

cross-ING
Pure Cross Development

Headquaters Technopark Winterthur



Winterthur ZH, Technoparkstrasse 2

cross-ING AG is a swiss technologie company founded in 2019. Today, we employ already about 40 engineers.

We offer engineering services and – consulting in field of innovation / Research and Development.

- ✓ Effective networking
- ✓ Contractually independent from third parties
- ✓ Industry-neutral
- ✓ Owner-managed
- ✓ All engineers permanently and indefinitely employed
- ✓ Cooperation with various specialists and institutes
- ✓ No own legal claims to inventions

Offices in Zentralschweiz, Nordwestschweiz and Südschweiz



Rotkreuz ZG, Suurstoffi 18b



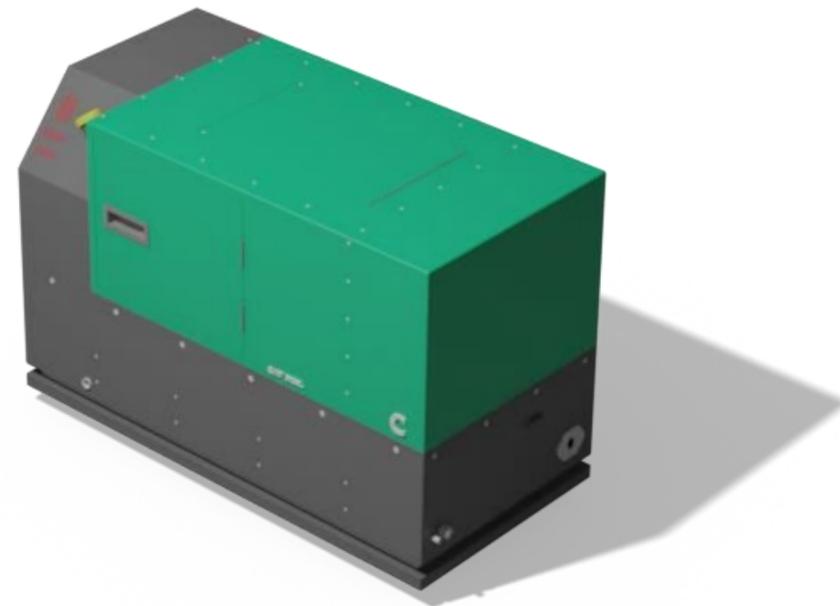
Liestal BL, Industriestrasse 7



Manno TI, Technopark Tecnopolo

Auxiliary Power Unit

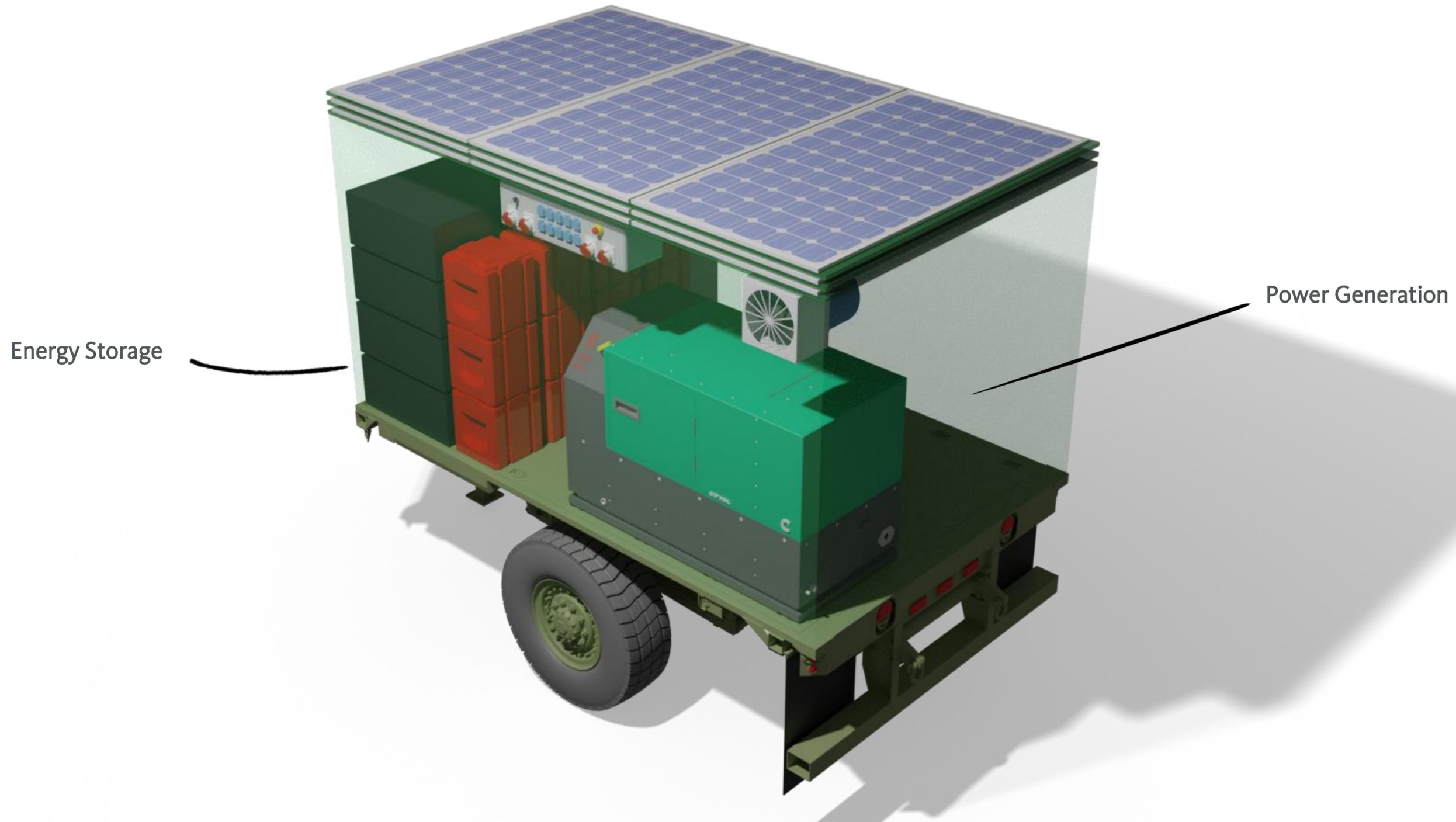
From load-driven power generator...



Hybrid APU

From load-driven power generator...

... to a hybrid micro grid hub



Hybrid APU

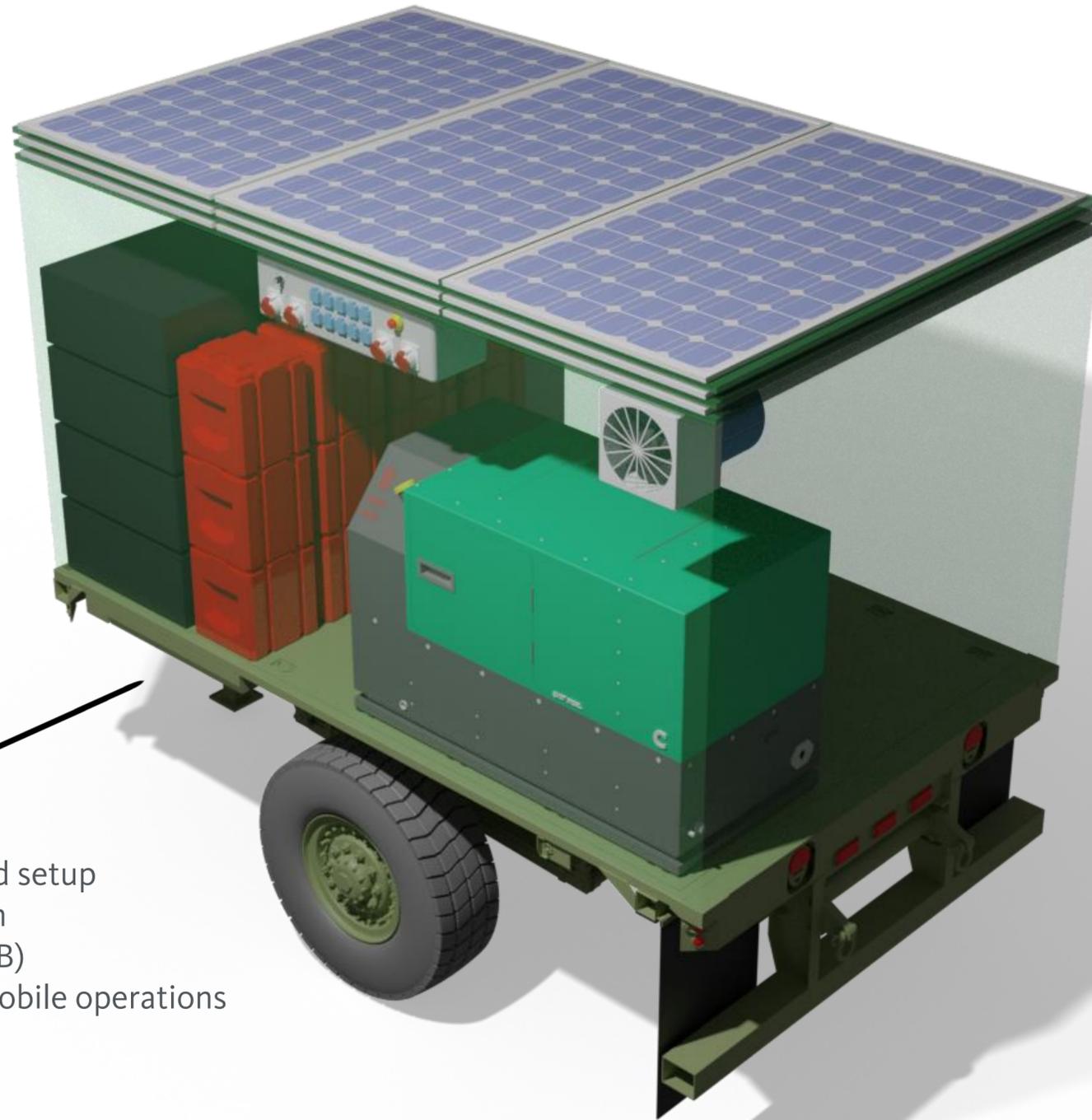
From load-driven power generator...

... to a hybrid micro grid hub



Low Maintenance

- * Few moving parts
- * Simple, modular setup



Better efficiency

- * Constant efficiency even in part load operation (5...100%) due to battery buffer
- * High power quality allows use of sensitive devices (noise-free)

High availability

- * Live-Monitoring
- * Integrated EMS enables micro grid setup
- * High mobility due to trailer design (helicopter capable & driver class B)
- * Portable powerbanks for highly mobile operations

Hybrid APU

Reduced Maintenance

- ✦ Few moving parts
- ✦ Simple, modular setup

Placement close to the user

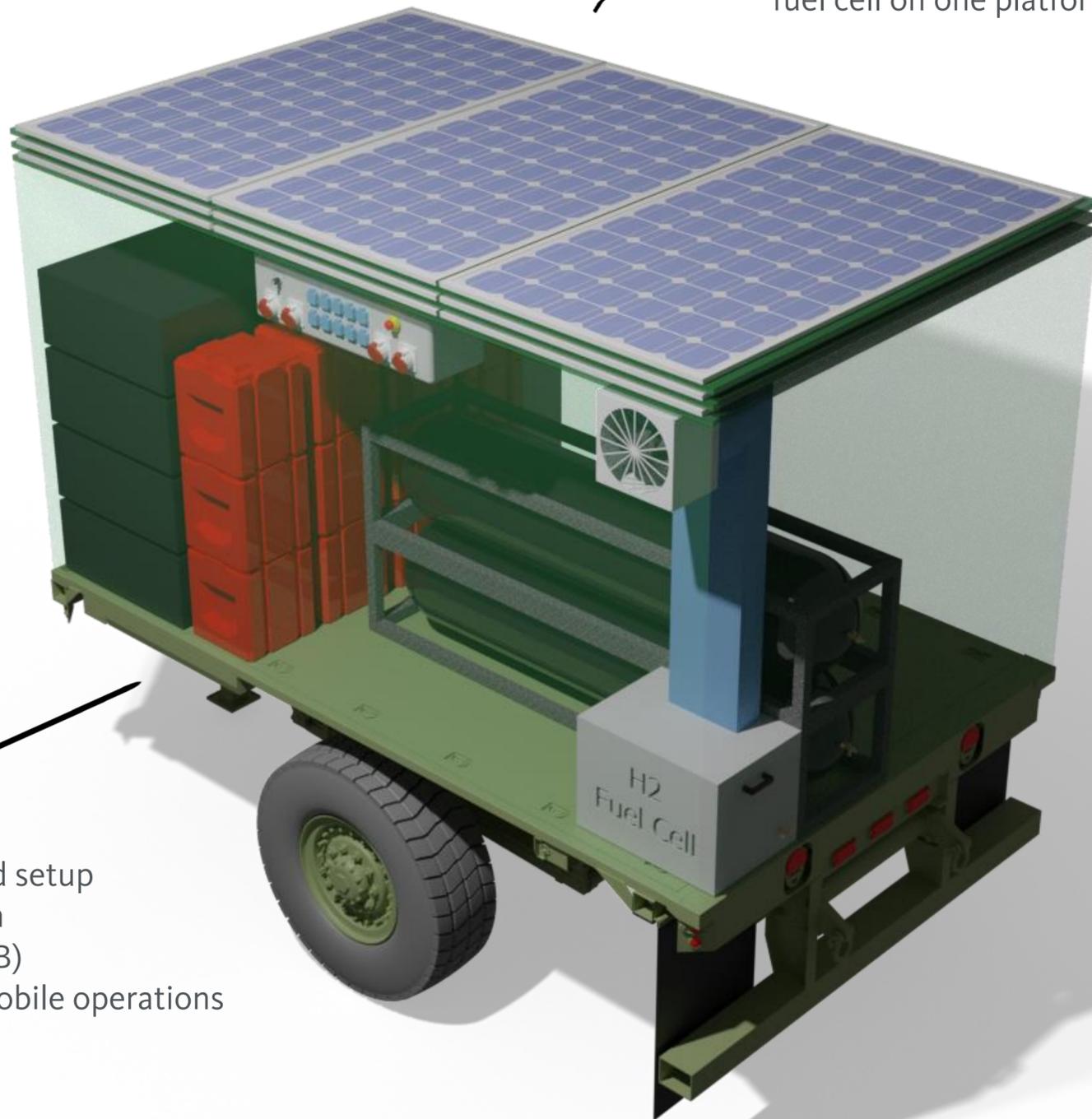
- ✦ Silent
- ✦ No NO_x, SO_x or PM emissions
- ✦ No CO₂ emissions

High availability

- ✦ Live-Monitoring
- ✦ Integrated EMS enables micro grid setup
- ✦ High mobility due to trailer design (helicopter capable & driver class B)
- ✦ Portable powerbanks for highly mobile operations

Autarky

- ✦ Fuel production in Switzerland sustainable and scalable
- ✦ High and increasing availability
- ✦ Generator module interchangeable from Diesel generator to fuel cell on one platform



Better efficiency

- ✦ Constant efficiency even in part load operation (5...100%) due to battery buffer
- ✦ High power quality allows use of sensitive devices (noise-free)

Low thermal signature

- ✦ Less waste heat compared to combustion
- ✦ Waste heat Abwärme energetically useable (70°C)

Hybrid APU

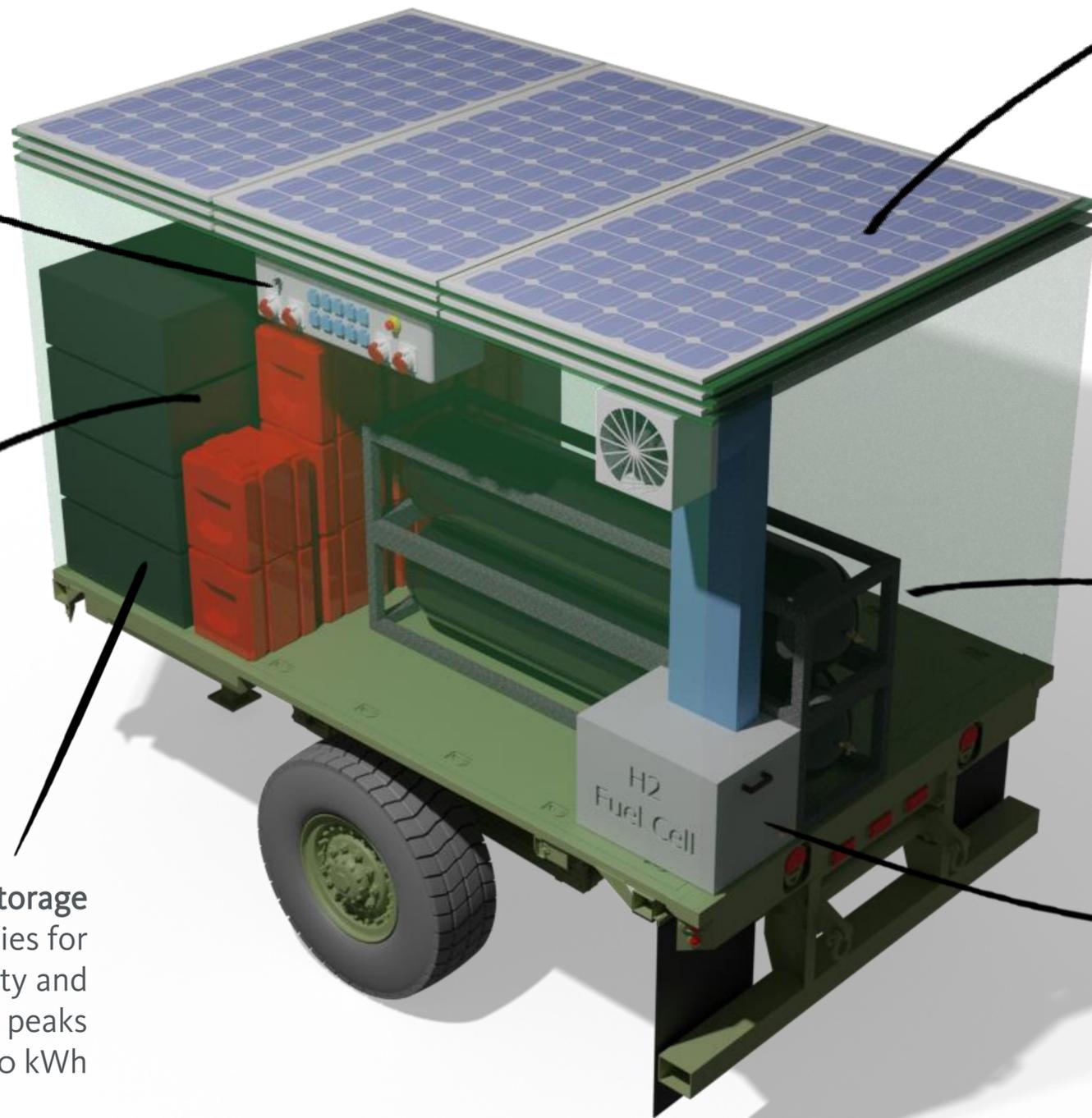
Micro Grid Control / EMS
Interface to external
generators & consumers

Portable Powerbank

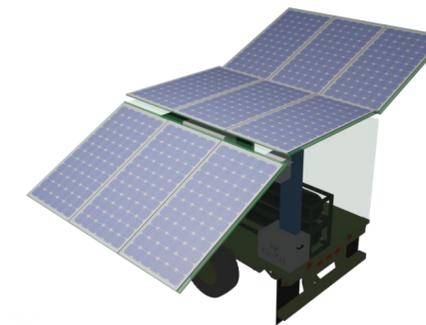
20 kg
1.2 kWh
230 V
0.87 A
Stackable



Energy storage
Li-Ion batteries for
Plug&Play availability and
support in load peaks
Ca. 30 kWh



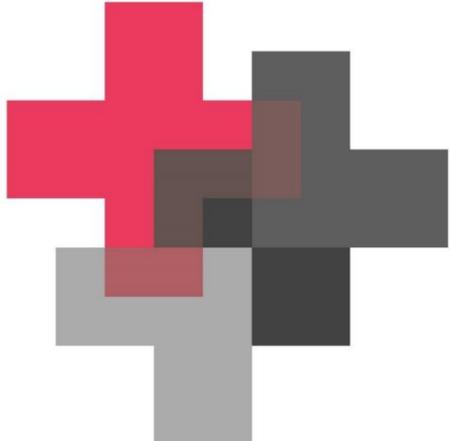
Photovoltaik
Expandable solar panels
for charging support /
Low load operation
Adjustable PV wings
Ca. 3 kW



H2 storage
20kg hydrogen tank for
800kWh energy

Fuel cell
Power generation
from hydrogen
Ca. 22 kW





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