

What makes EXERON different

COMPETITORS

2 - 8 kW OFF-GRID

UNITS



EXERON

2 - 65000 kW

INTEGRATED SYSTEM



UNIT



UNIT



UNIT



UNIT



UNIT



UNIT

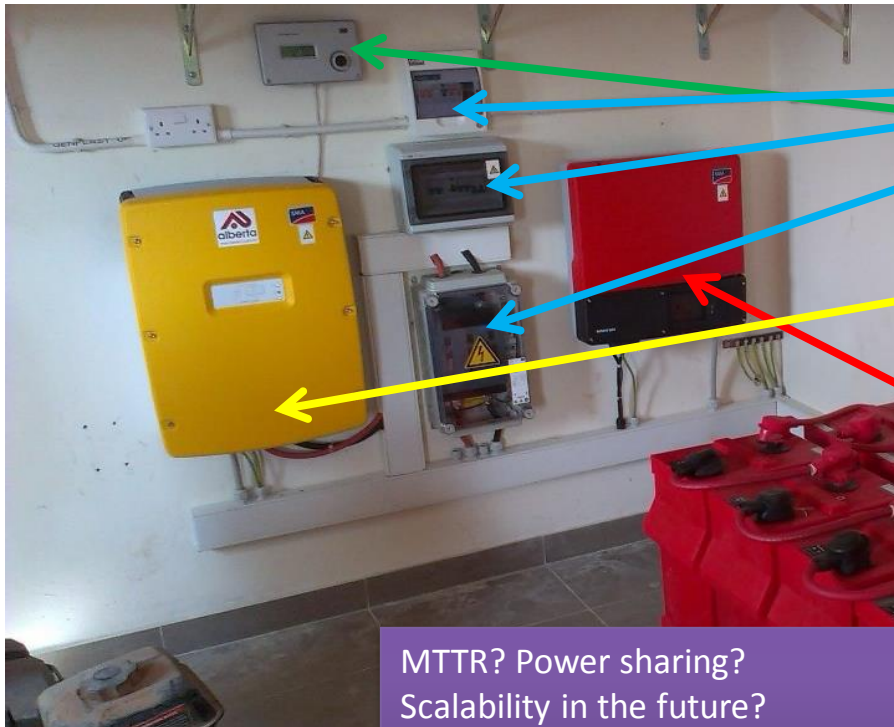


EXERON
SYSTEM

What makes EXERON different

COMPETITORS

OFF-GRID **UNITS**



MTTR? Power sharing?
Scalability in the future?
Plug & Play, Hot swap?
Wight in kg?
Repairable? Need of engineering skills?

EXERON

2 - 65000 kW **INTEGRATED SYSTEM**



EXERON
SYSTEM

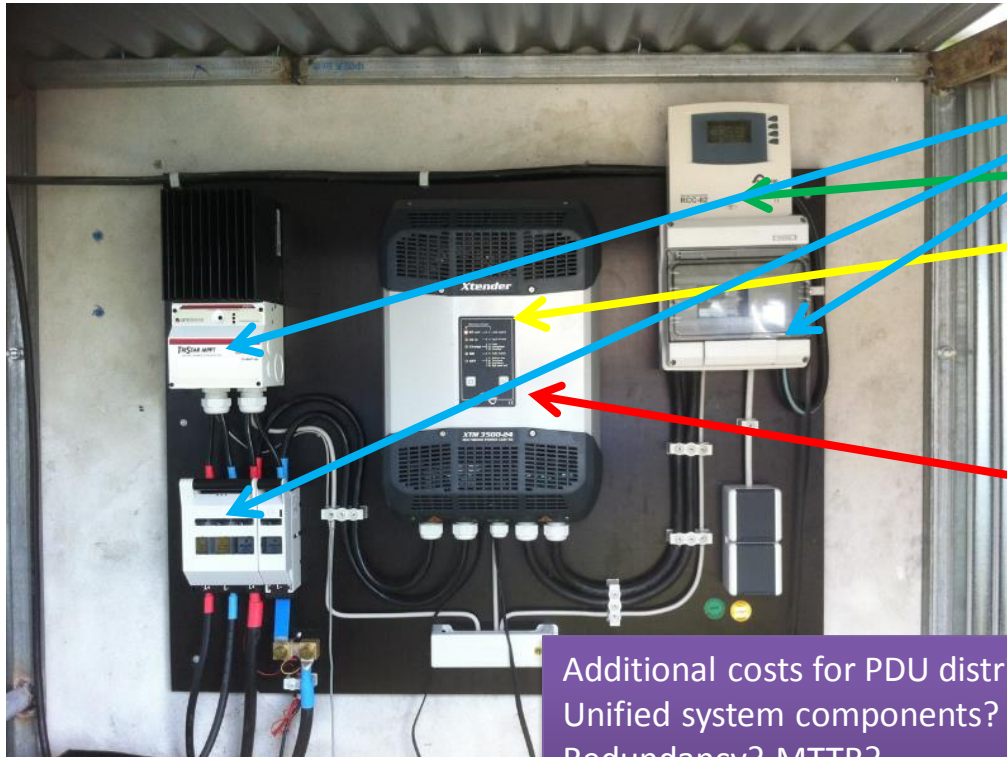
What makes EXERON different

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EXERON

2 - 65000 kW **INTEGRATED SYSTEM**



Additional costs for PDU distribution?
Unified system components?
Redundancy? MTTR?
Ease of installation? Costs?

EXERON
SYSTEM

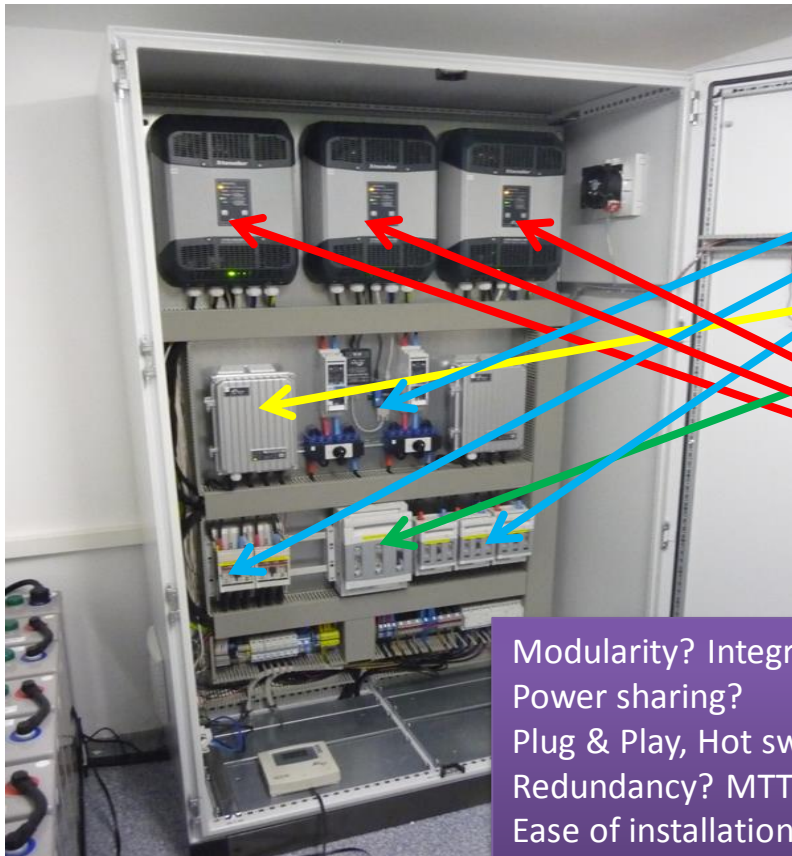
What makes EXERON different

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EXERON

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Modularity? Integrity?
Power sharing?
Plug & Play, Hot swap?
Redundancy? MTTR?
Ease of installation? Costs?

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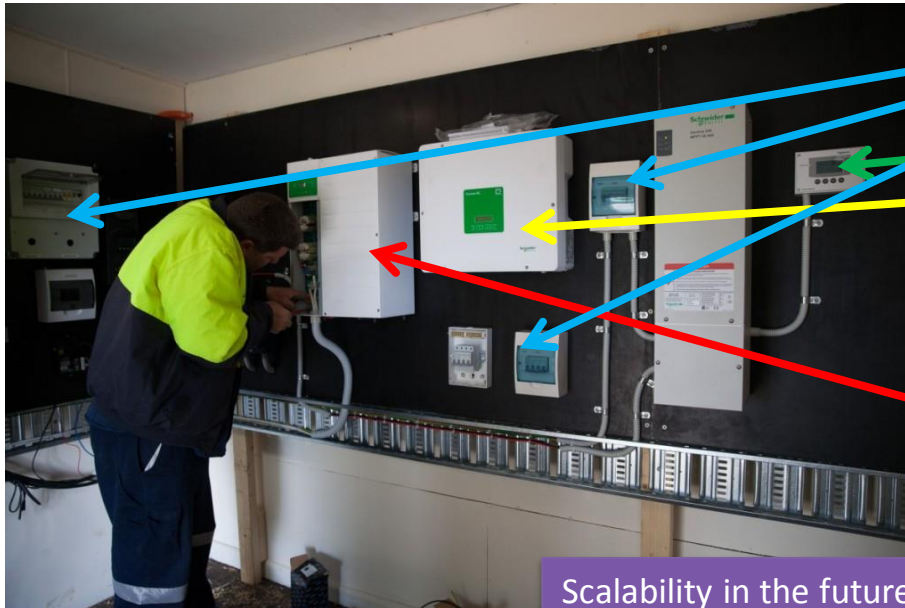
What makes EXERON different

COMPETITORS

OFF-GRID **UNITS**

EXERON

2 - 65000 kW **INTEGRATED SYSTEM**



NO ADDITIONAL COSTS FOR INSTALLATION

Scalability in the future?
Installation costs?
Manpower, unit weight?
Redundancy? MTTR?
Ease of installation? Design, planning?

**EXERON
SYSTEM**

What makes EXERON different

COMPETITORS

OFF-GRID **UNITS**



Components different manufacturers?
Lack of unified communications?
Limited features and functionality?
Low system efficiency due to different system components?

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2 - 65000 kW **INTEGRATED SYSTEM**



EXERON
SYSTEM

What makes EXERON different

COMPETITORS

OFF-GRID UNITS



Scalability based on additional single units.
No possibility for integrated monitoring and control of charging and power supplying features.
No power sharing and redundancy features.
No smart functionality possible.
Limited intelligent storage features.
Lack of intelligent control over all battery strings.

EXERON

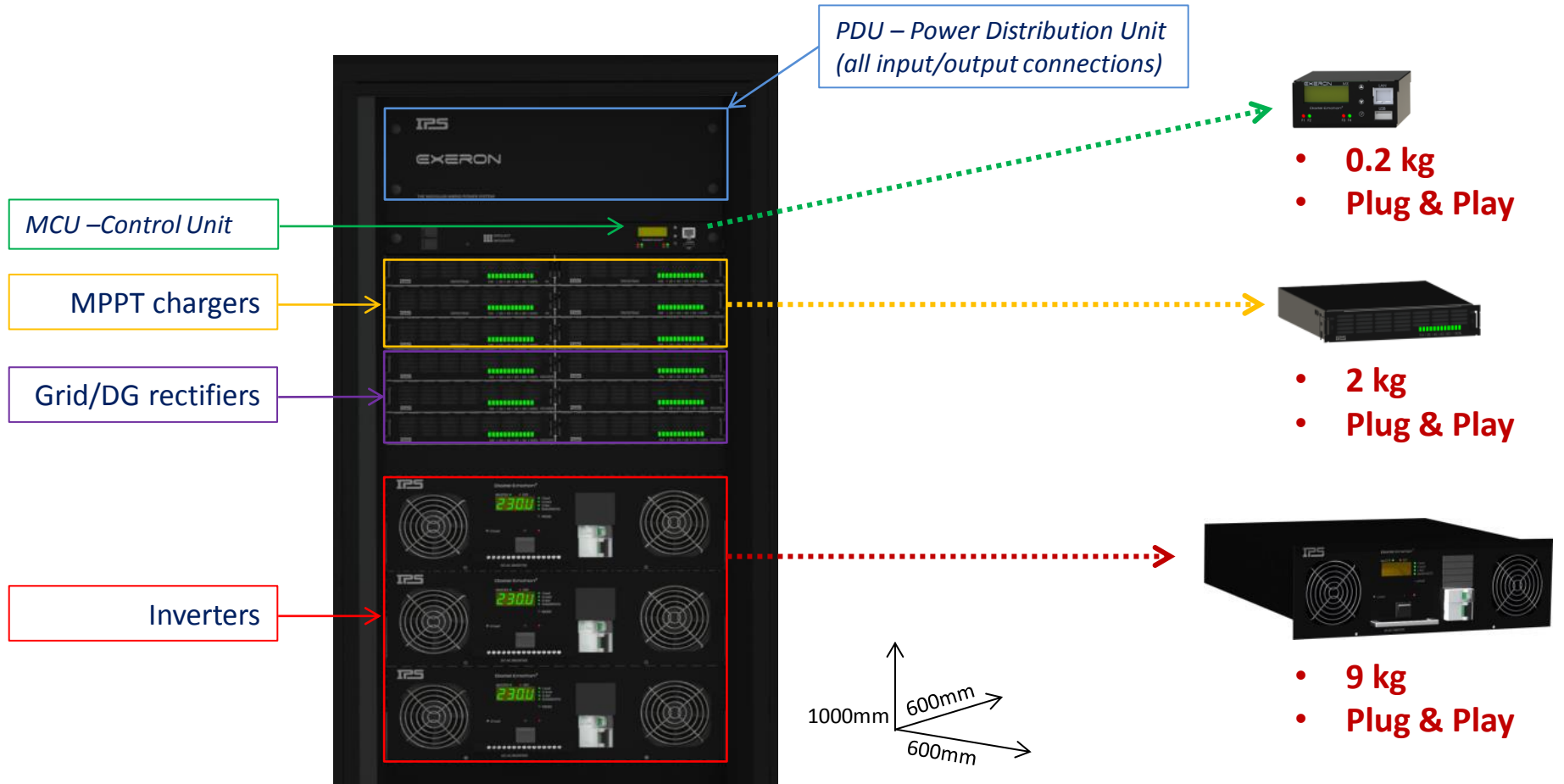
2 - 65000 kW INTEGRATED SYSTEM



What makes EXERON different

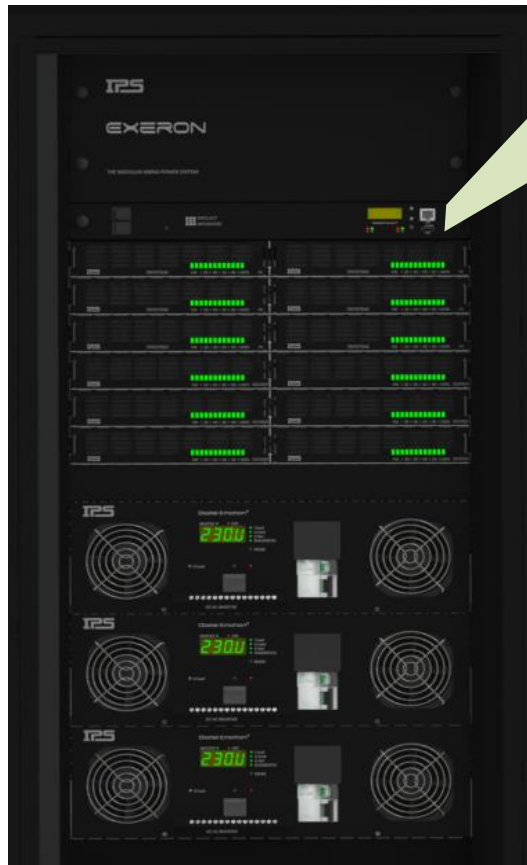
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INTEGRATED SYSTEM



What makes EXERON different

EXERON INTEGRATED SYSTEM



ONLY one Control Unit controls:

- All MPPT chargers
- All inverters
- All battery strings
- All PV strings
- All I/O connections
- All system functions
- All charge/discharge processes
- Remote monitoring and control

➤ Supported batteries



- Lead-Acid
- Ni-Cad
- Li-Ion
- LiFePO4

➤ Supported PV modules

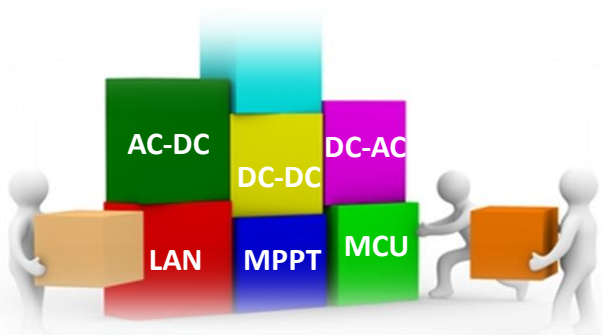


- Polycrystalline
- Monocrystalline
- Thin Film

What makes EXERON different

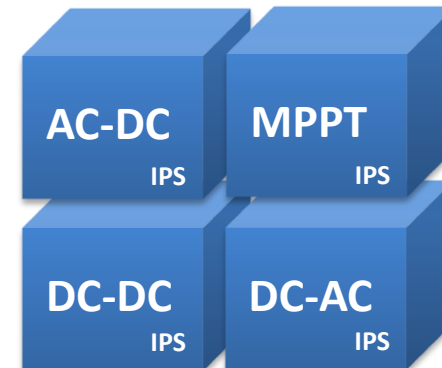
COMPETITORS

- Assembling of OEM modules different producers
- No scalable power sharing possible
- Low efficiency due to different kind of modules
- Low frequency circuit solutions
- No unified communication between the modules
- No load sharing between the modules
- Mean time to repair (MTTR) ~ 10-30 days
- Lack of intellect features due to impossibility to act as a unified system and to take decisions



EXERON

- Only 1 control unit controls and monitors all chargers, inverters, battery, functions, decisions etc.
- Own development of all kind of system modules
- Full integration of all components in 1 unified system
- Battery support: Lead Acid, Li-Ion, Ni-Cad, LiFePO4
- Unlimited integrated scalability possible
- Unified monitoring over all system components
- Highest efficiency through perfect modules adjustment
- Unified communication between the modules
- Full load sharing between the modules
- MTTR < 10 s
- Intellect features, ability to decide



What makes EXERON different

WHY trying to **assemble**
a **system** from different
kind of **components**...



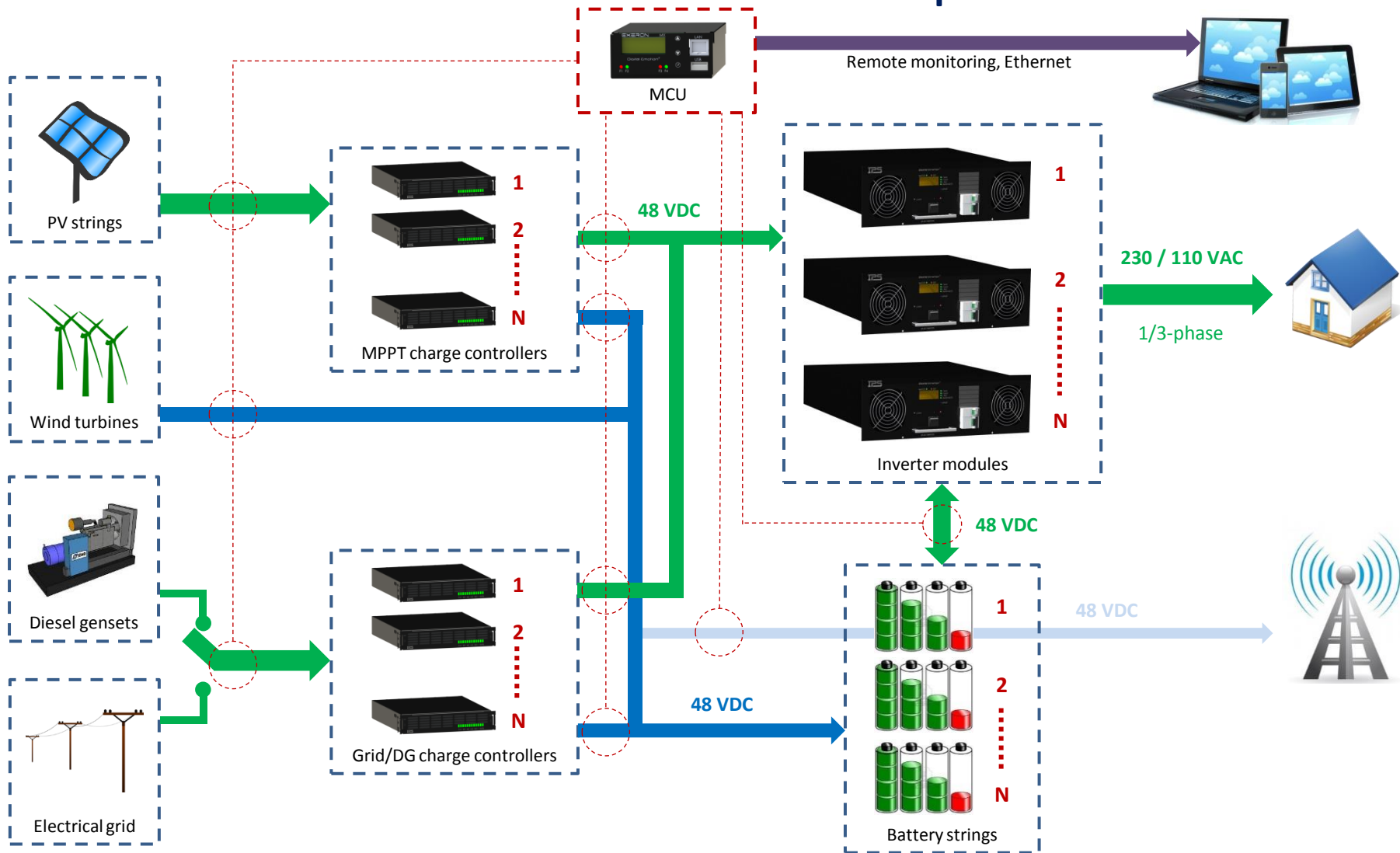
COMPETITORS

...when you have a solution
that is from only 1 manufacturer,
fully integrated and unified?



EXERON

EXERON - The Concept



EXERON system

Features

- Modular design
- MPPT solar charge controllers
- U_{oc} : 140 VDC ÷ 450 VDC (min ÷ max)
- U_{MPPT} : 140 VDC ÷ 450 VDC (full range)
- Unified design for all charge controllers
- N x power unlimited design
 - Input: N x 2 kW charge controllers
 - Output: N x 4 kVA inverter modules
- Poly-, Mono-, Thin-film modules
- Lead-Acid, Ni-Cad, Li-Ion, LiFePO4
- Redundancy (N + 1)
- Easy configuration and installation
- Fast module exchange
- Plug & Play modules
- Hot swap technology
- Small size and light weight



What makes EXERON unique?

Advantages

- **Only 1 Main Control Unit controls & monitors all chargers, inverters, battery, functions, decisions.**
- Integrated CPU in each power module – the hologram principle => Main control Unit redundancy
- Full integration of all types of modules – MPPT chargers, rectifiers, inverters
- Unique communication allows parallel connection of up to 65 MW modules (each 2 kW)
- Intelligent diesel generator fuel save control
- Self diagnostic and failure prevention through special IPS software
- High redundancy through load sharing between the modules
- Extremely fast MPP tracking algorithm leading to 12% efficiency improvement
- MPP tracking covers the full input range which leads to 14% efficiency improvement
- AVR and automatic start/stop of diesel gensets
- Intelligent power input prioritizing
- Small and light hot plug power modules – MTTR < 10 s
- Unlimited parallel connection of battery strings through virtual charger outputs
- Extend the battery life with more than 3 years or 1200 cycles
 - *Temperature compensation of the charging voltage*
 - *Battery asymmetry control*
 - *Automatic periodical battery capacity test*
 - *Automatic float and boost charging mode*
 - *Specific charging algorithms*

THE WINNER



What makes the EXERON different and unique, makes it for sure the ees Award winner of the best innovation in 2014.

More than just a unit. It's a system. It's the system.

EXERON