Stabiliti Live Demo

3-port converters to optimize your power conversion

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AGENDA

Agenda

o Stabiliti Converter Overview

o Applications

o Demonstration in the lab

o Q&A

STABILITI

Stabiliti: What's in for you?

o Single **3 ports converter of 30kW** (scalable up to 300kW)

*Development ongoing to extend to 60kW max

o **Three Port Bidirectional Converters** (2 DC and 1 AC)
  - Available in Multiport converter (AC/DC/DC) and Dual port (AC/DC) Versions

o Wide range of DC Voltage (100 to1000V) – derating below 500V
  - Compatible with multiple storage technologies and Electrical Vehicles

o Integrate **Solar Panels, Grid and Batteries** in a single converter
  - Simplifies installation, maintenance, control

o **Galvanic isolation** between AC and DC
  - Extended battery life and enhanced safety

o **IP54** enclosure for indoors or outdoors installation

DC

AC

DC

Stabiliti: What's in for you?
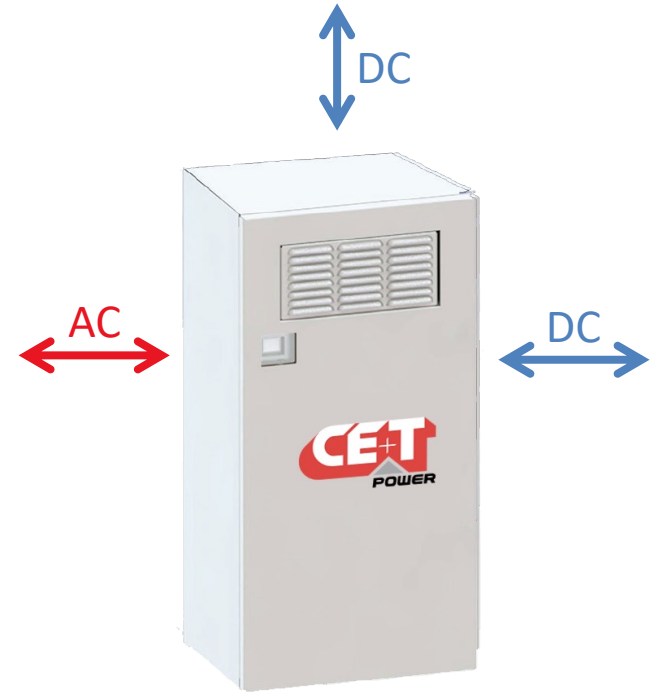

Without Stabiliti
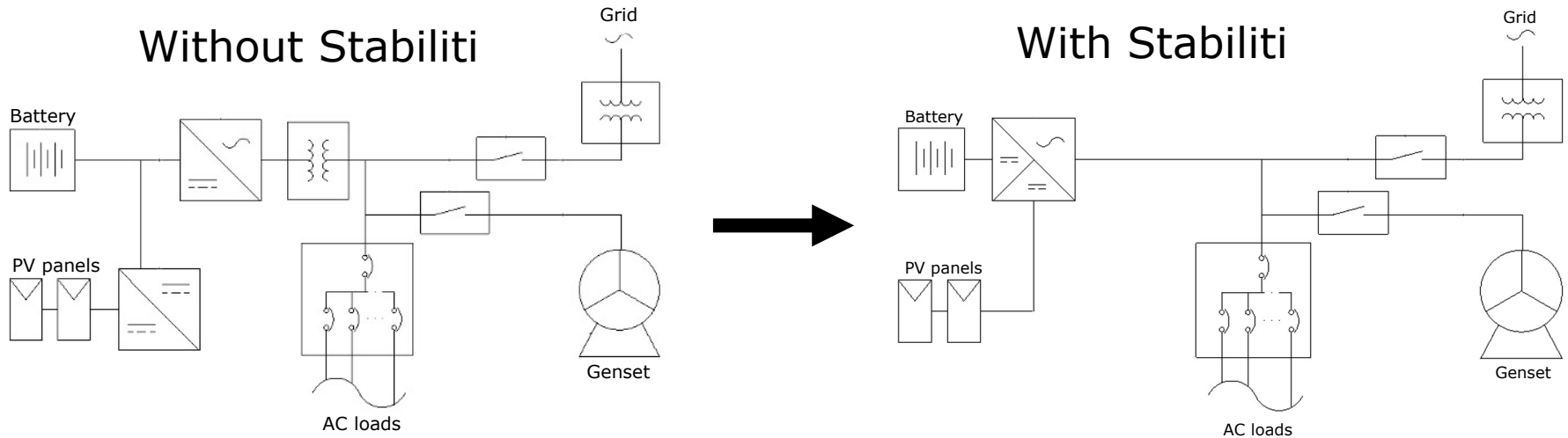
With Stabiliti

This brings many advantages:
- ✓ Reduced installation and maintenance costs & complexity
- ✓ Save space
- ✓ Increased efficiency
- ✓ Unique supplier
- ✓ … and many other!
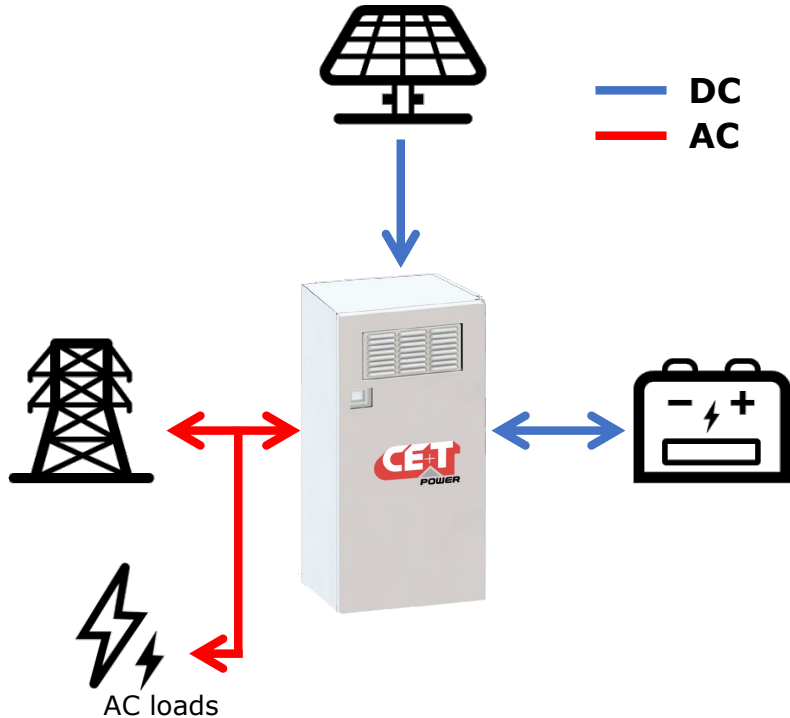
Combined with our Inview

Combined with a **PMS**, our Stabiliti can support **energy management features** such as:

- o Peak Shaving
- o Self-consumption
- o Demand response
- o Energy Arbitrage
- o …
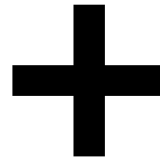
SOME APPLICATIONS

Grid Interactive

DC
AC

o **Grid Power injection** to support the grid or manage your excess of green power
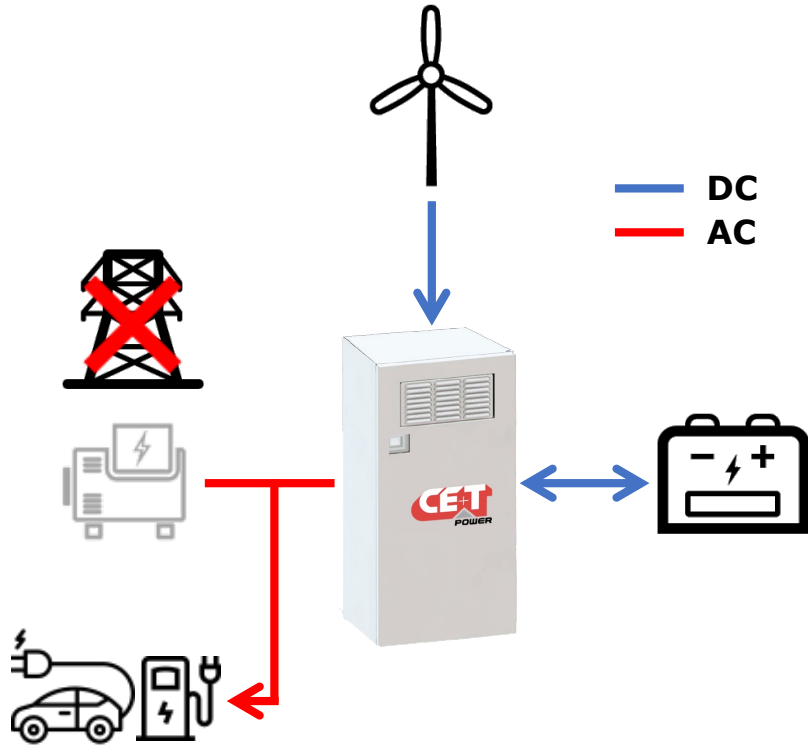
*certification UL1741S1, AS4777,EN50549)

o **Inverter for Renewables** (built-in MPPT on each DC port)

o Back-up power or energy storage
  - Critical loads support
  - No voltage drops, sags or surges

o Peak shaving and prices arbitrage

AC loads

Microgrid

- **Grid Forming** capabilities

- Control generator operations to **optimize your genset consumption**

- **Compatible with several energy storage solution**

DC
AC

Electrical mobility

- Electrical Vehicles **charge/discharge** functionalities
- **Fast charging** capabilities
- Possibles applications with PV & EMS/PMS
- Possibles applications with Battery & EMS/PMS:
- Power booster (if grid power limited) for EV fast charge

How does it operate?

Easy to control thanks to programmable modes on all 3 ports:

- **Common** to all ports
  - <u>IDLE</u>: port is disactivated
  - <u>NET</u>: Import or export the net balance of energy from other ports
- Specific for **PV (DC Port)**: <u>MPPT</u>
- Specific for **grid (AC Port)**:
  - <u>Grid following</u>: import or export power to follow the grid
  - <u>Grid forming</u>: import or export power to form the grid
- Specific for **DC**: work based on <u>DC Current</u> or <u>Power</u> or <u>Voltage</u> setpoints
- Specific for **Multiple Stabiliti**: <u>DC BUS</u>, connect multiple Stabiliti in parallel

Example

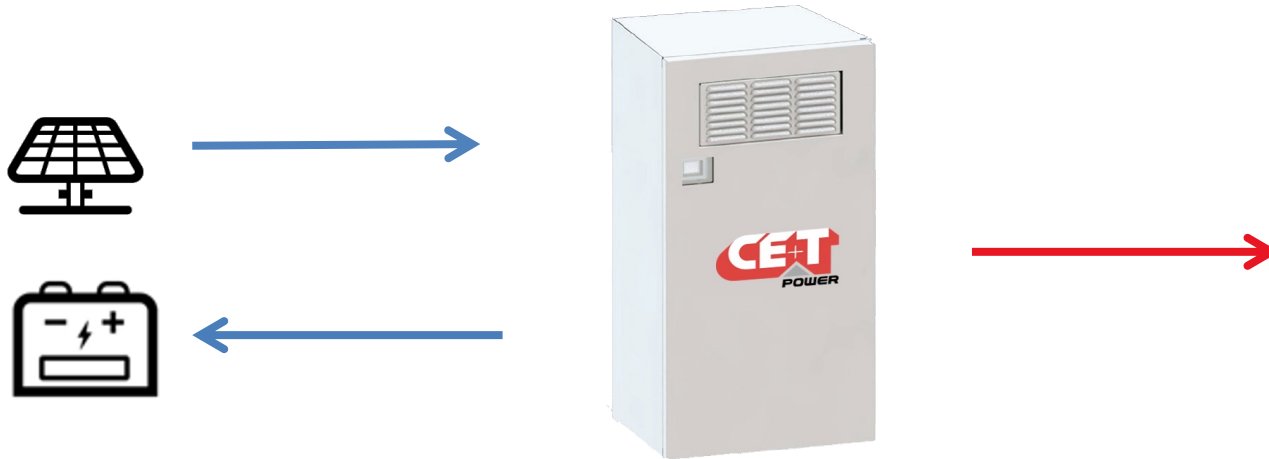**Constraint**: Import max 3kW to the AC port
Control Methods:
- MPPT : Import Maximum Power Point Tracking power from PV
- NET: Import or export the net balance of energy from battery
- GPOWER: import power to the EV charger
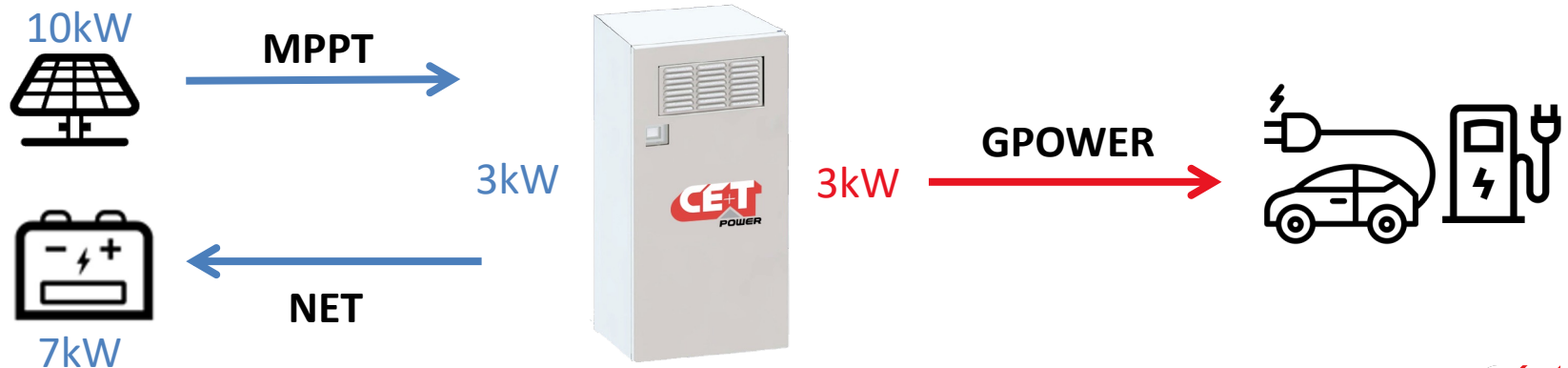
DEMO

What we are going to see?

Thank you
and
let's go to the lab!

Check our website

www.cet-power.com

Follow us