



VENSYS ET - Innovative Power Conversion and Energy Management System Solution for the energy and mobility transition

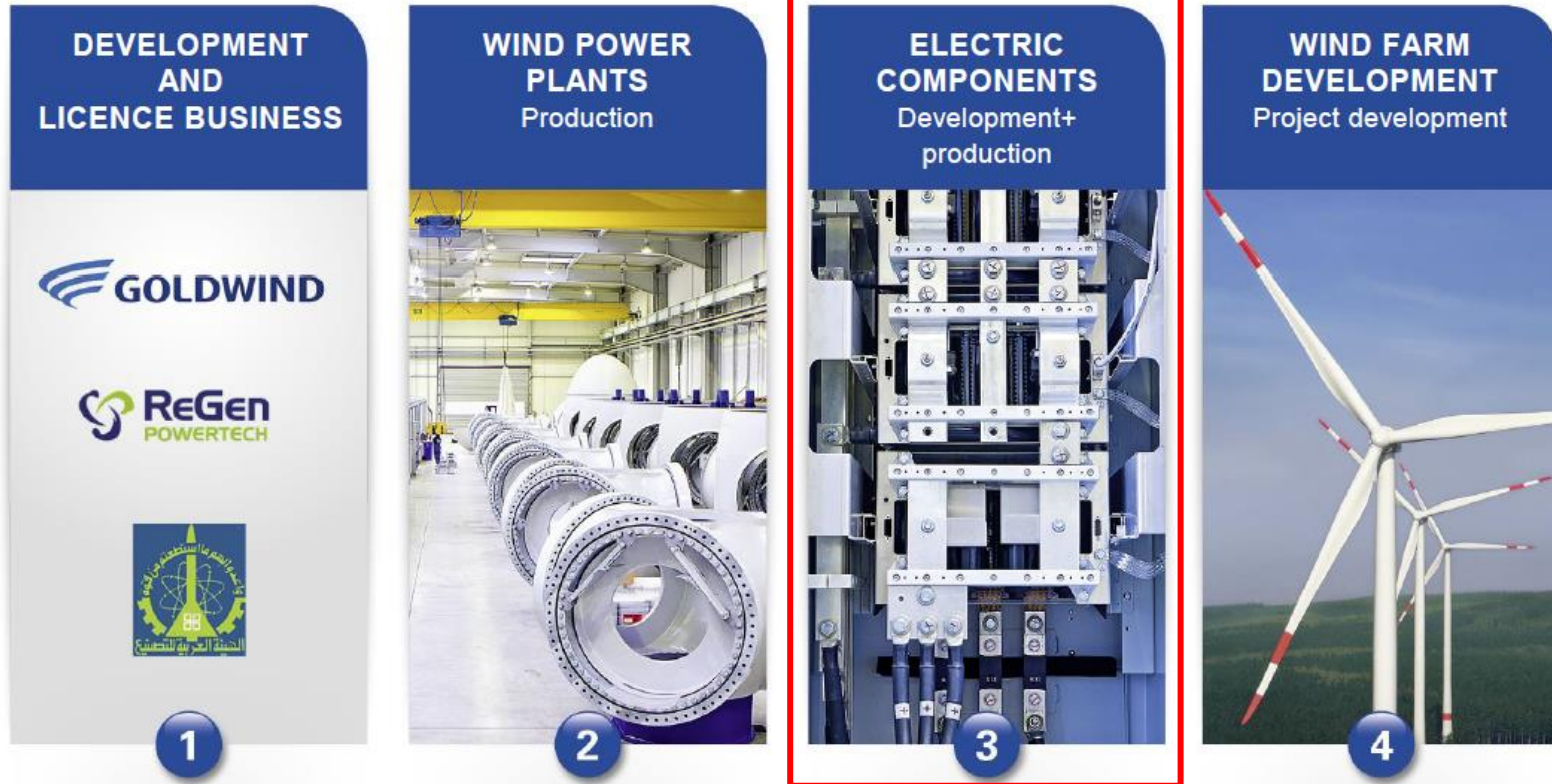
Dienstag, 15. November 2022

Guluma F. Megersa



Introduction VENSYS

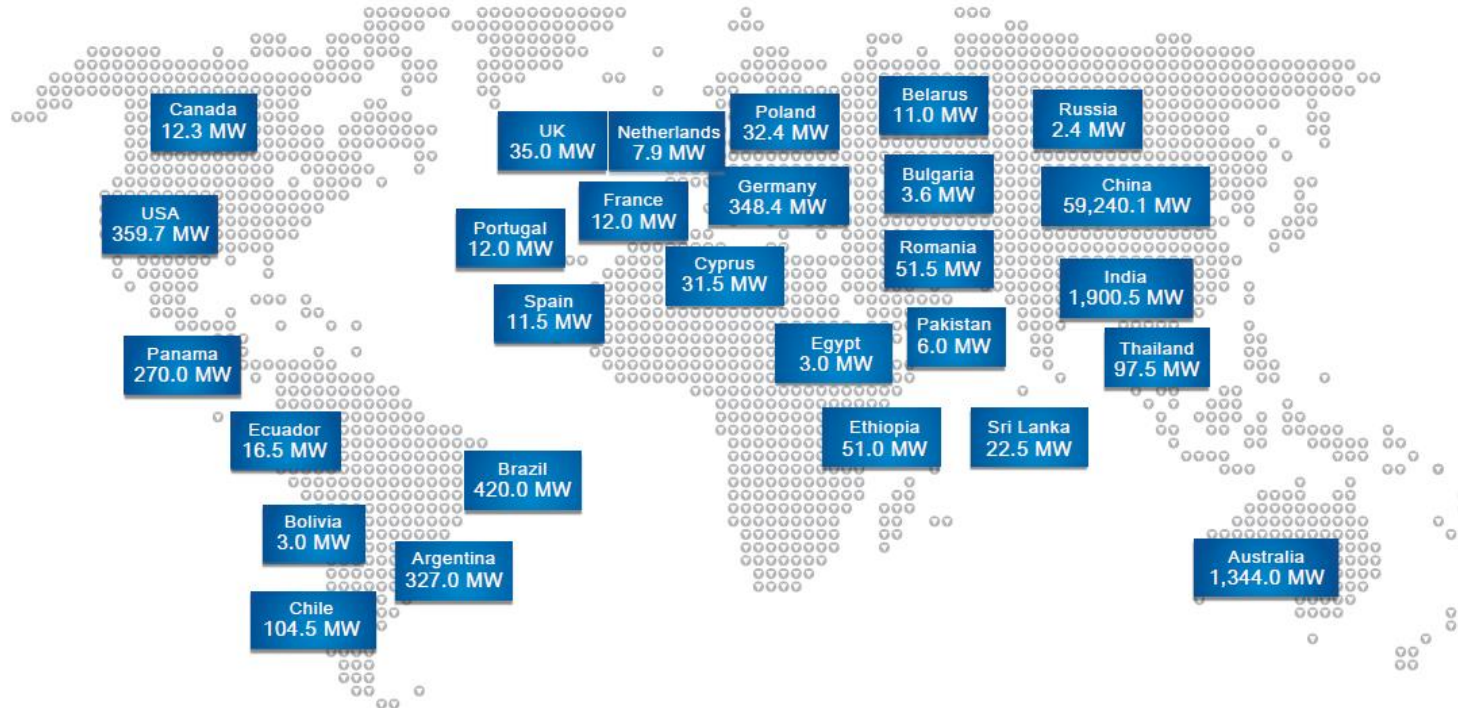
VENSYS Group at a glance



Introduction VENSYS

References worldwide

More than **64,736.8 MW** installed with our direct drive wind turbine technology



32,6674 wind turbines worldwide

As of February 2022

Introduction VENSYS

Locations



VENSYS Energy AG
Headquarter - Neunkirchen (GER)



VENSYS Elektrotechnik GmbH
Production (Electrotechnical) - Diepholz (GER)



VENSYS Energy AG
Production (WEC) - Neunkirchen (GER)



Eblades Technology SL.
Production (Blades) - Granada (ESP)

Introduction VENSYS

History of VENSYS Elektrotechnik GmbH

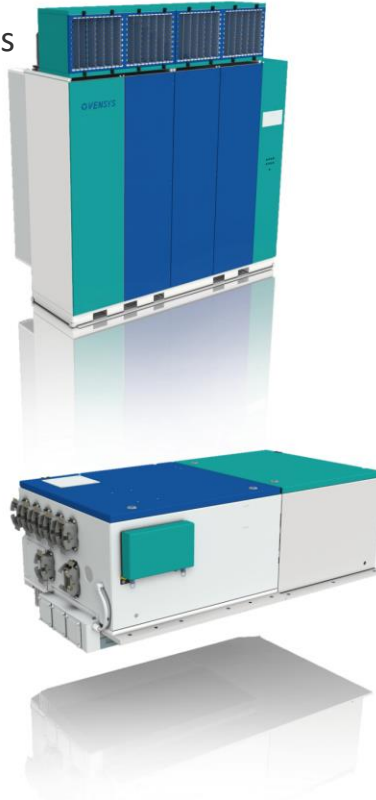
- **2008** Establishment of VENSYS Elektrotechnik
Electrical components and power electronics for wind turbines
- **2011** Start in the PV sector: VENSYS solar inverter
- **2014** Built the first integrated storage system on VENSYS site
- **2015** Development of VENSYS Lithium-Ion Storage System
- **2017** Launch of Outdoor Storage System
- **2019** Launch of VENCON Hybrid Converter
- **2021** Awarded as top innovator within the TOP100 competition



Introduction VENSYS

VENSYS Elektrotechnik Products

VENSYS High Power Converters



VENSYS Pitch Systems

VENSYS Topbox



VENCON power converter



Introduction to VENCON power converter platform

Product fact sheet

Main Components:

Cabinet

Power modules (AC & DC power module)

DC bus bar

Control mounting plate

DC mounting plate

AC mounting plate

Choke

Display

Compact design

Dimensions: 980 kg @ 1213 x 656 x 2351 mm

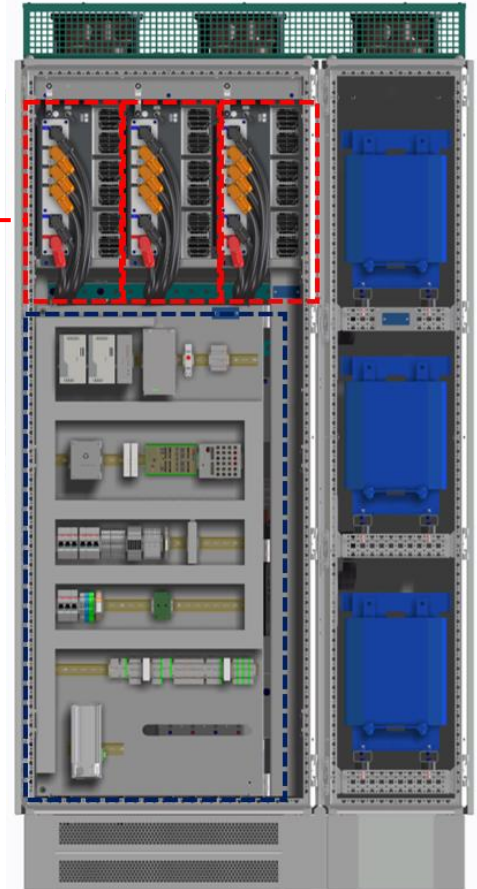
Ideal for container integration since free standing

Optional outdoor housing

Operating temperature: -20 °C to +40 °C (upto +50 °C with derating)

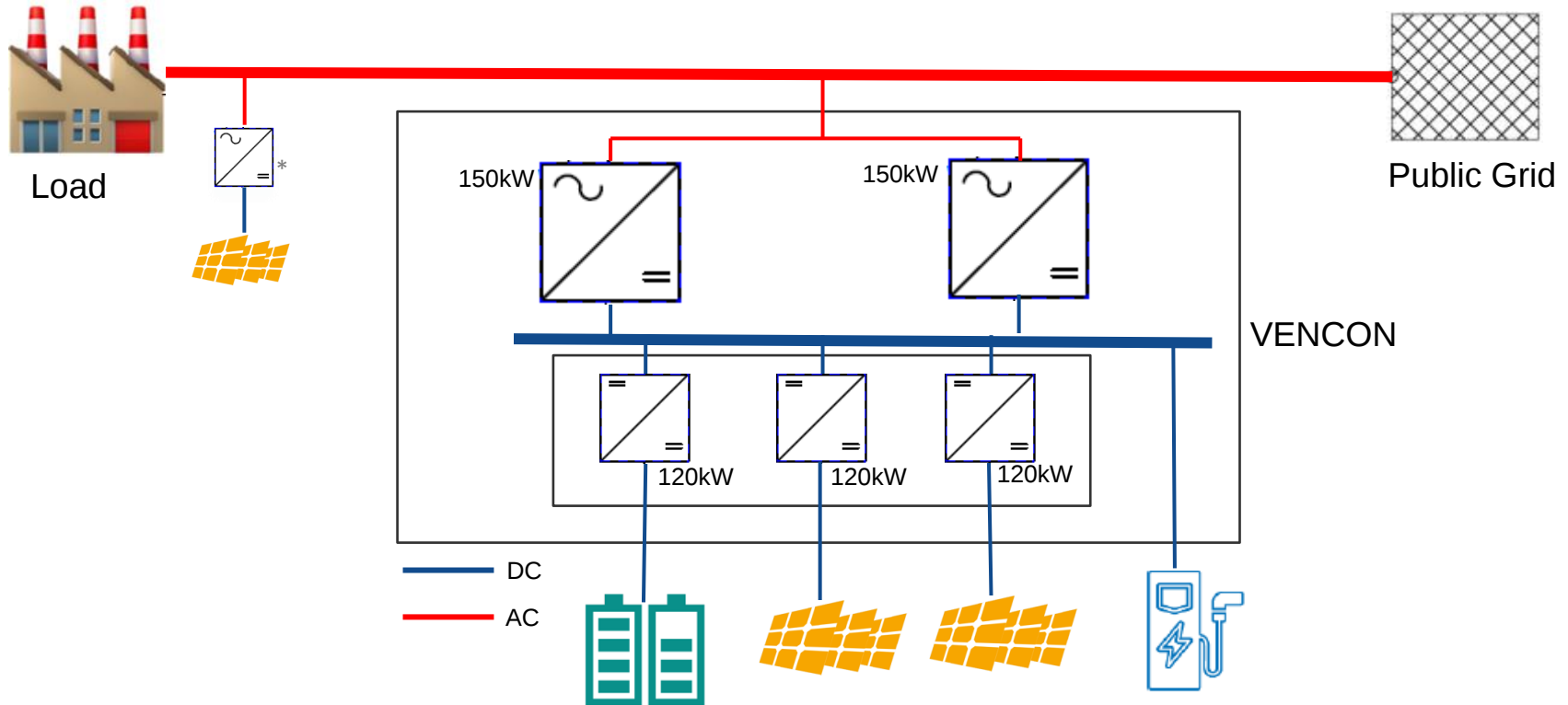
Cable entry at the bottom

Air Cooling



Introduction to VENCON power converter platform

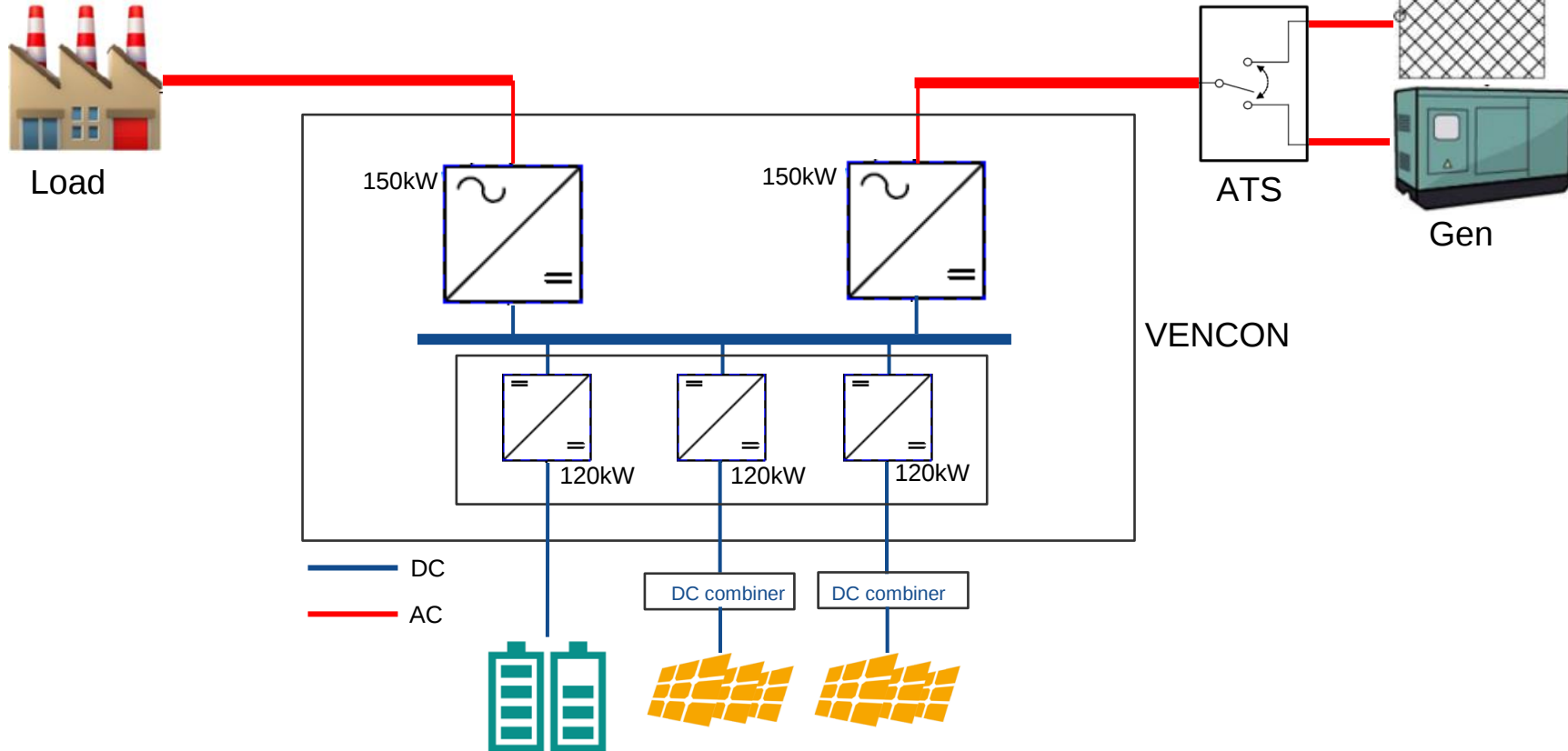
VENCON as all-in-one hybrid inverter for PV self-consumption, peak load shaving and EV fast charging



* 3rd party PV inverter

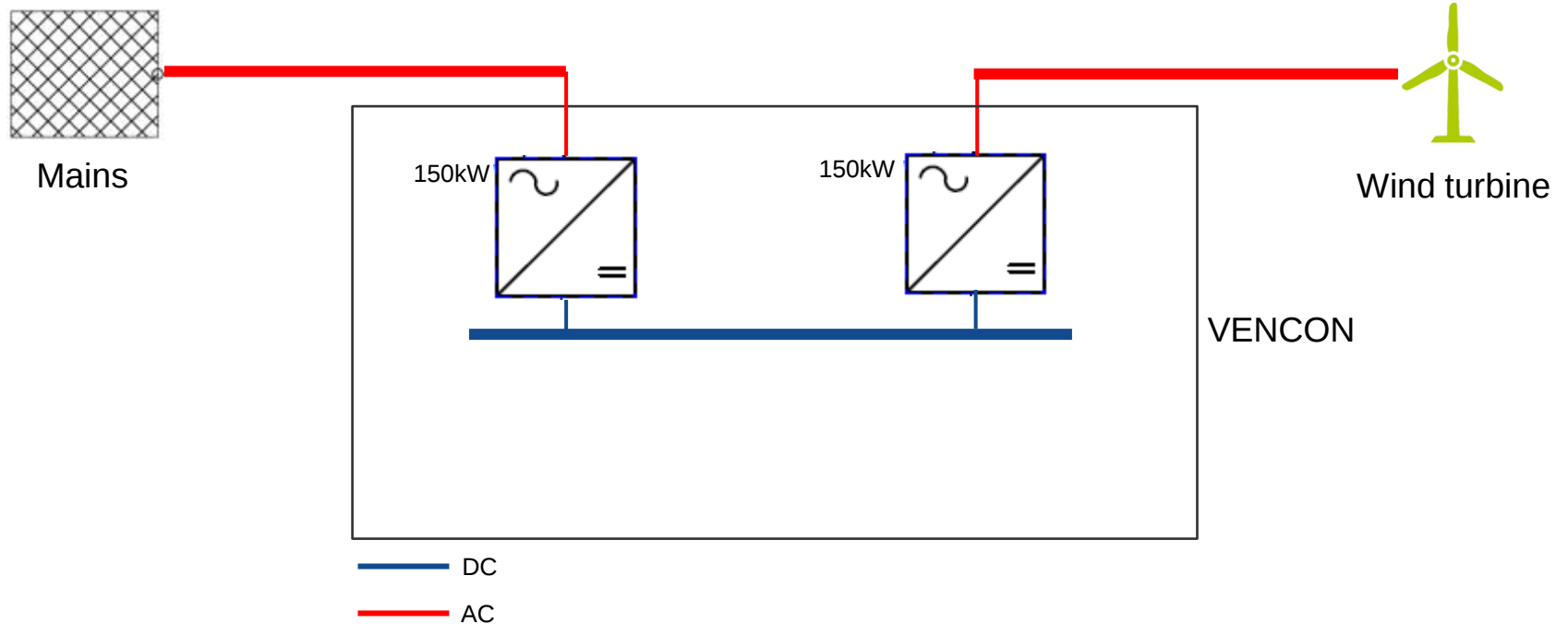
Introduction to VENCON power converter platform

VENCON as all-in-one hybrid inverter for online UPS with self-consumpt. & peak load shaving



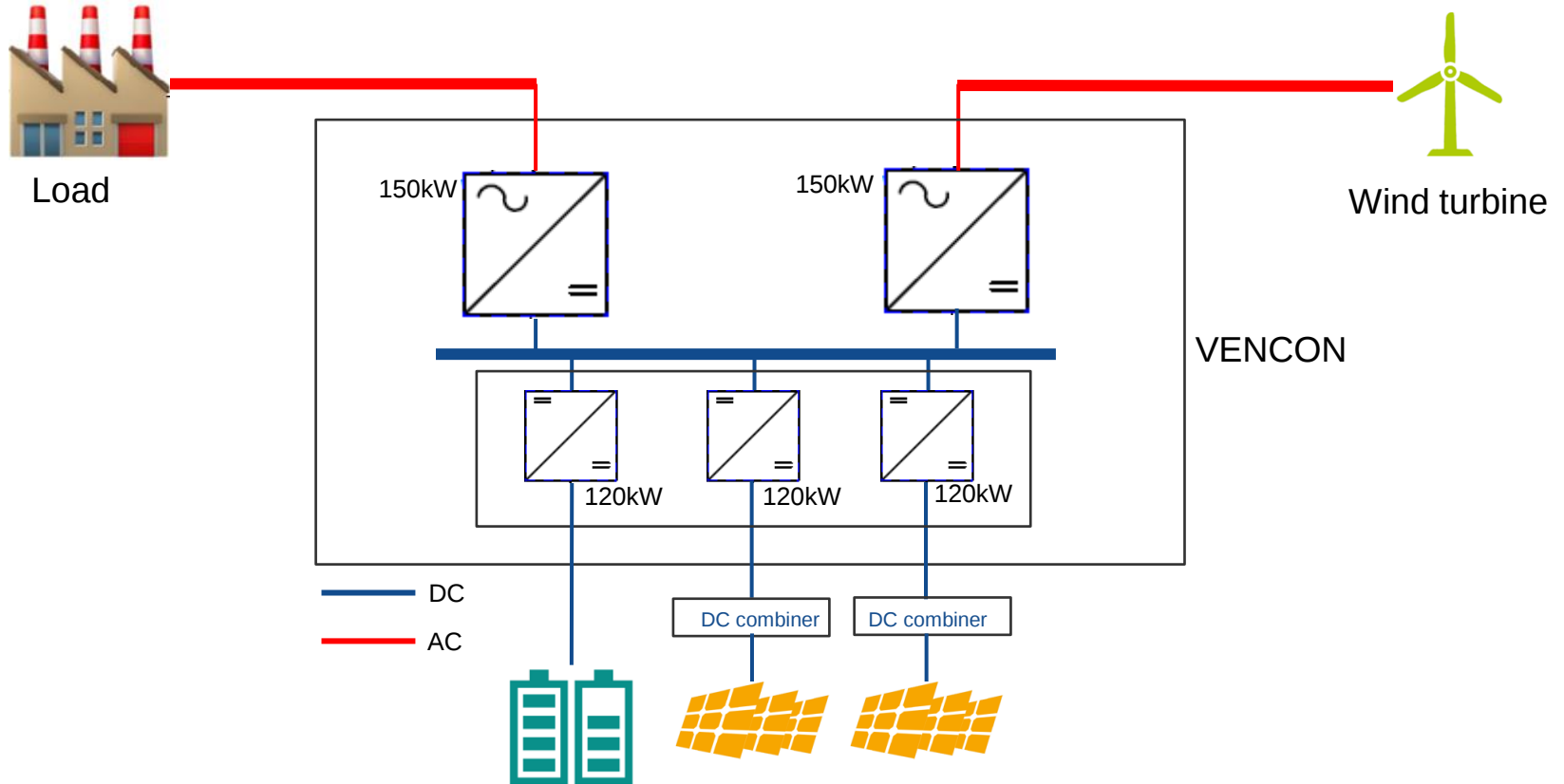
Introduction to VENCON power converter platform

VENCON as frequency converter for rotating generators



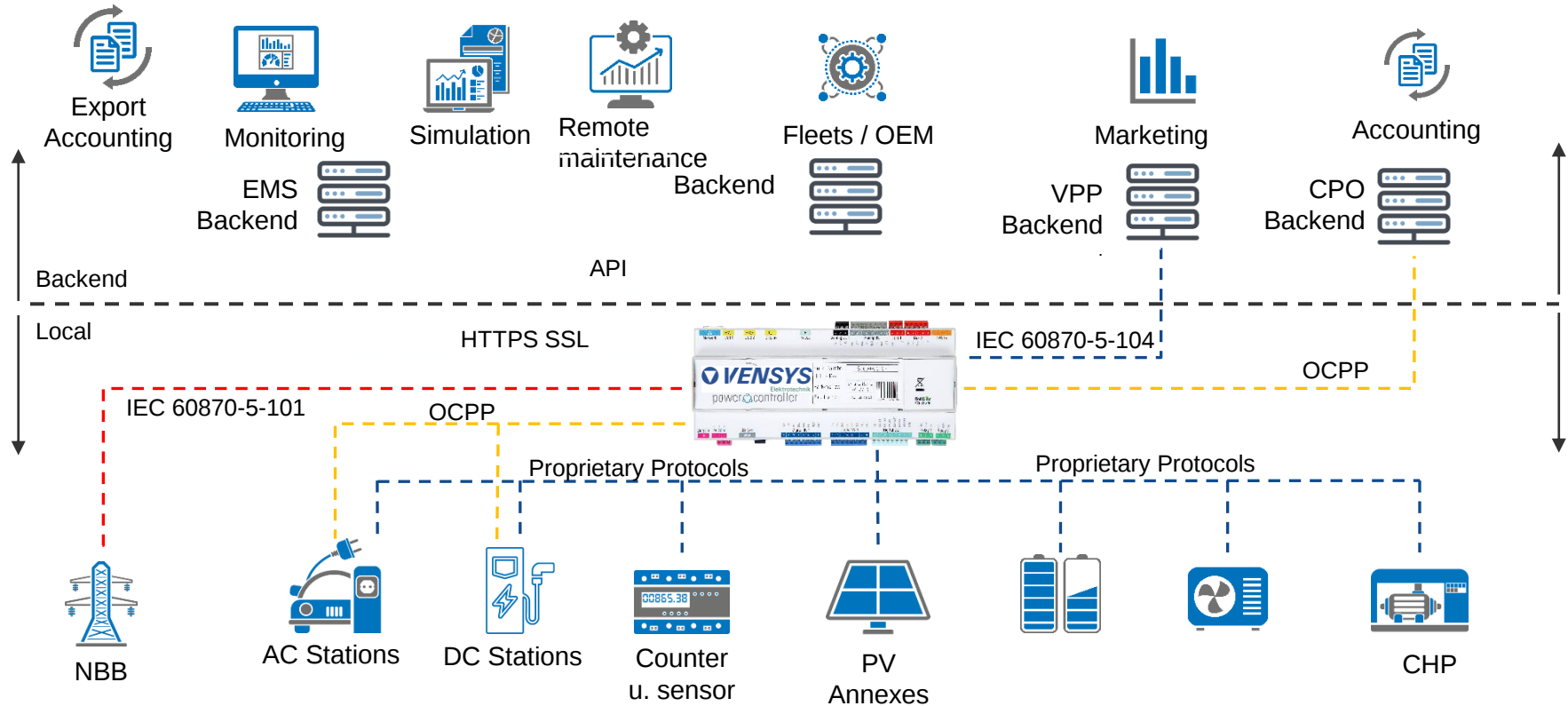
Introduction to VENCON power converter platform

VENCON as all-in-one hybrid inverter for solar + small wind + battery projects



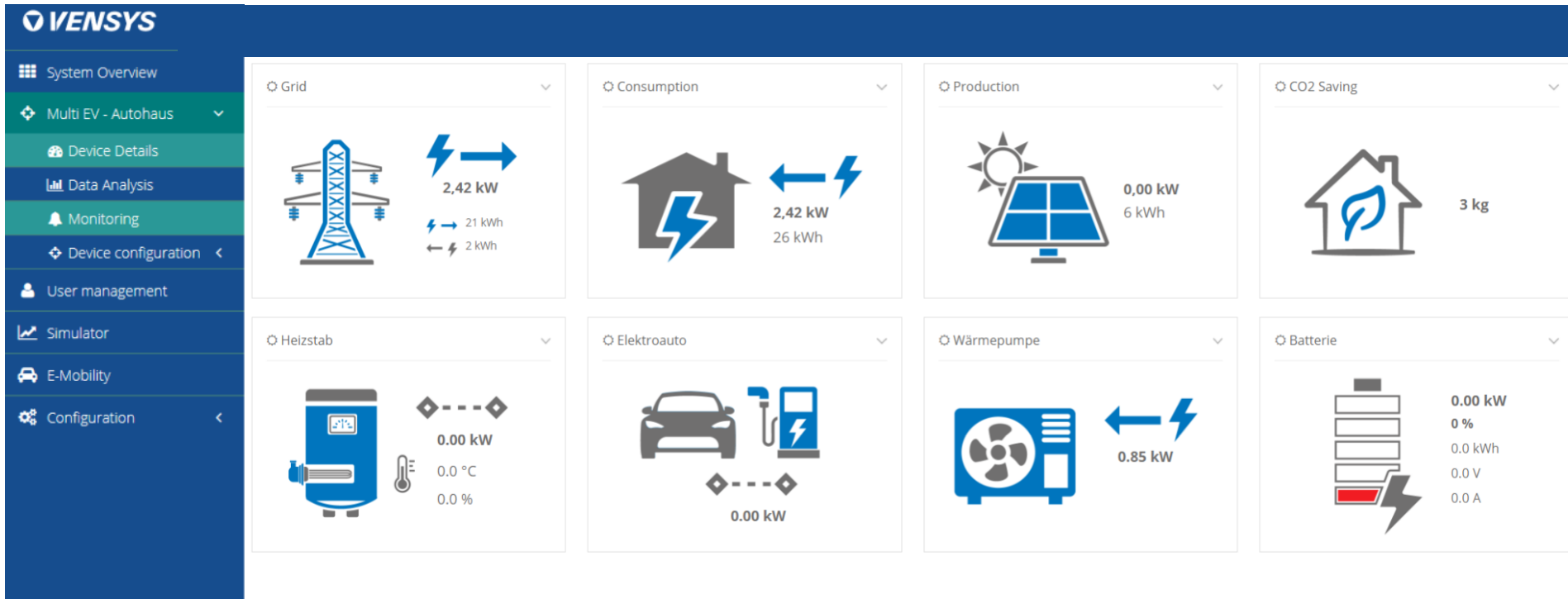
Introduction to VENCLOUD EMS platform

EMS Concept for VENCON Systems



Introduction to VENCLOUD EMS plattform

Overview of the VENCLOUD platform (cloud based)



Introduction to VENCHARGE DC fast charger

Technical specs of VENCHARGE



TECHNICAL DATA

INPUT PARAMETERS

AC frequency	45 – 65 Hz
AC voltage	3-phases +N +PE, 260 VAC – 530 VAC
DC voltage	720 - 810 V*
Power factor	> 0,99
Total harmonic current	< 5 % (Rated input)

OUTPUT PARAMETERS

DC voltage accuracy	< ± 0,5 %
Output DC voltage range	150 V – 1000 V
Max. DC output current	600A@300V / 360A@500V / 180A@1000V Each charging cable's max output current is 200A/CCS (optional 300A), 250A/GBT, 125A/CHAdeMO.
Max. DC output power	180 kW
Max. system efficiency	> 95,0 % (Rated input and output)
AC output	AC-Typ 2, 22 kW/32 A

VENSYS VENCON

Perfect for Smart-Grid Solutions



1 Photovoltaic systems

In these systems VENCON is used as a central decentral inverter concept.

2 Battery storage device

The battery storage device plays a vital part in the Smart Grid. On the one hand, it enables – in combination with VENCON – the formation of an island grid. On the other hand, it represents a buffer that temporarily stores excess energy from the renewable sources which can be retrieved again when needed.

3 Electrolyzer / power to gas

Production of green hydrogen (from RE electricity).

4 Consumers

Consumers are supplied by the low-voltage grid.

5+6 Wind and hydro power plants

VENCON can be used as a full-power converter for variable-speed machines. Depending on local conditions, energy can be generated using wind and hydro power plants.

7 DC charging stations

VENCON can supply the necessary energy for DC boost charging. In that case, a pre-charge storage device could serve as a possible energy source.

8 Backup generator

To enhance security of supply, a diesel generator can be integrated into the Smart Grid as a backup.

V VENCON Hybrid

The VENCON Hybrid provides the option for peak load shaving and shifting. In a balanced combination of renewable energy sources and storage systems, a step towards the "green factory" [zero emission] with a maximum availability [back-up power] is also achievable.



Thanks for your attention!

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