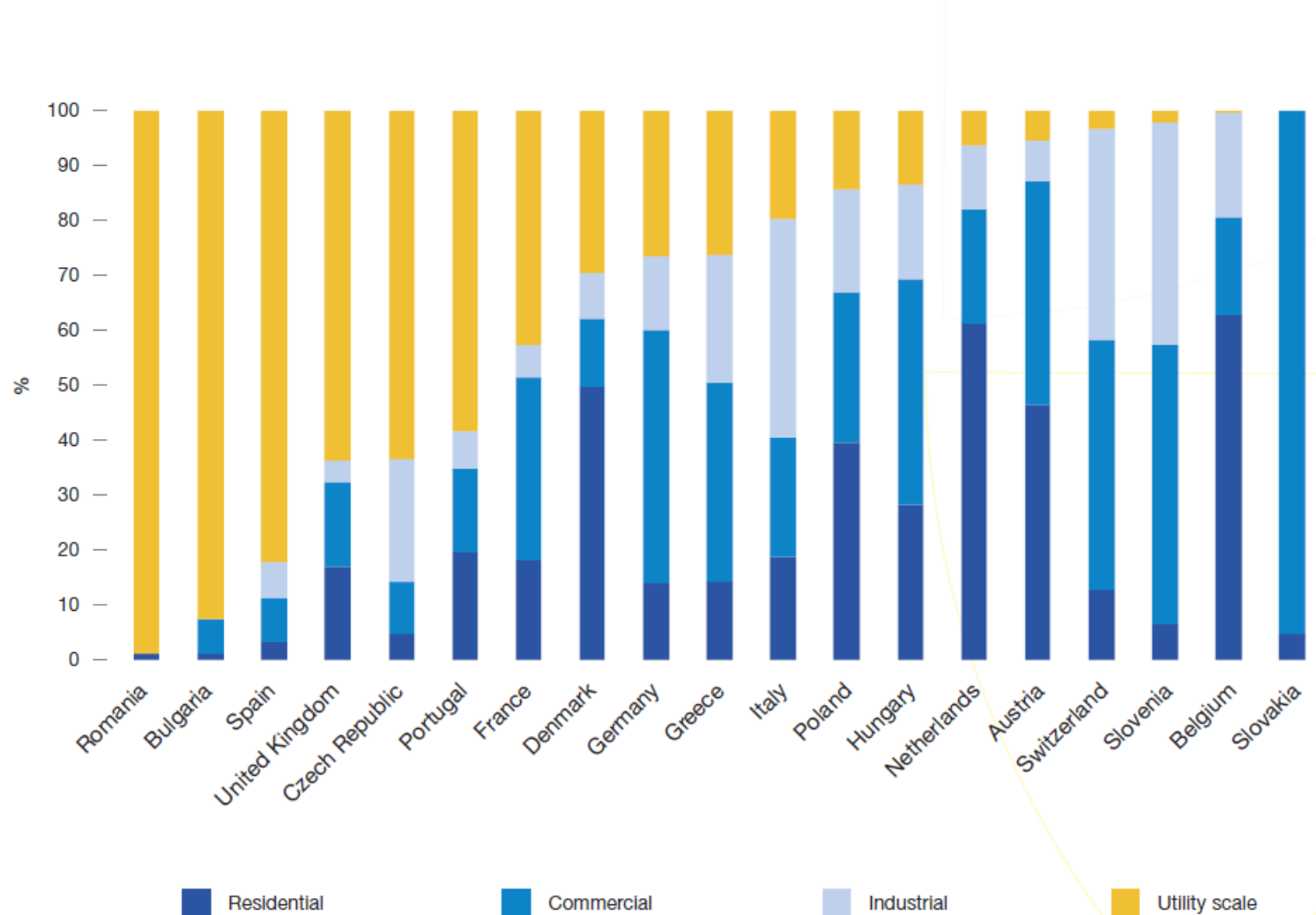


TOTAL SOLAR PV MARKET SCENARIOS 2020-2024



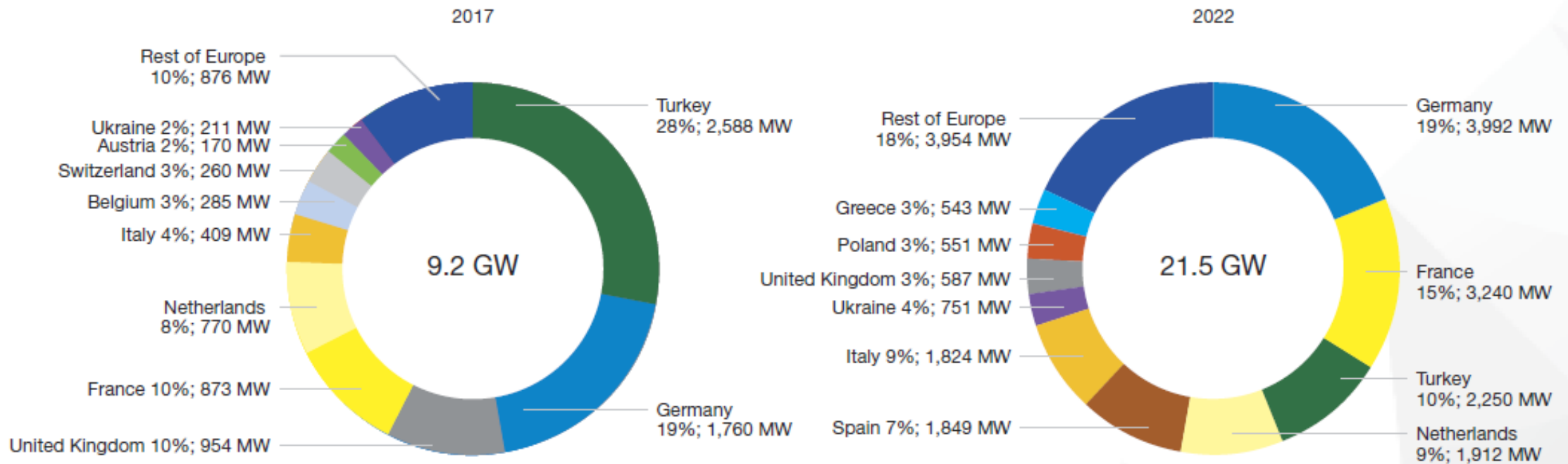
Solar market: european situation

FIGURE 27 EUROPEAN SOLAR PV TOTAL CAPACITY UNTIL 2017 FOR SELECTED COUNTRIES



Solar market: european situation

FIGURE 33 CAPACITY ADDITIONS AND SHARES OF TOP 10 EUROPEAN SOLAR PV MARKETS IN 2017 AND 2022

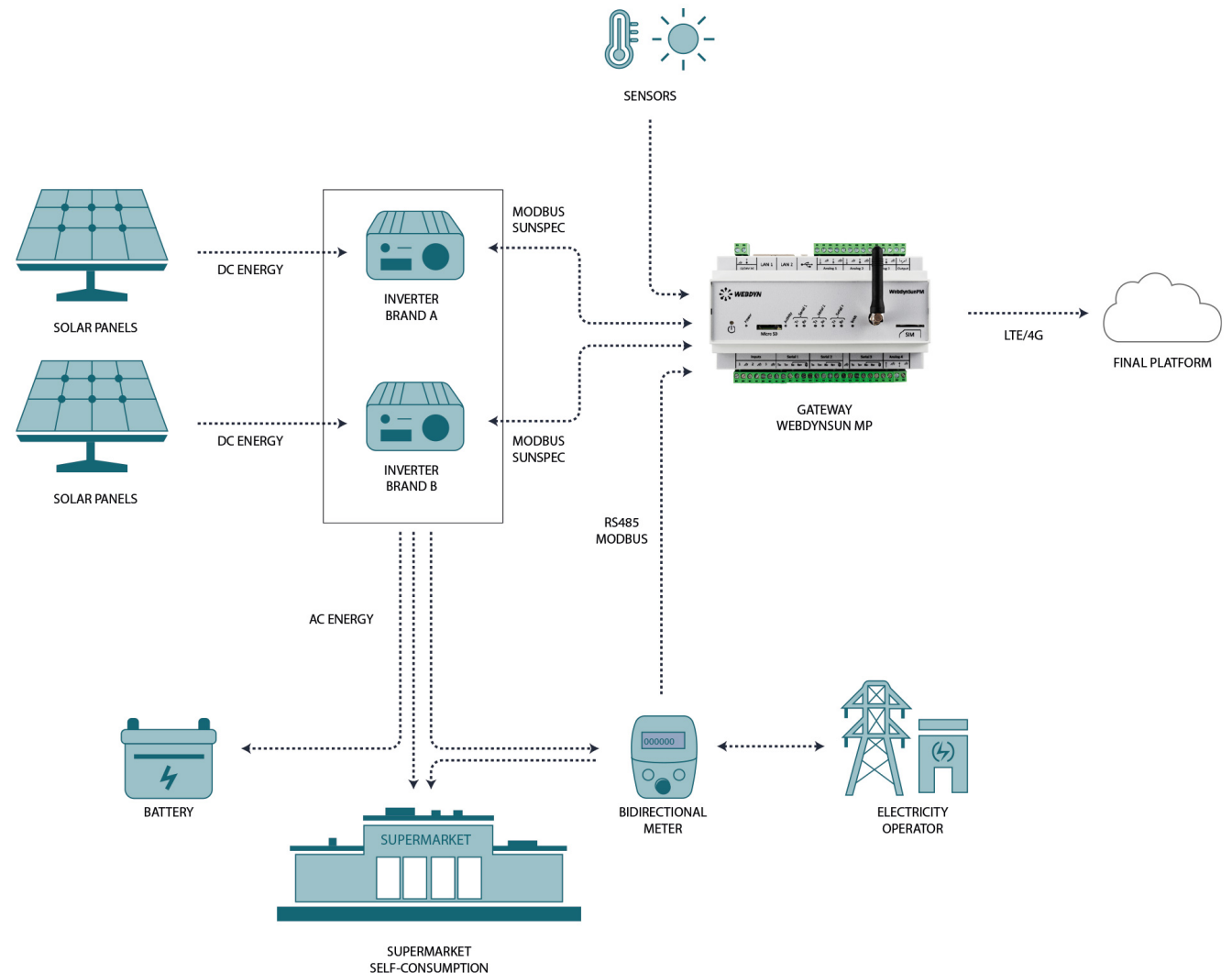


Solution architecture

SOLAR SELF-CONSUMPTION IN A SUPERMARKET

When we face a large solar energy self-consumption installation, the main challenge for its success is to be able to monitor all its devices and to act on them to achieve what we call **“zero injection”**. This case study consists on controlling the installation by **sizing the energy production to fully supply the building** (in this case a large supermarket) without suffering an excess of energy that must be poured into the electricity grid.

In this kind of large-scale installations, it is especially important to be able to **independently read any inverter brand and to communicate with them in order to size the energy production to achieve “zero injection”** if necessary. It is also important to be able to control as **many inverters as possible**, which will allow us to reduce costs. In addition, the installation **sensors and the submetering meter should also be monitored with the same connectivity equipment**. Finally, it is also important that the information collected by our communication and control devices can **communicate in a transparent way with any Solar Energy control platform**.



Hardware: WebdynSun PM

OPERATION

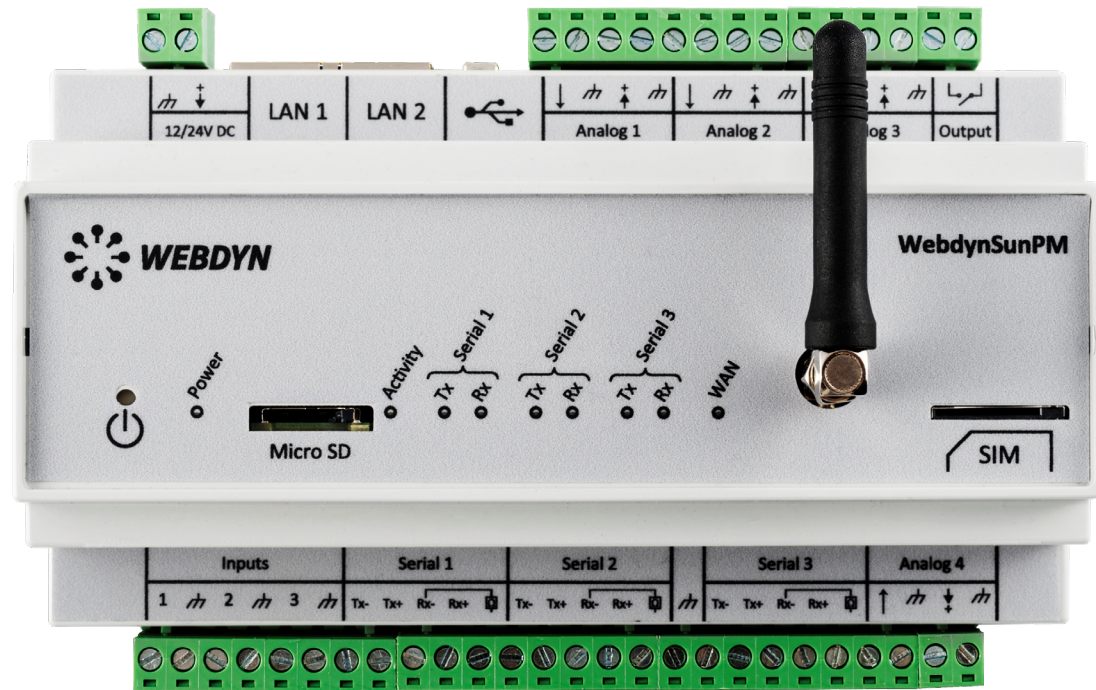
- Data collection
- The data is sent to one or two servers or locally backed up on a Micro SD card
- Real-time alarms
- Simplified local or remote configuration and maintenance
- Power management (offloading, power management, auto-consumption, storage, etc.)

STRENGTHS

- 3 RS485/422 data buses (inverters, displays, Modbus slaves, etc...)
- Compatible with commercially available inverters
- Very low data consumption on mobile networks
- 2 possible destination servers
- Server redundancy
- Power management

THE BENEFITS

- All data is aggregated whatever the brands or types
- Real time supervision and remote maintenance
- Optimisation of production output
- Data security



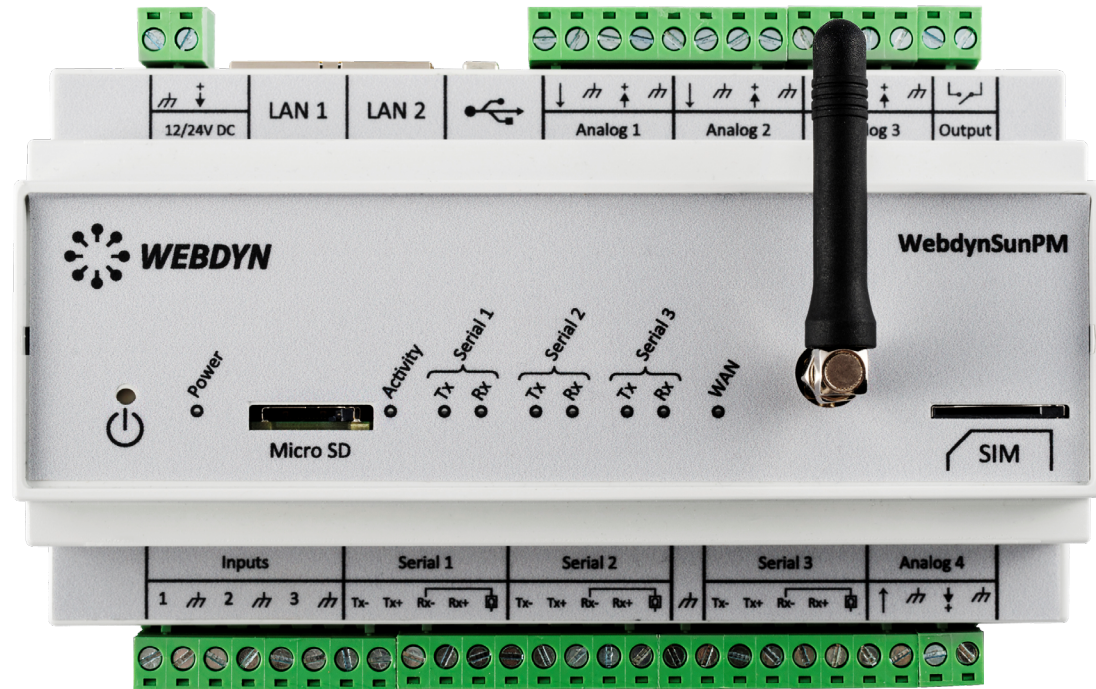
Hardware: WebdynSun PM

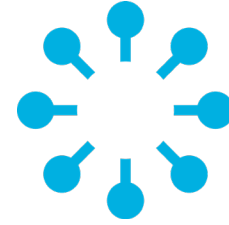
TECHNICAL SPECIFICATIOS

- Serial interfaces: 3 RS485/RS422 ports
- GPIO I/O interface: 4 analog inputs 0/10V-4/20mA – 3 ON-OFF or pulsed inputs and 1 relay
- IP network interfaces:
 - 2 ethernet ports: 10/100Mbps/s
 - GSM/GPRS/EDGE/3G Modem
 - 3G: HSPA (B1 and B8)
 - 2G: EDGE, GSM, GPRS (B1 and B8)
- 1USB port
- 1 Micro SD port
- 1 external aerial (SMA connector)

MONITORING SPECIFICATIONS

- Inverters (possibility of managing over 200 inverters)
- Modbus RTU or TCP slaves
- Environment (sunlight, temperature, ...)
- SO pulse meters (Class A and B)
- Dry contact inputs (circuit breakers, break-in, etc...)
- Relays
- PLCs
- Electric grid management system (DEIE, etc...)





THANK YOU.

