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BUILDING ENERGY STORAGE INFRASTRUCTURE

RFB Use Cases

02.03.2022

Pavel Mardilovich

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Three use cases:

- Baseload power provision in a microgrid environment
- Grid stabilization and frequency regulation
- Entire grid support for an island application



CellCube Reference Project

Schleswig-Holstein Netz AG – Self-consumption and grid support

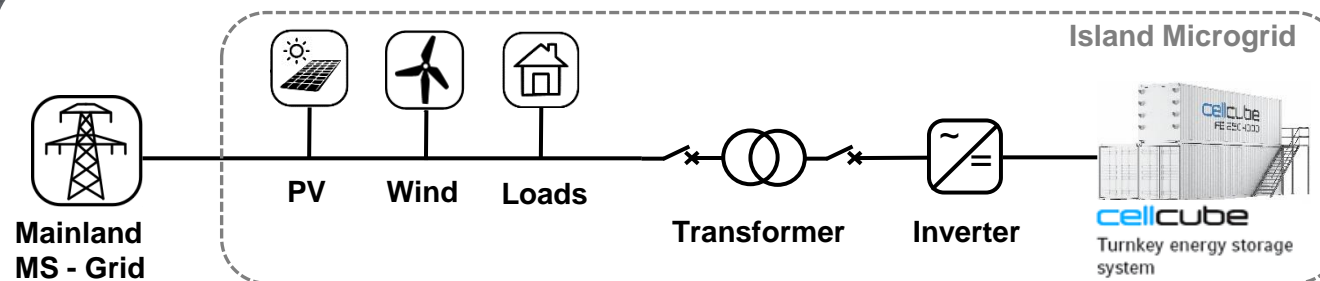
On-Grid

C&I Microgrid



- Utility Scale Microgrid in an UNESCO world protected area
- Increase renewable fraction
- Intelligent hybrid regulation (baseload)

Location	Pellworm, Germany
Rated AC Power	200 kW
Rated Capacity	1.6 MWh
Product	CellCube FB 200-1600
Date of Commissioning	2 nd Quarter 2013
Overall Uptime	96.8%

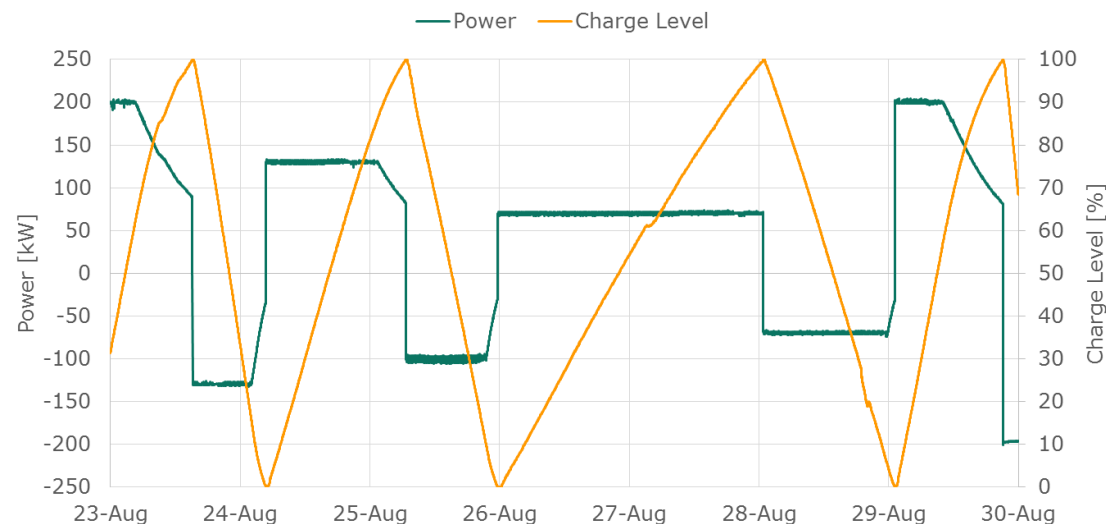


CellCube Reference Project

Schleswig-Holstein Netz AG – Island Smart Grid of the Future

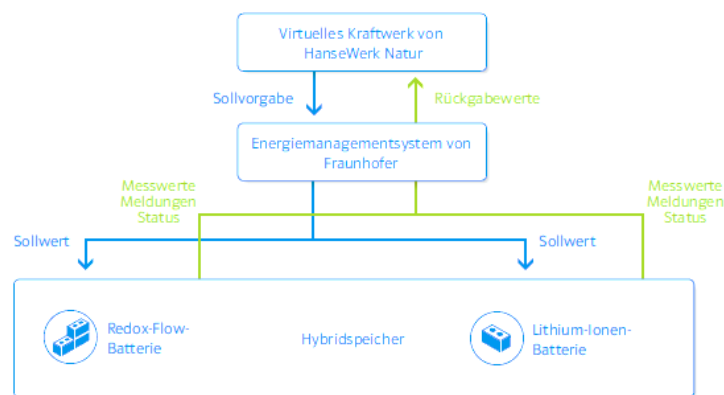
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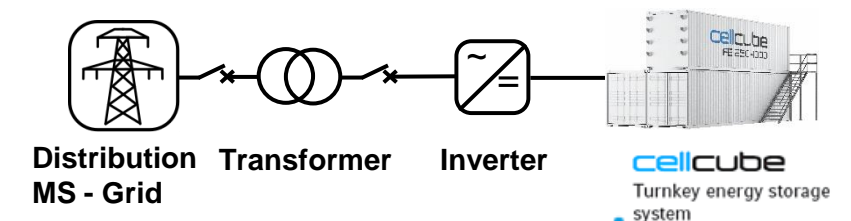
LEW Verteilnetz GmbH – Ancillary services & trading on MS distribution grid

On-Grid
Capacity & Reserve Markets



- Frequency Regulation Market
- Intraday Energy Trading Markets
- Grid Stabilization - Voltage and Frequency Support

Location	Tussenhausen, Germany
Rated AC Power	200 kW
Rated Capacity	400 kWh
Product	CellCube FB 200-400
Date of Commissioning	2 nd Quarter 2015
Overall Uptime	96.1%



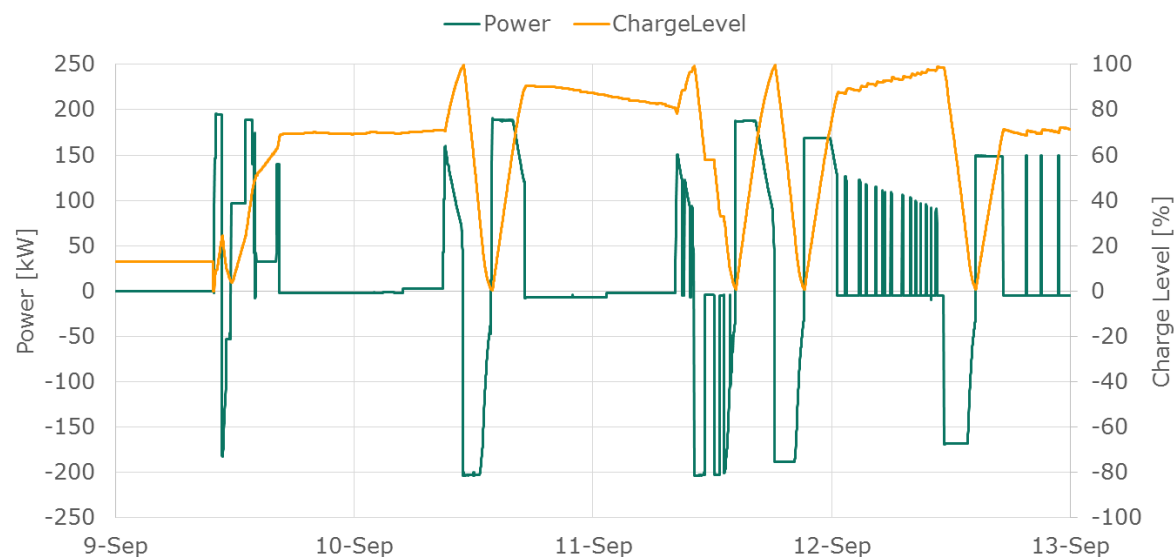
CellCube Reference Project

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CellCube Reference Project

Kitobo Island, Uganda – Stabilization for Off-Grid power supply

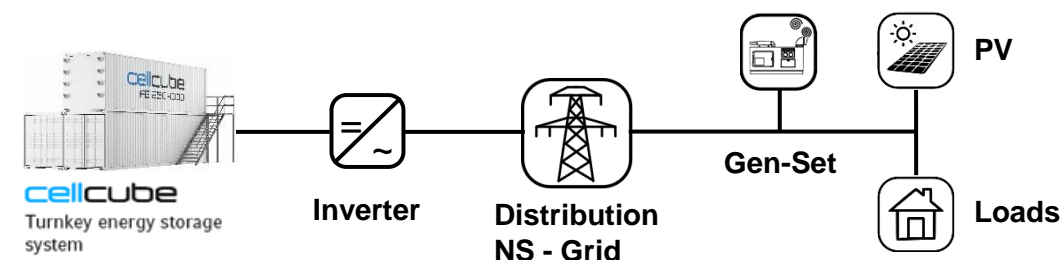
Off-Grid

Remote Site



- Intelligent off-grid power supply for 600 households
- Renewable energy sources as baseload
- Creates new business chances for local enterprises and shops

Location	Kitobo Island, Uganda
Rated AC Power	60 kW
Rated Capacity	520 kWh
Product	4x CellCube FB 15-130
Date of Commissioning	4 th Quarter 2016
Overall Uptime	99.5%



CellCube Reference Project

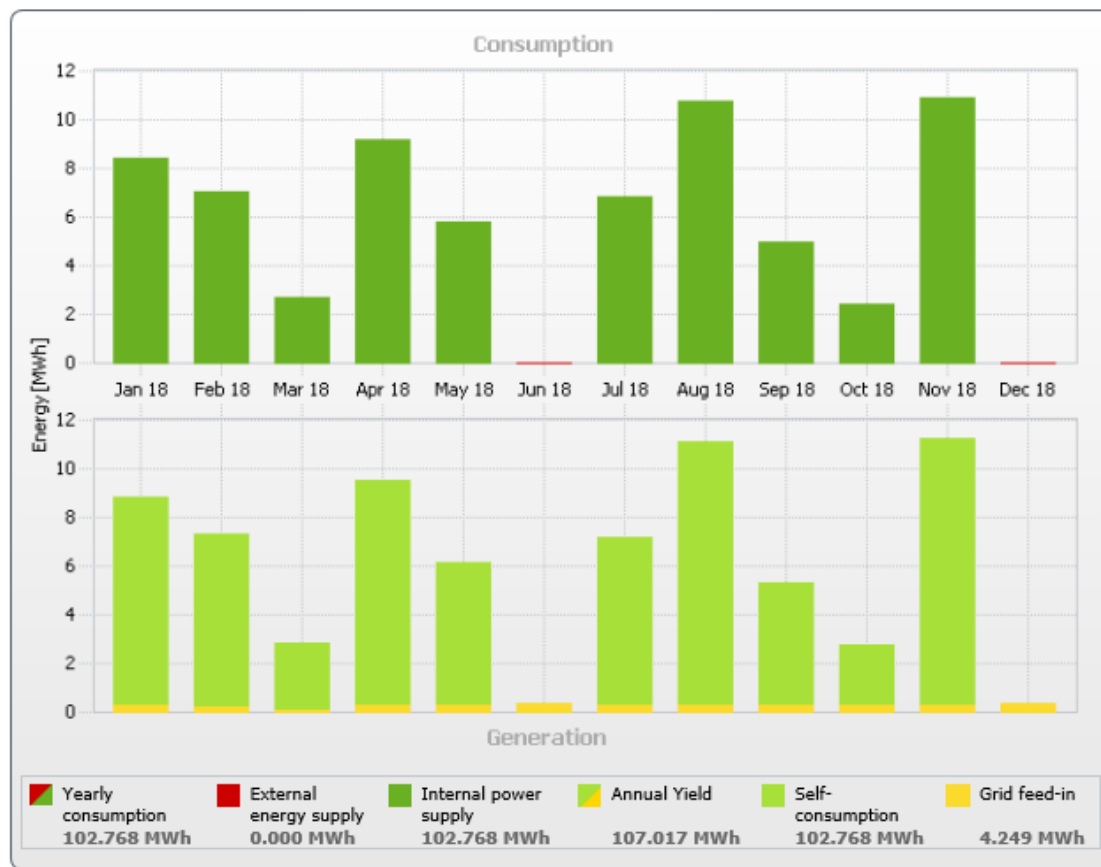
Kitobo Island – Stabilization for Off-Grid power supply

Off-Grid

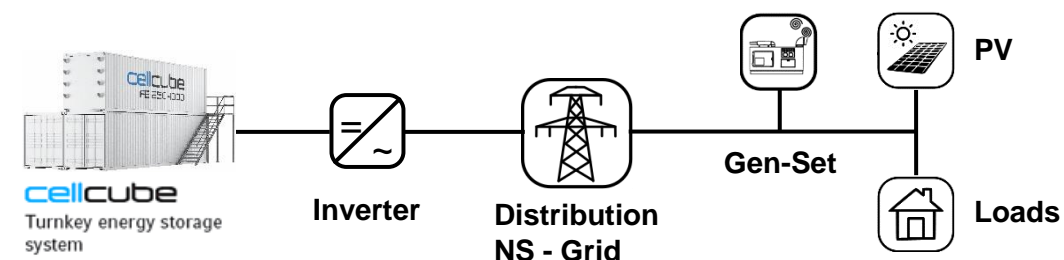
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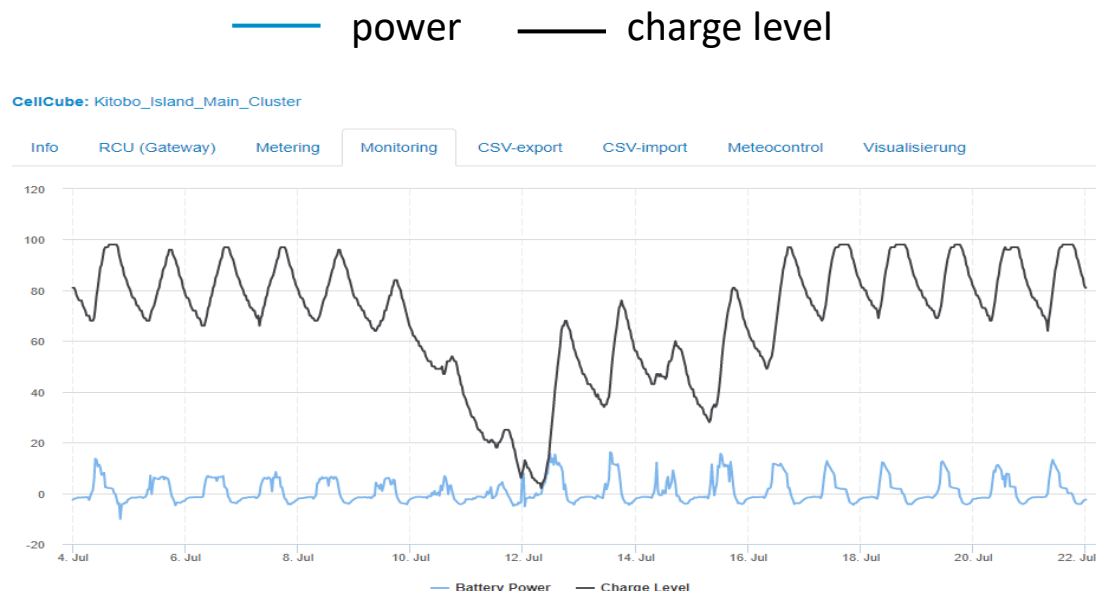
Off-Grid

Remote Site

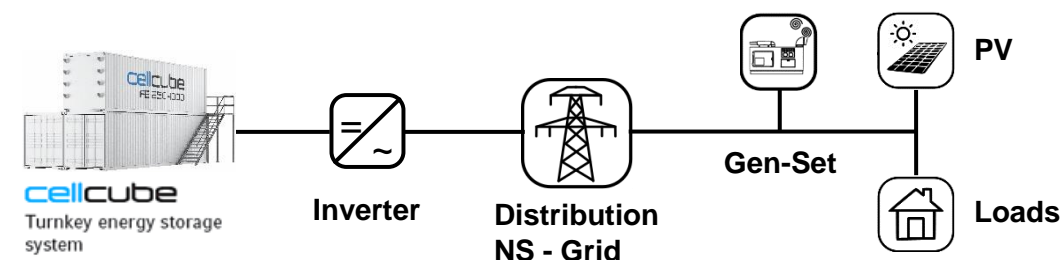


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Power, kW and Charge Level, %



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A broad range of possible services

A demonstrated capability to provide:

- Long-period energy storage and baseload power
- Short term fluctuations and grid stabilization services
- A successful combination of the two – no need to compromise performance.

Thank you!

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