



# About cross-ING AG

## Headquarters 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

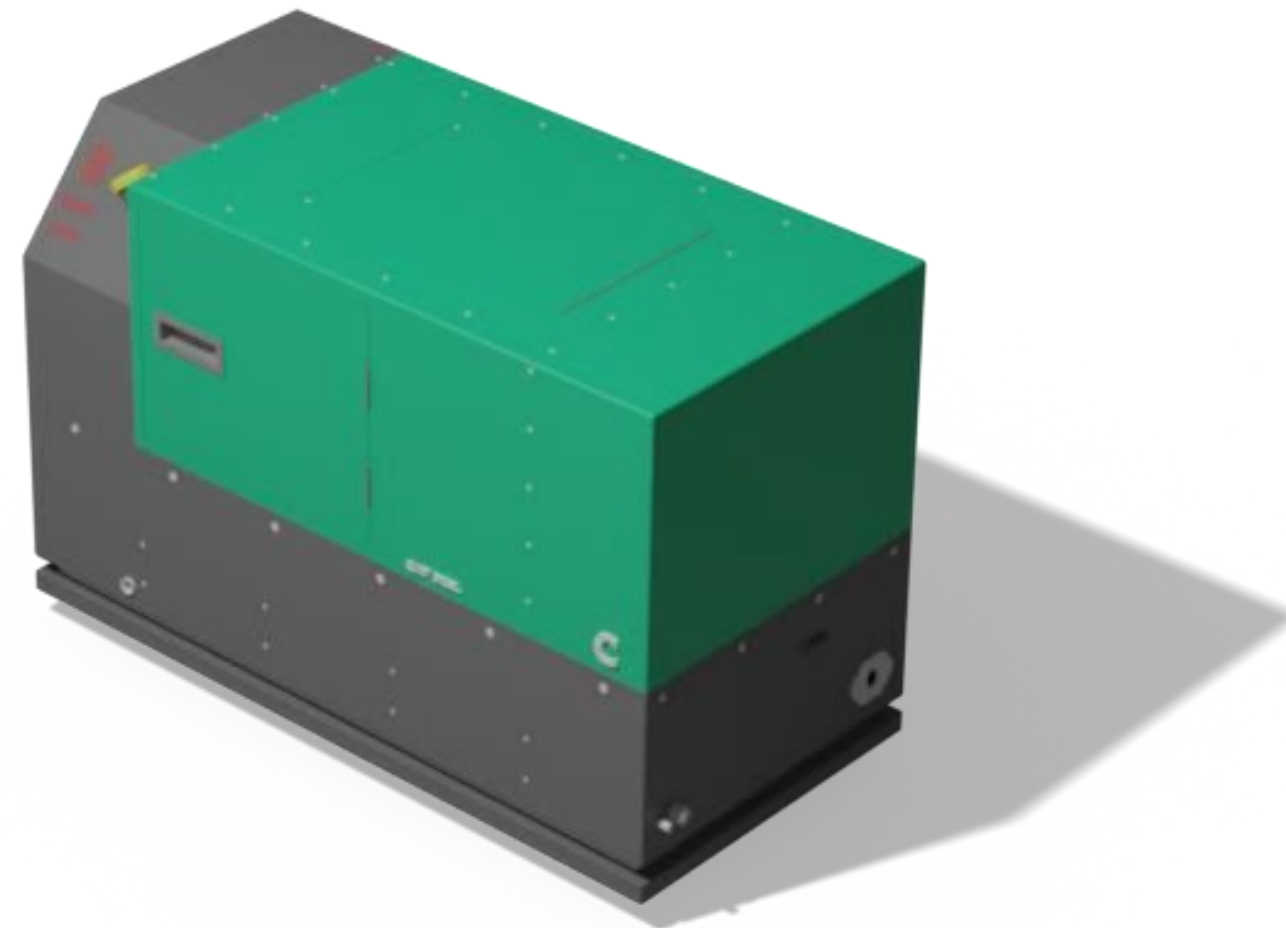


# Auxiliary Power Unit

From load-driven power generator...

RUAG 

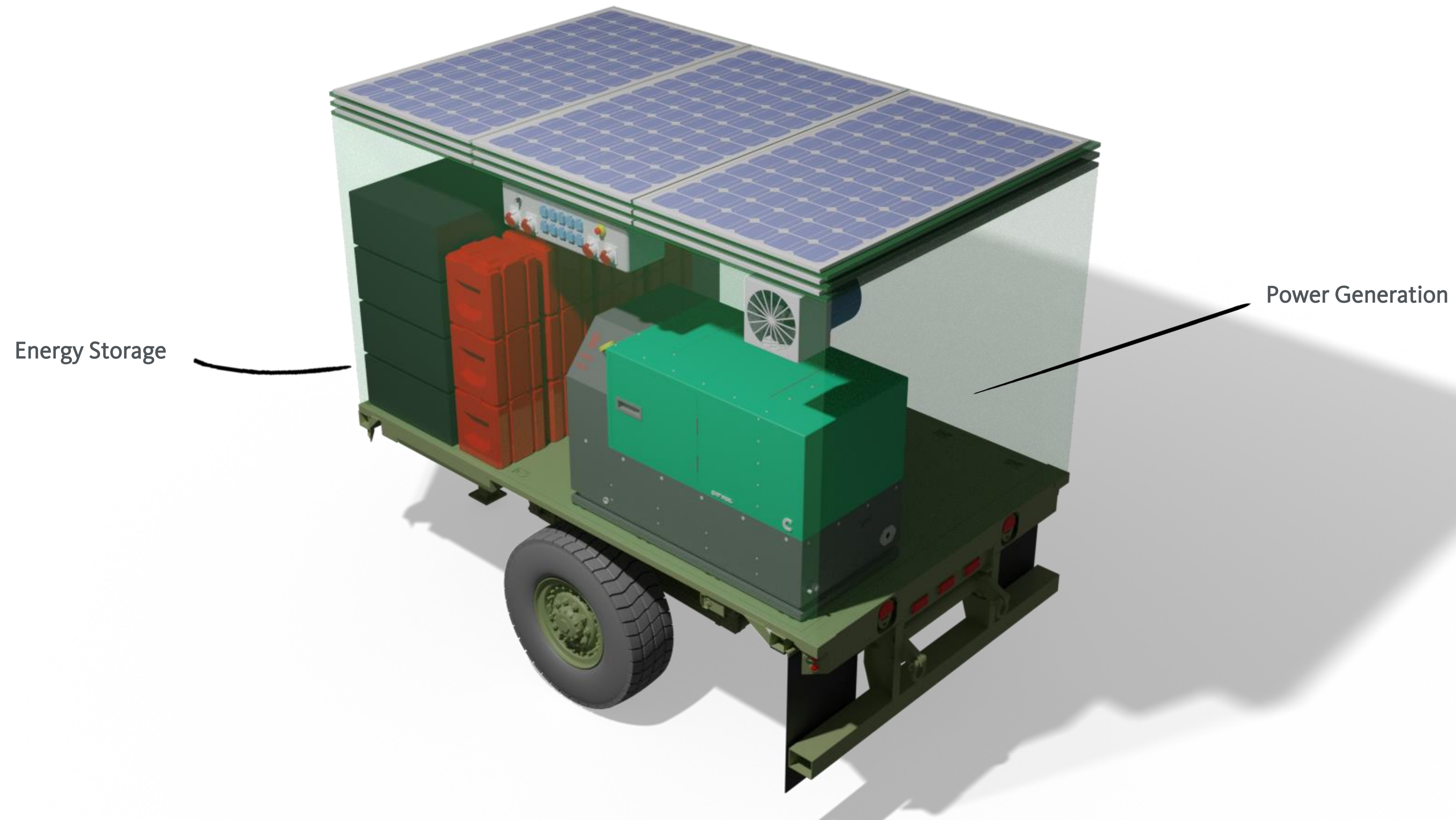
 ING



# Hybrid APU

From load-driven power generator...

... to a hybrid micro grid hub





# Hybrid APU

From load-driven power generator...

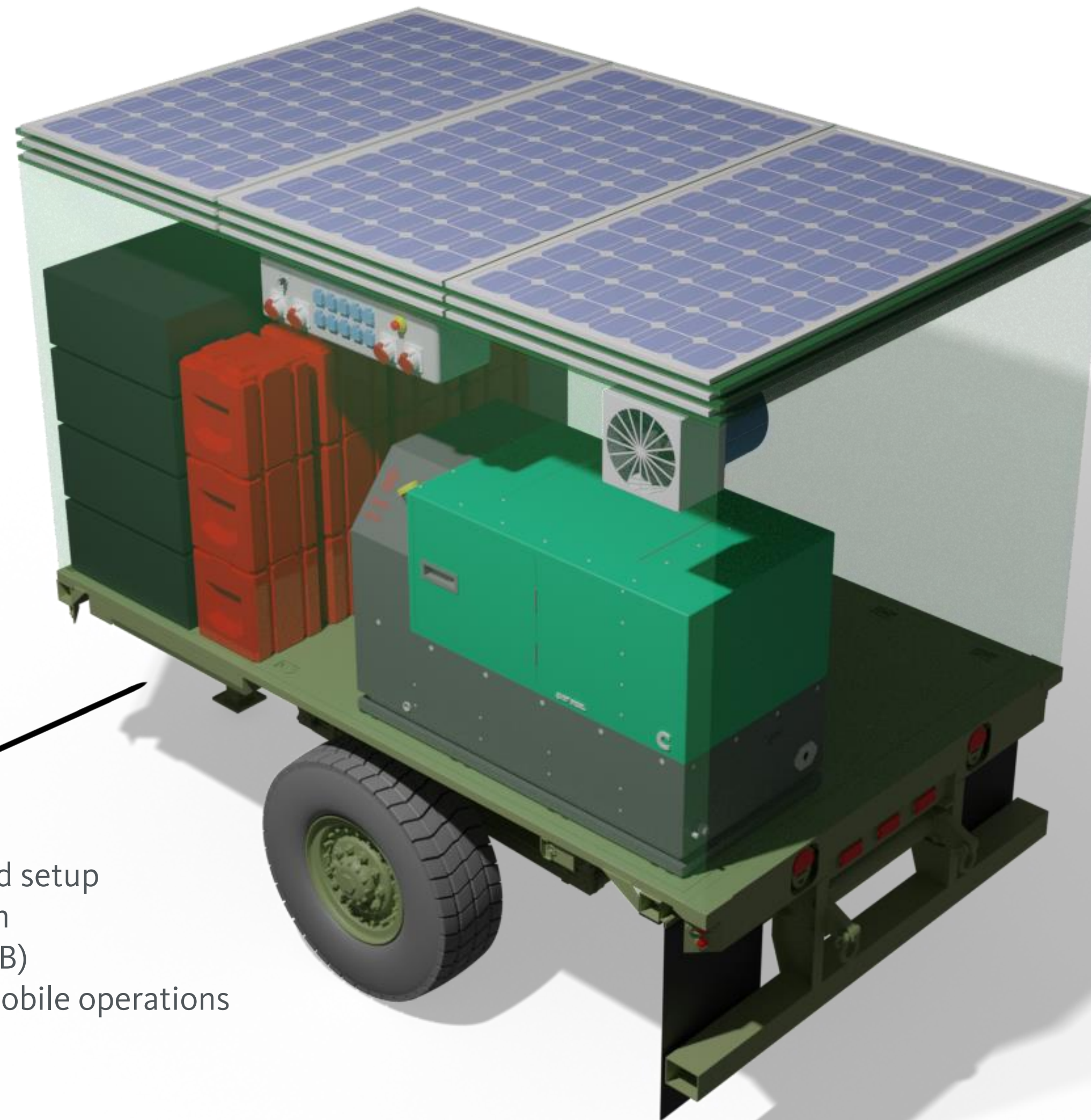
... to a hybrid micro grid hub

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## 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<sub>x</sub>, SO<sub>x</sub> or PM emissions
- ✦ No CO<sub>2</sub> emissions

## High availability

- ✦ Live-Monitoring
- ✦ Integrated EMS enables micro grid setup
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## Autarky

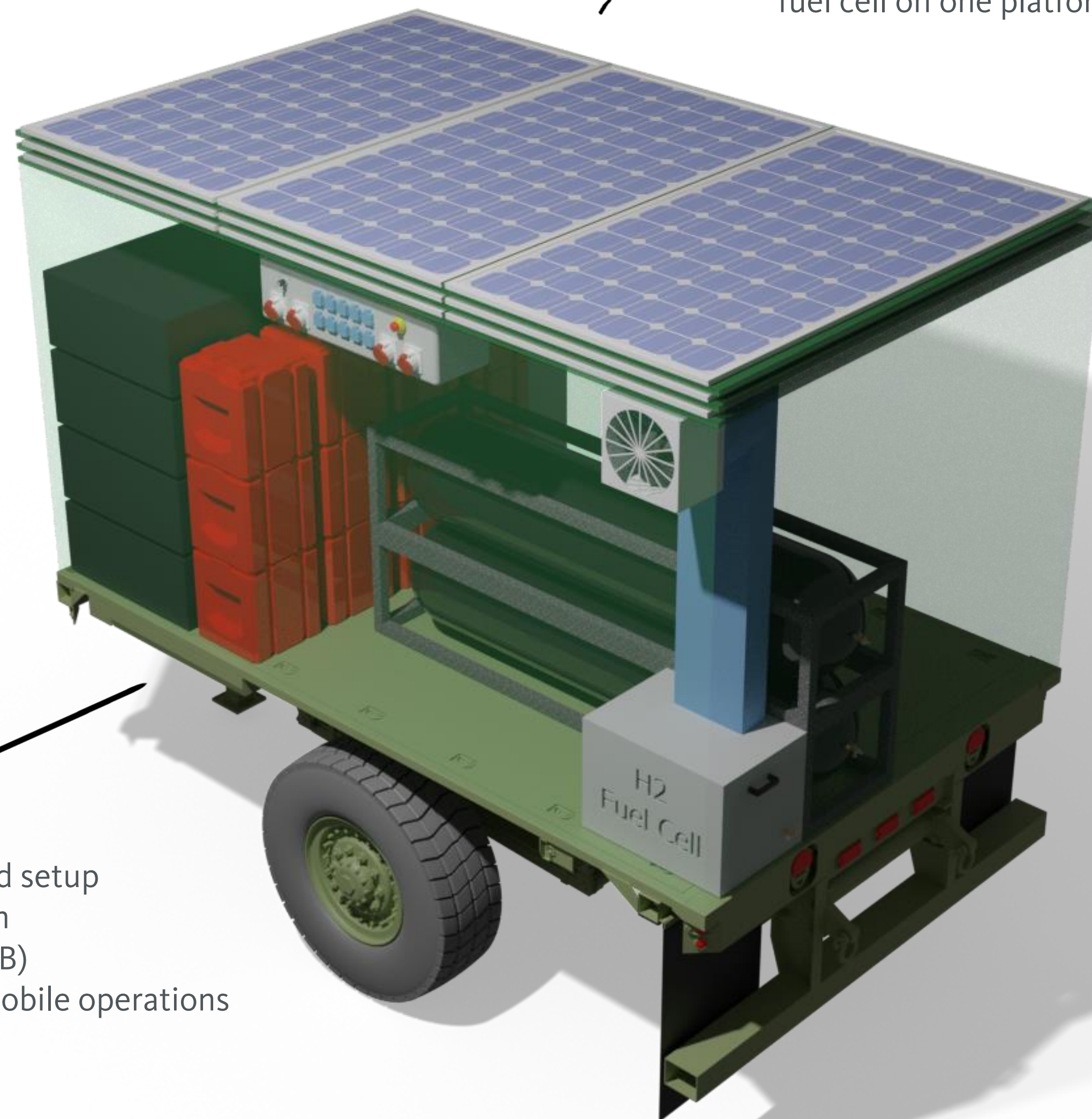
- ✦ Fuel production in Switzerland sustainable and scalable
- ✦ High and increasing availability
- ✦ Generator module interchangeable from Diesel generator to fuel cell on one platform

## 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)



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# Hybrid APU

