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Studer Innotec

22 June 2023

11:00 am – 12:00 am | CEST, Berlin

2:30 pm – 3:30 pm | IST, Delhi

3:00 pm – 4:00 pm | CST, Mexico City

pv magazine
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Autarky today: how the desire for self-sufficiency can be realized in homes and businesses



Jonathan Gifford

Editor in chief
pv magazine



Pierre-Olivier Moix

CTO & board member
Studer Innotec



Julien Morard

CEO
Smartsuna




Pablo Muñoz

Head of Marketing
Studer Innotec

Welcome!

Do you have any questions? ? 

Send them in via the Q&A tab.  We aim to answer as many as we can today!

You can also let us know of any tech problems there.

We are recording this webinar today. 

We'll let you know by email where to find it and the slide deck, so you can re-watch it at your convenience.  

Autarky today

How the desire for self-sufficiency can be realized in homes and businesses

pv magazine Webinar

22.06.23

Pablo Muñoz, Head of marketing

Locally produced energy



Manage our own energy

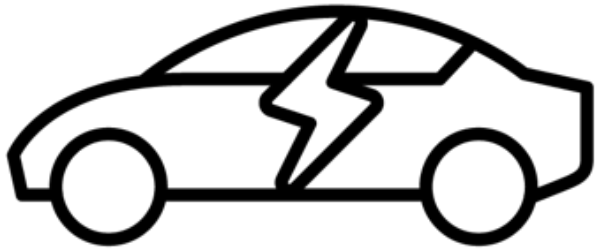
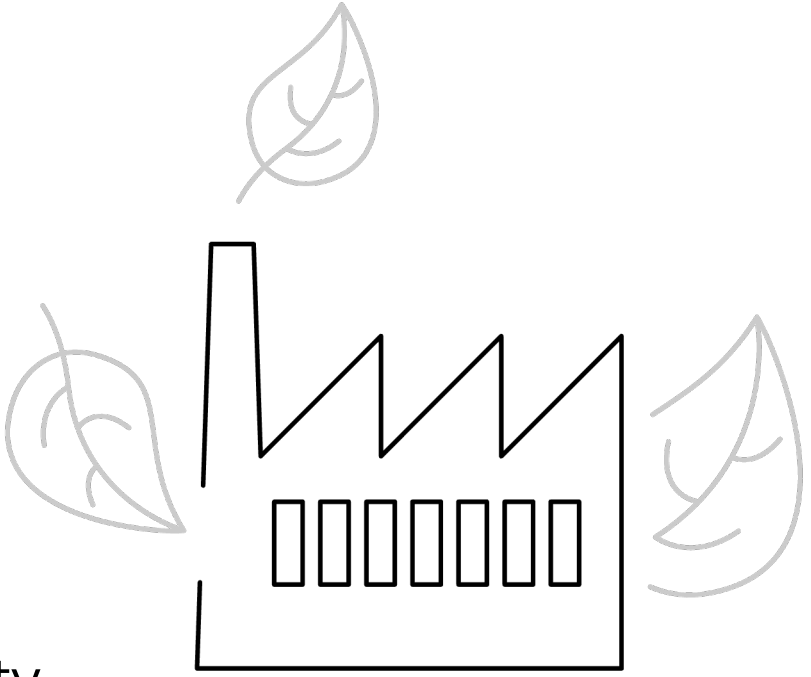




Powering a better future together.

Energy costs

Rising cost, electricity shortages, dependence, risk of blackouts

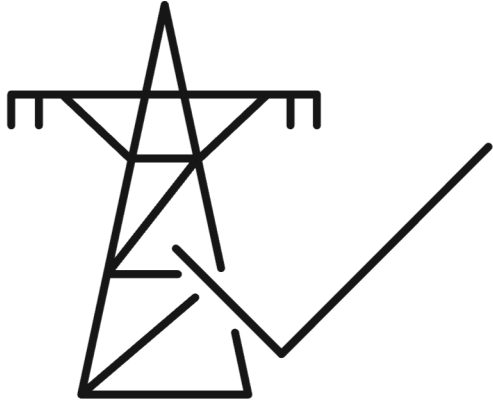


Electrification

Electrical cars, heating and cooling

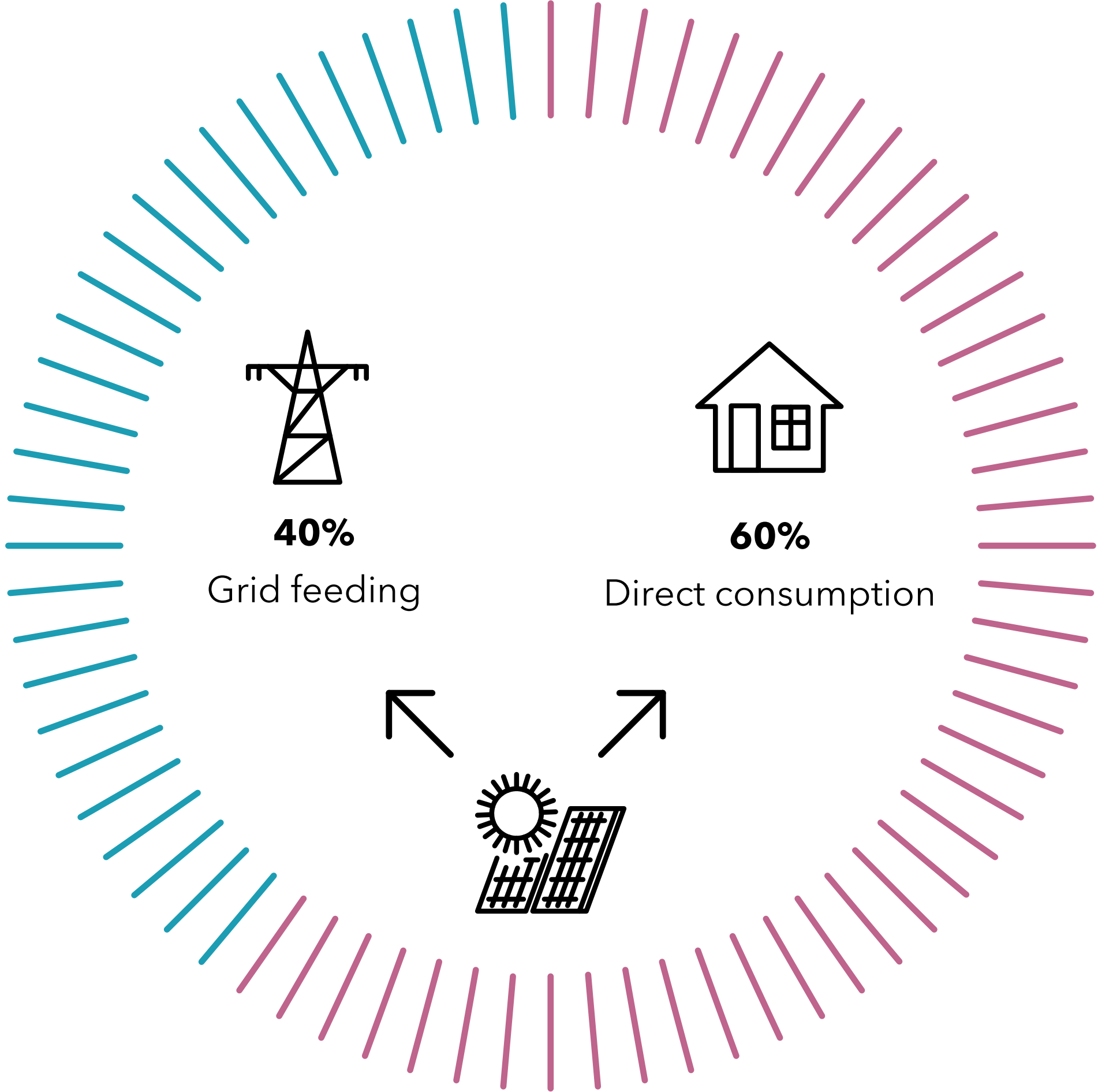
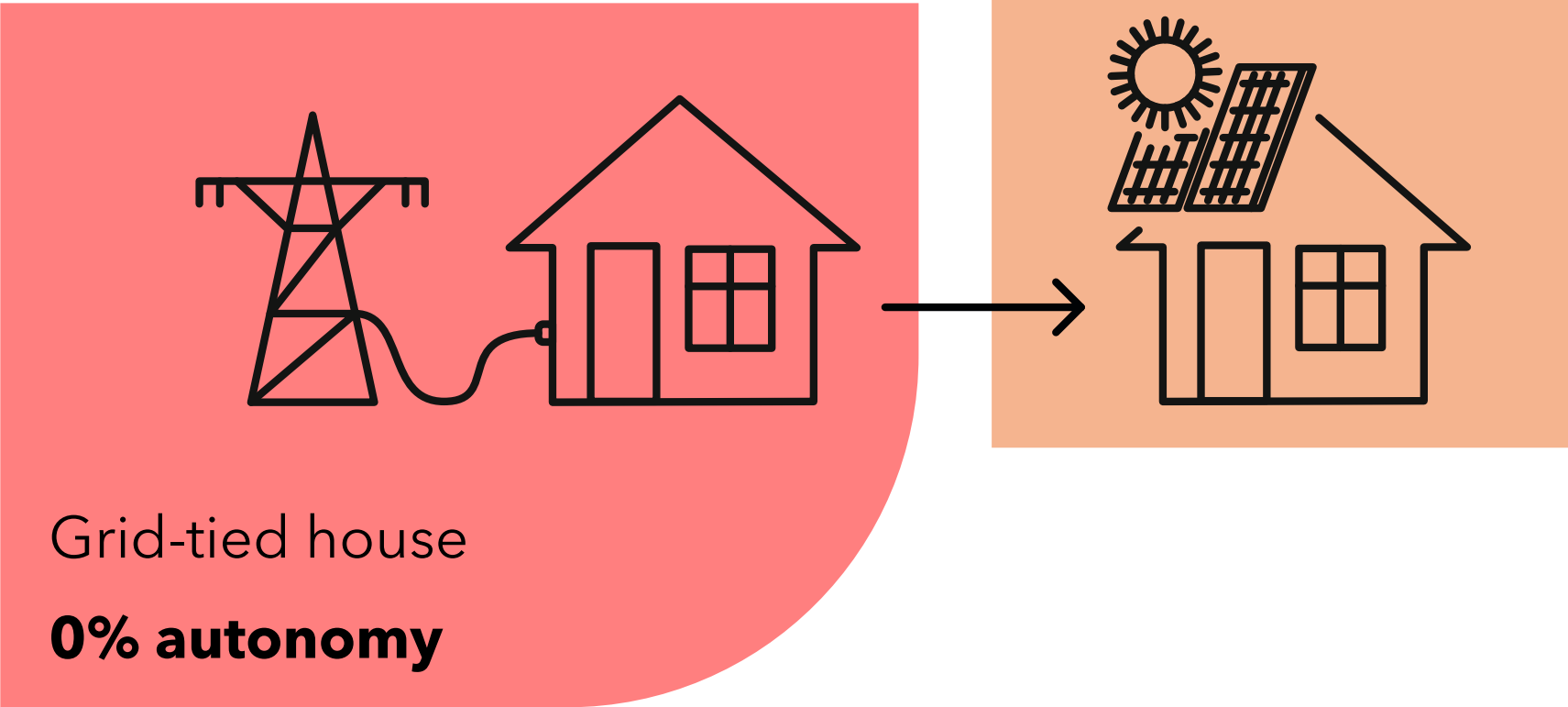
Transformation

Decarbonization, transportation, new producers, smart grid



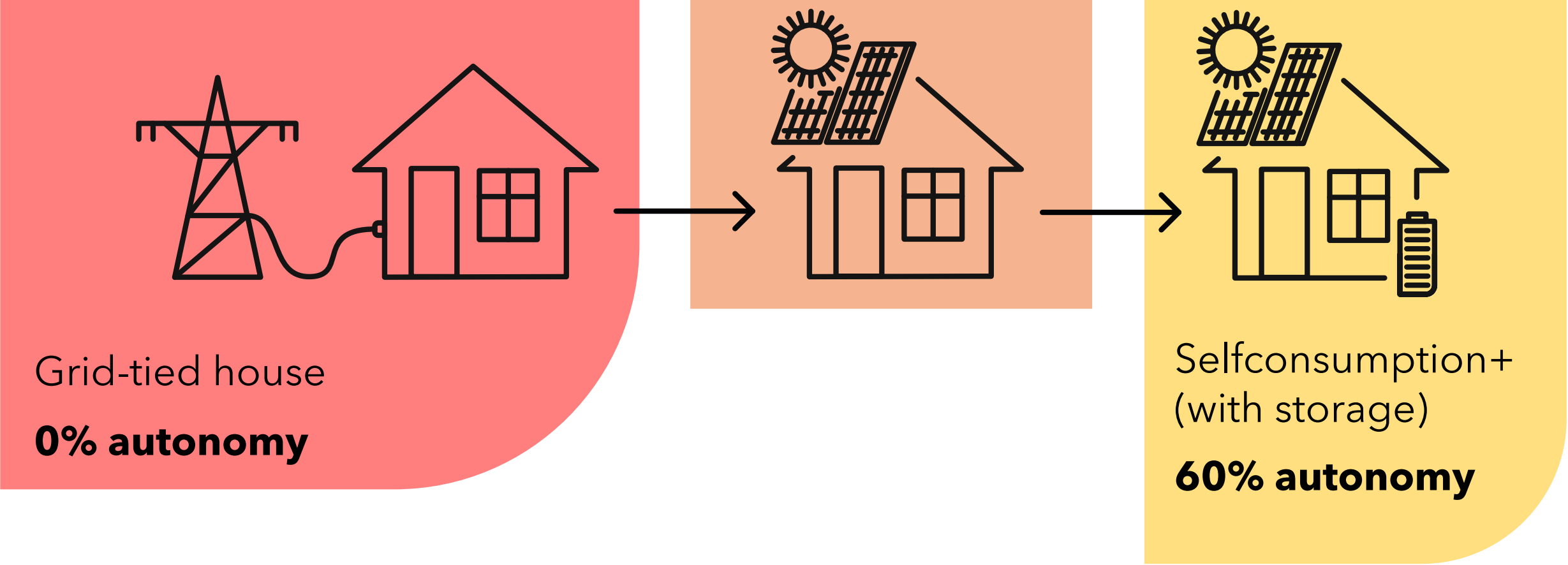
The trip

to solar autarky



The trip

to solar autarky



Offgrid experts



The offgrid model for the grid applications



next3, the autarky model

AC source

Grid ready EU LV
3x80Aac

AC flex

2nd input or load
Fully controllable

Solar PV

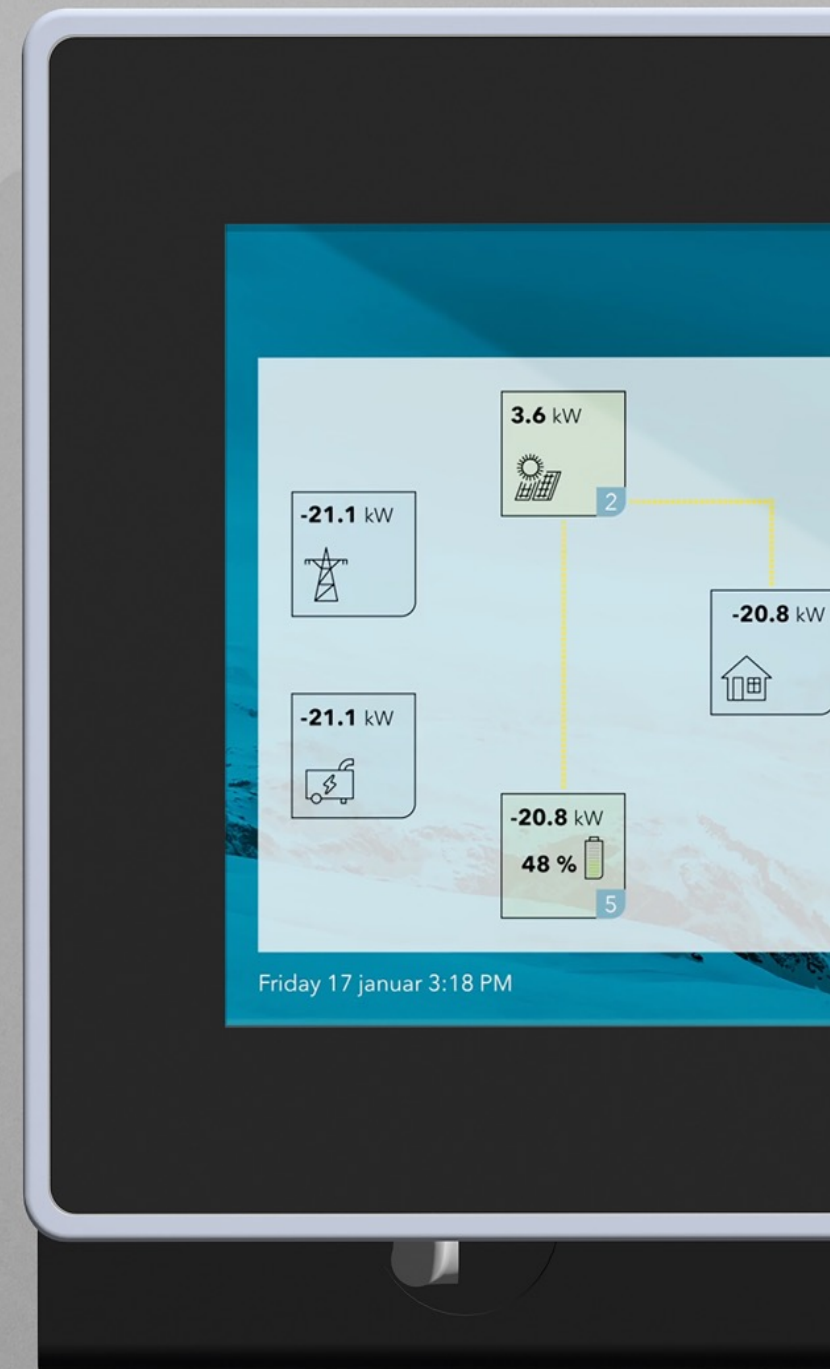
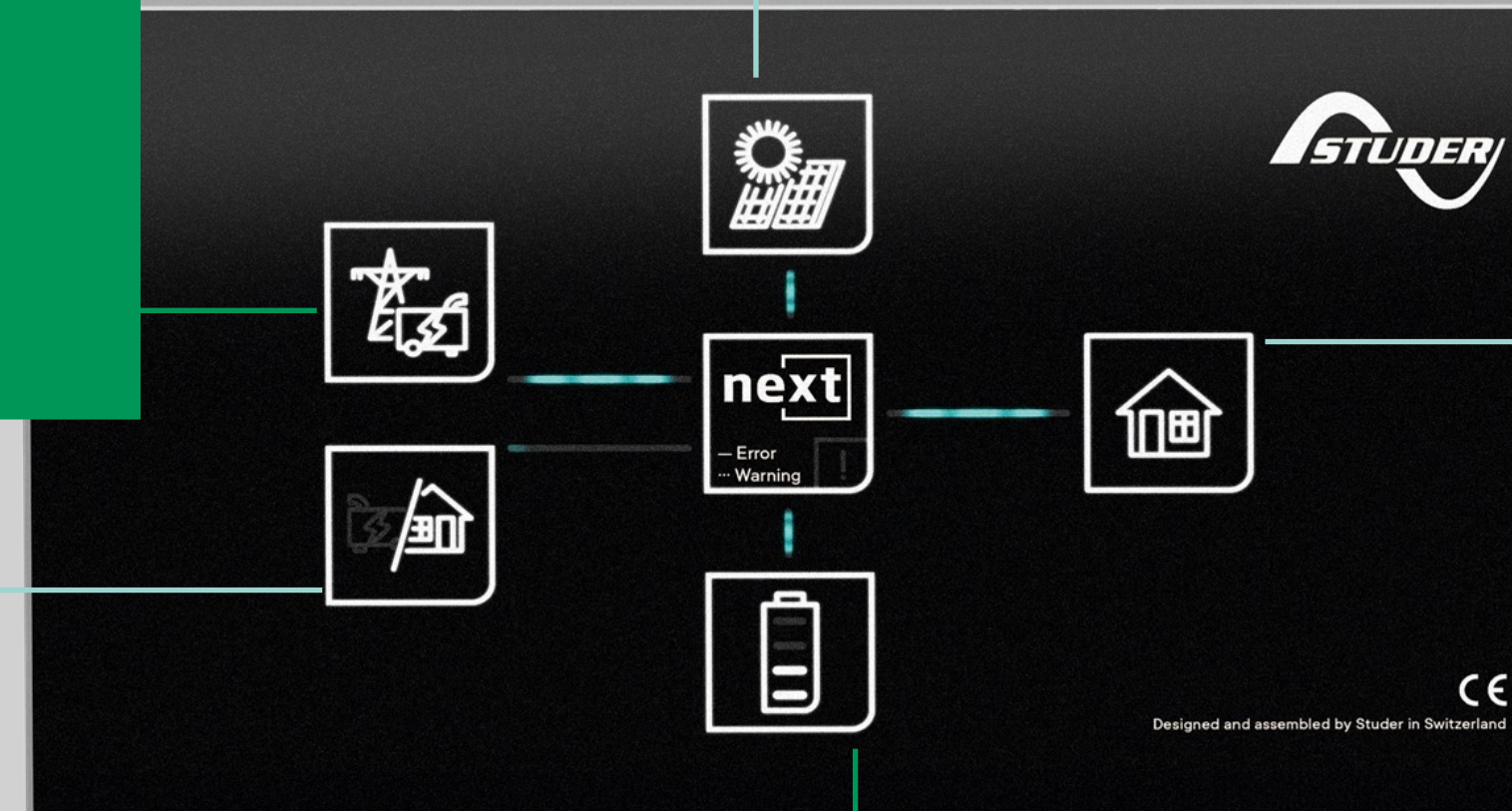
2 MPPT inputs 900V
2x8kW

AC loads

3-phase 16kVA
24kVA/30kVA peak

Battery

Lithium / Lead-acid
48V



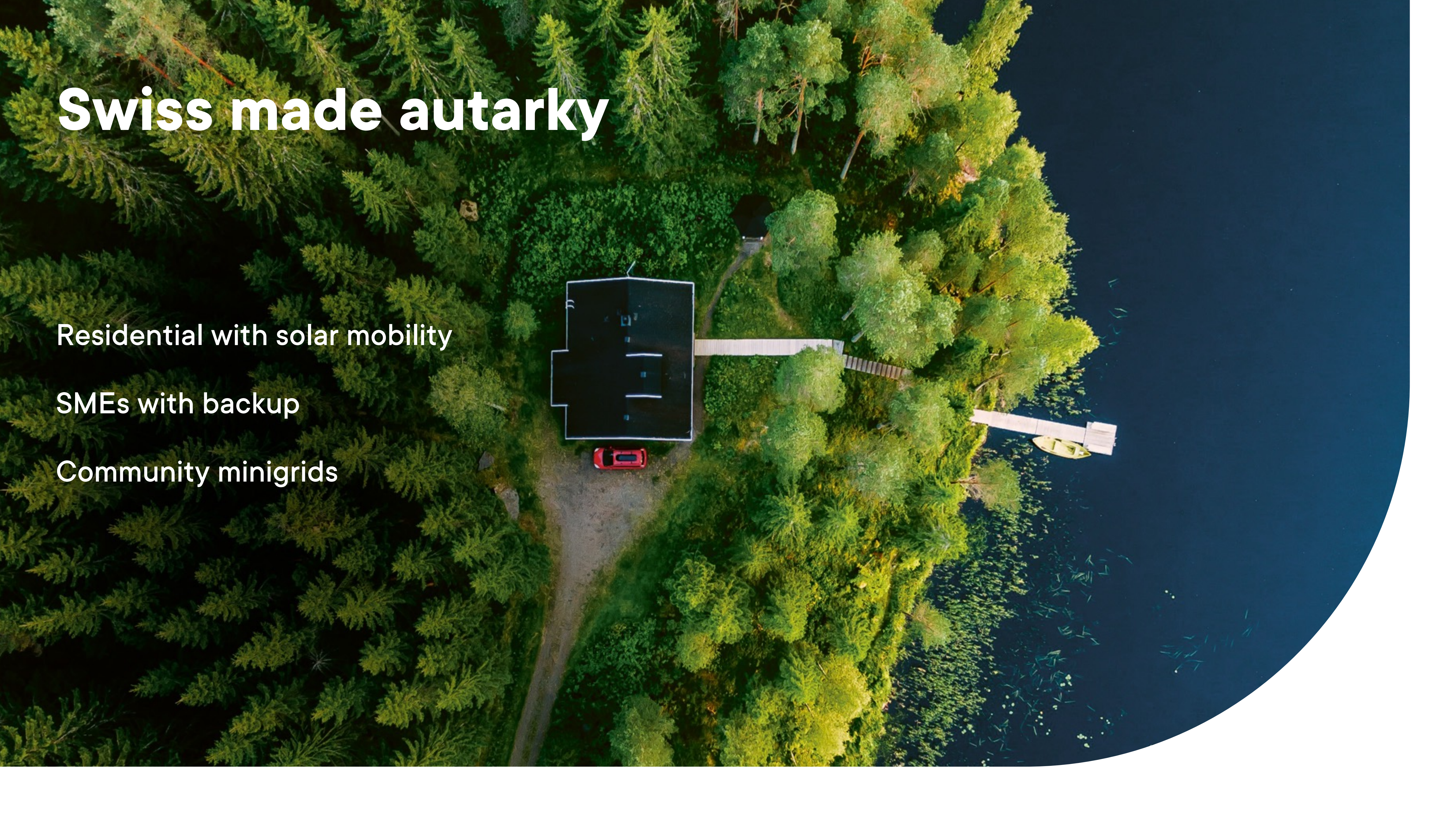
100% offgrid + 100% ongrid

Swiss made autarky

Residential with solar mobility

SMEs with backup

Community minigrids

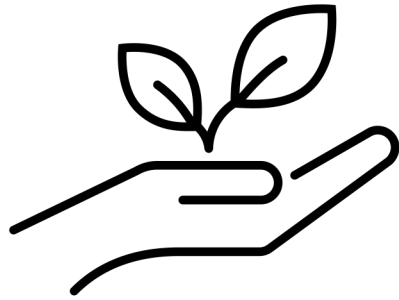


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All our products are designed and manufactured in our factory in Sion in Switzerland and come with an exceptional warranty of 10 years.



Robust & efficient



100%
manufactured
in Switzerland



10+5 years warranty
Reparable + circular
economy



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Reduce client costs
Increase project earnings

Most advanced solar and battery options
+35 years of experience

World-class technical expertise
Human-sized dedicated team

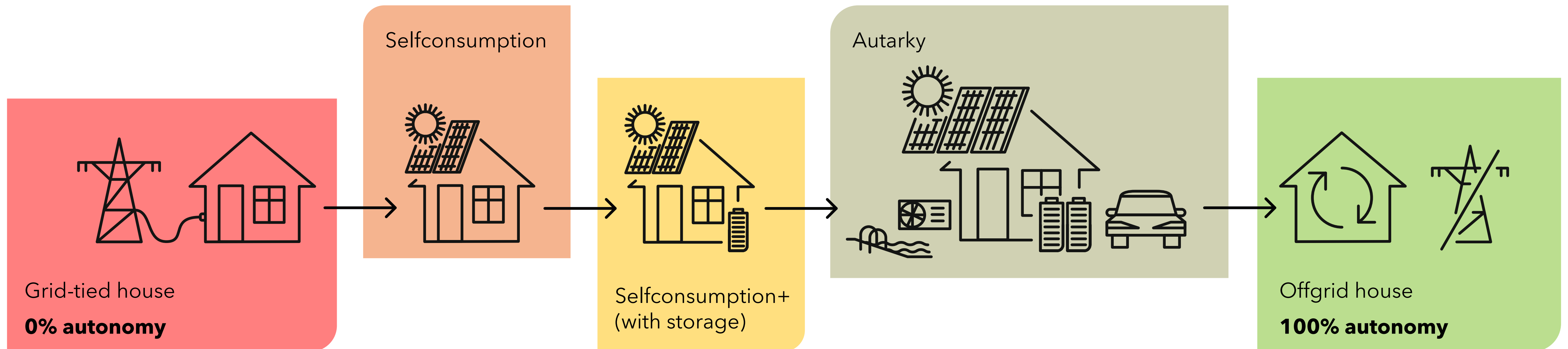
Elevate your reputation
Top-performing equipment

All-in-one product, all-in-one solution
Rack version for professional integration



On the road towards

the solar autarky

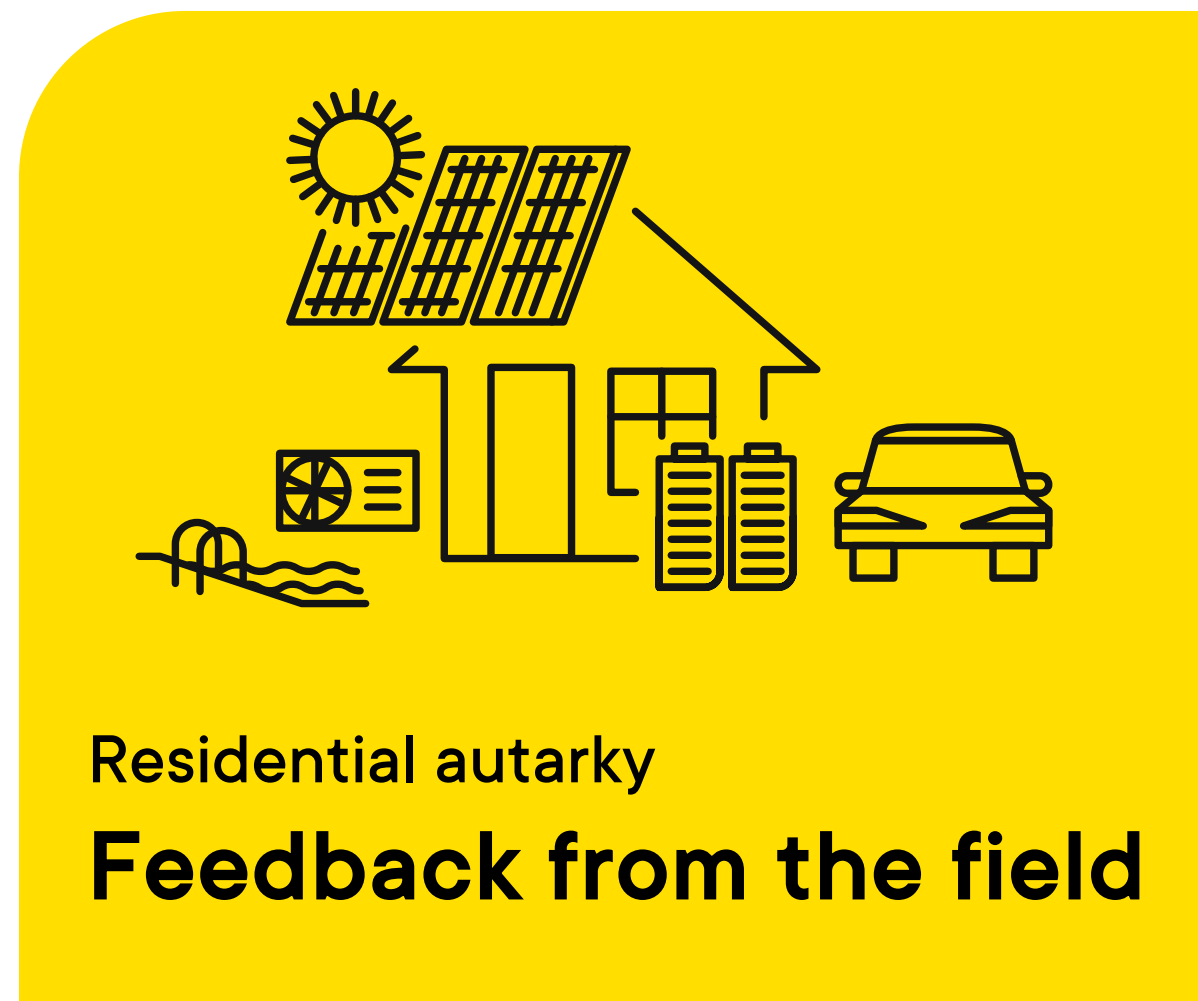


Case studies

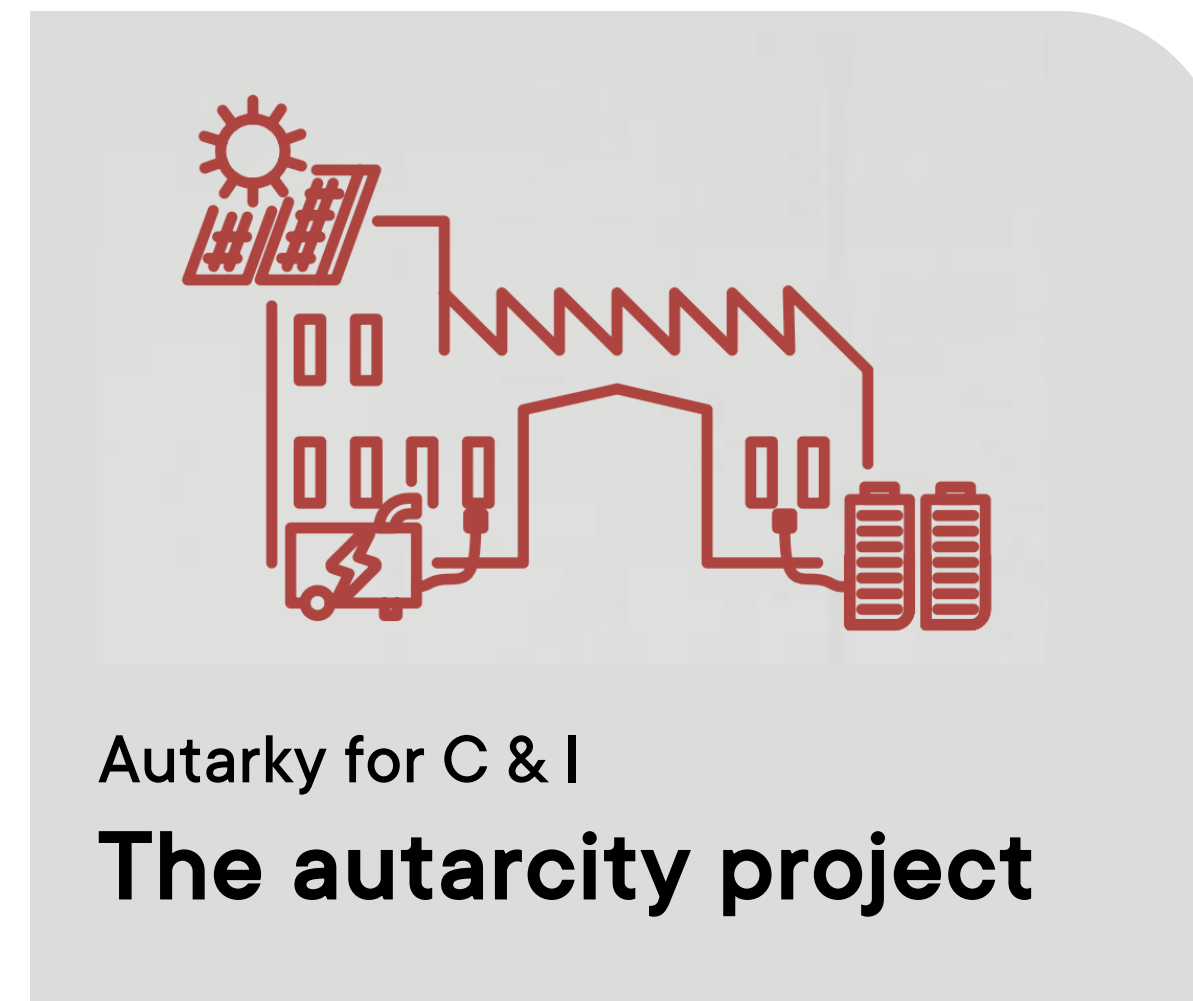
experience the solar autarky



Julien Morard
CEO smartsuna



Residential autarky
Feedback from the field



Autarky for C & I
The autarcity project



Pierre-Olivier Moix
CTO+board member Studer Innotec



smartsuna

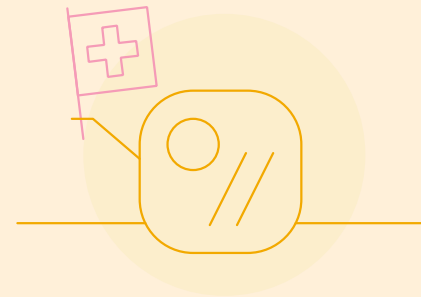
Solar autarky for residential applications by smartsuna

pV Magazine Webinar
22.06.2023

Julien Morard



A local contact



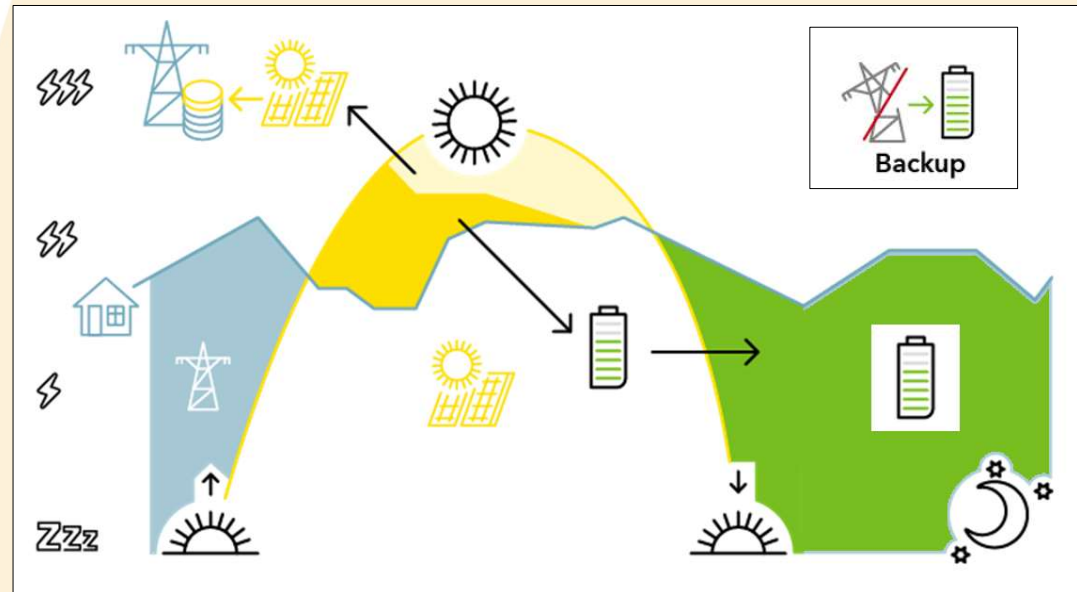
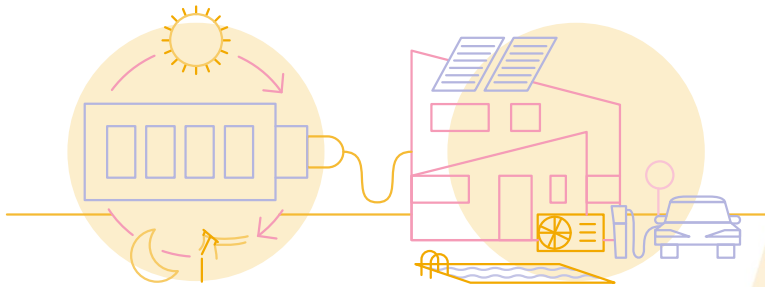
Founded at the end of 2020, smartsuna is the **Swiss specialist** for high-performance autonomous solar systems. We offer consulting, sizing and installation services for private and professional customers

Where does the solar autarky model come from?

A local experience



The benefits of solar autarky



An **intelligent autarky installation** with battery storage allows for the conservation of unused energy and for greater flexibility of use.

The system continues to operate automatically in "hut" mode in the event of a power failure

An **85%** self-sufficiency rate is easily achieved. This means that **85%** of your annual electricity consumption is taken from the sun!

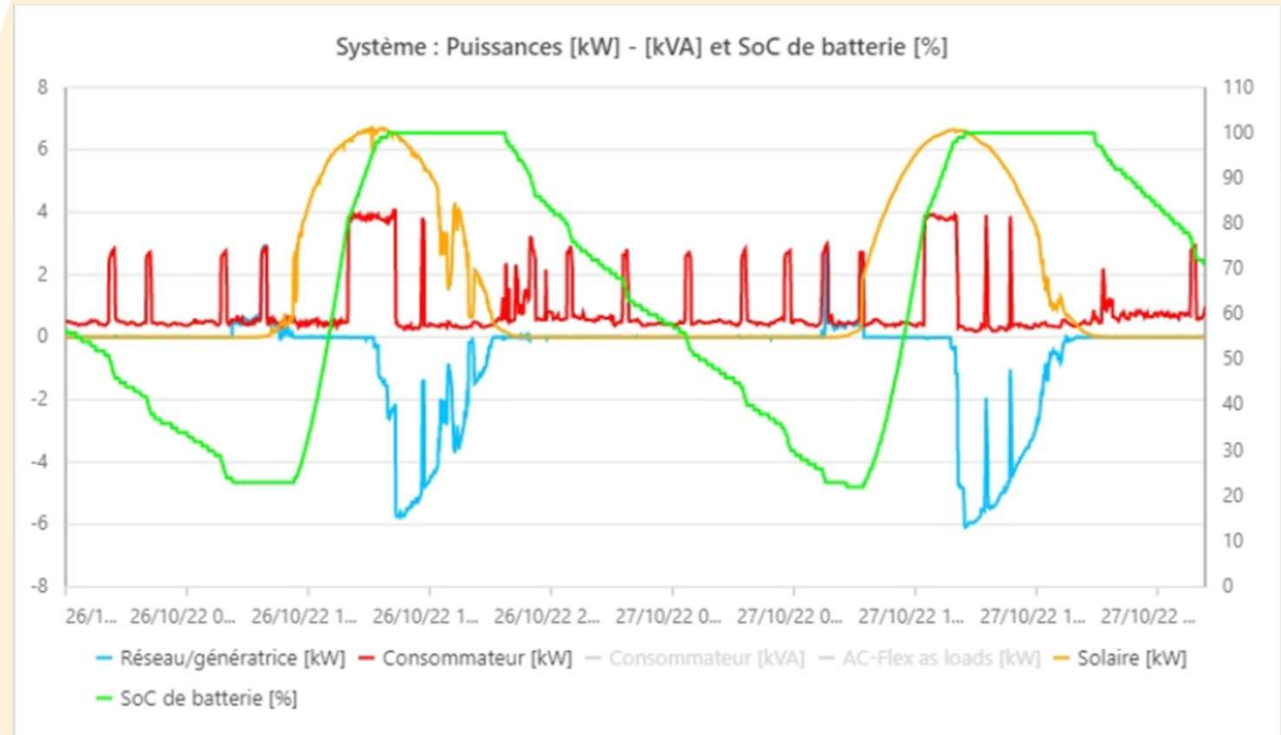
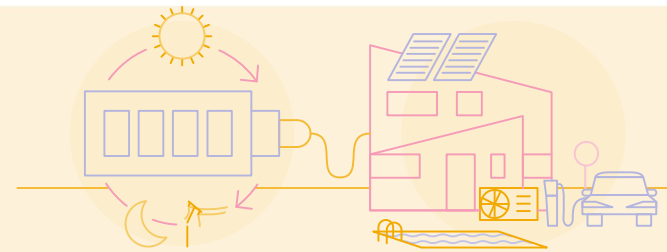
Typical residential application



Analyse on real installation

2 autumn days (26/10 - 27/10)

Autarky : 93%



Analyse on real installation

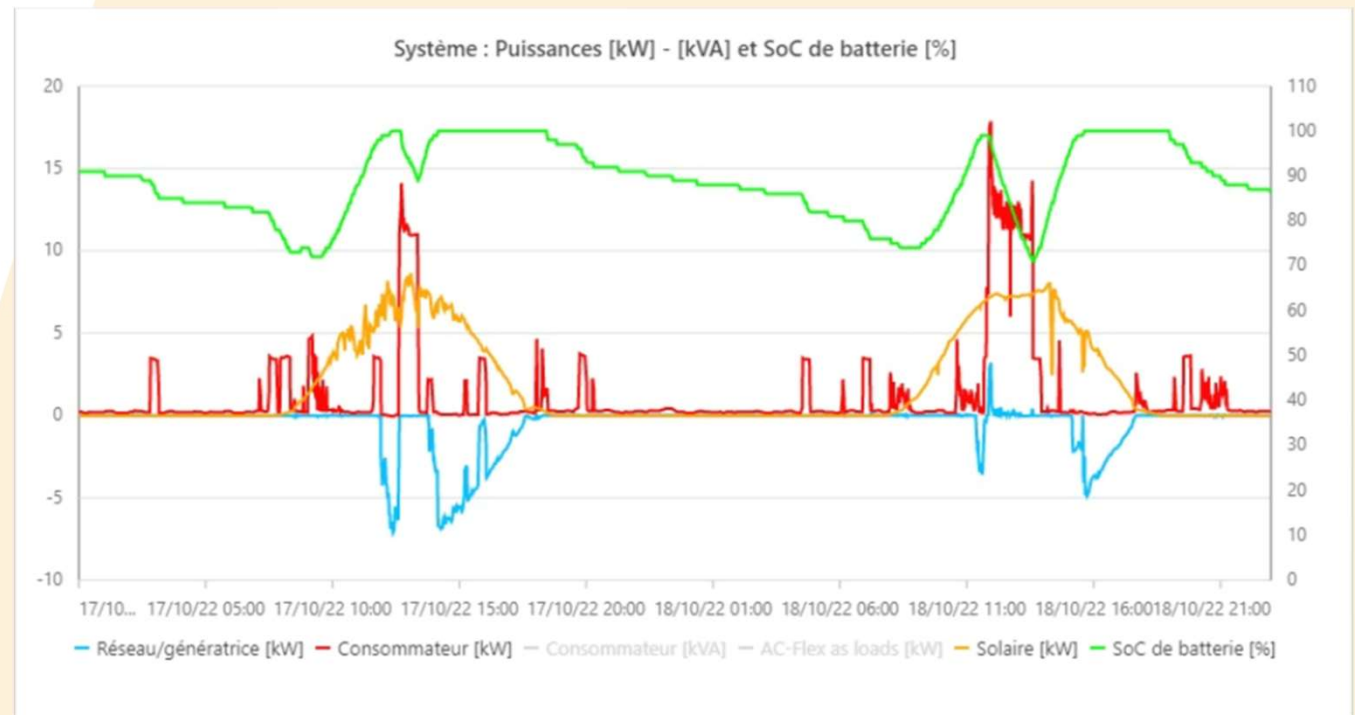
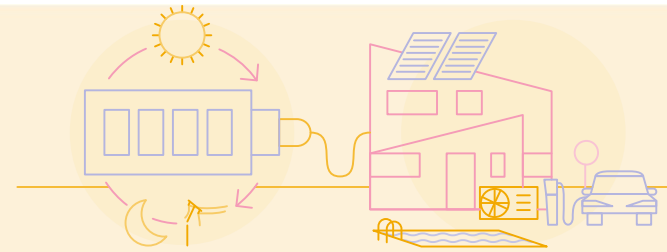
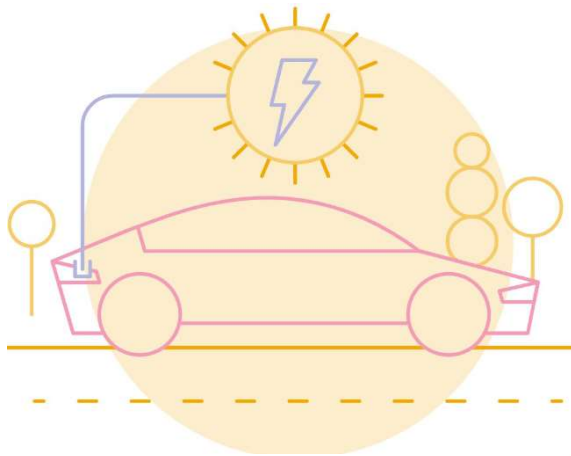
2 autumn days (17/10 – 18/10)

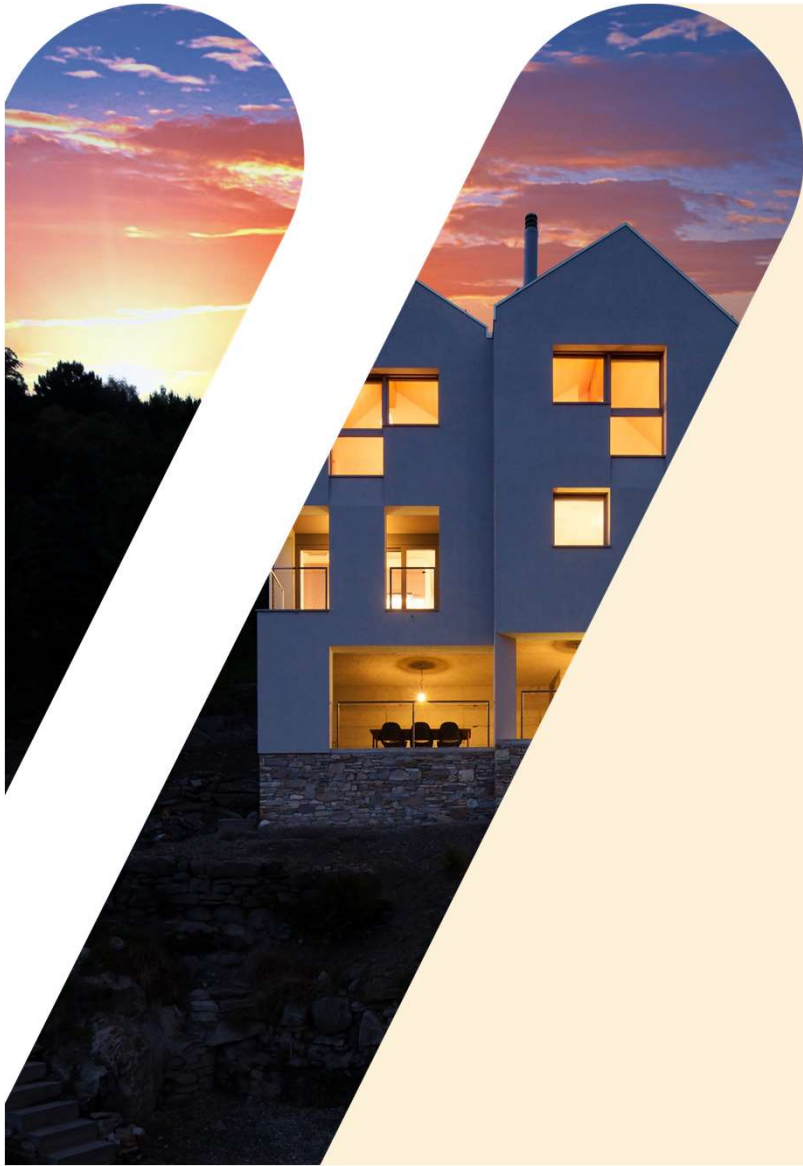
Autarky : 98%

30 kWh taken from the sun for the electric car - about 200km

28 kWh taken from the sun for the house

24 kWh sold back to the grid





Financial profitability



Initial investment 2 times higher

- Inverter Swiss Made
- Investment in batteries

Return time of less than 10 years

- Subsidies
- Tax deductions
- Electricity bill close to 0 CHF
- Solar "petrol pump" in your garage

**Thank you for your
attention**



smartsuna



A photograph of a mountain range, likely the Alps, with a prominent, sharp peak in the center. The image is overlaid with a semi-transparent orange-red filter. The text is centered over the image.

Solar backup for SME **AUTARCITY** project

Moix Pierre-Olivier, June 2023

the autarky factory





the energy factory

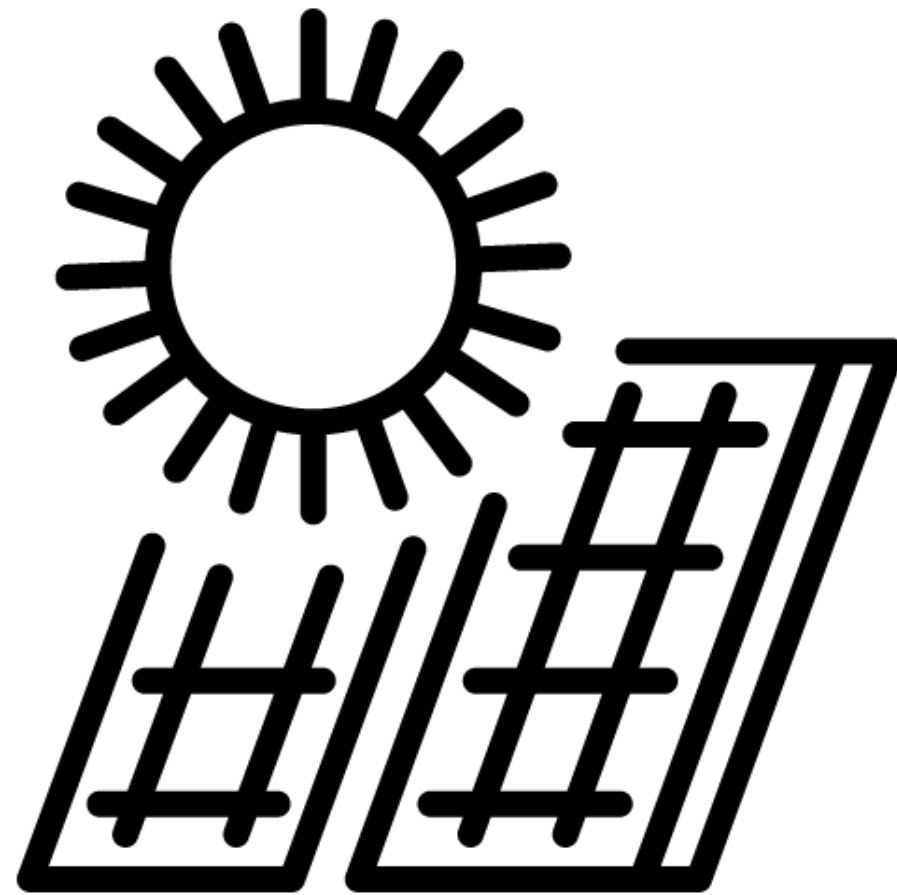
Explore the unknown

113

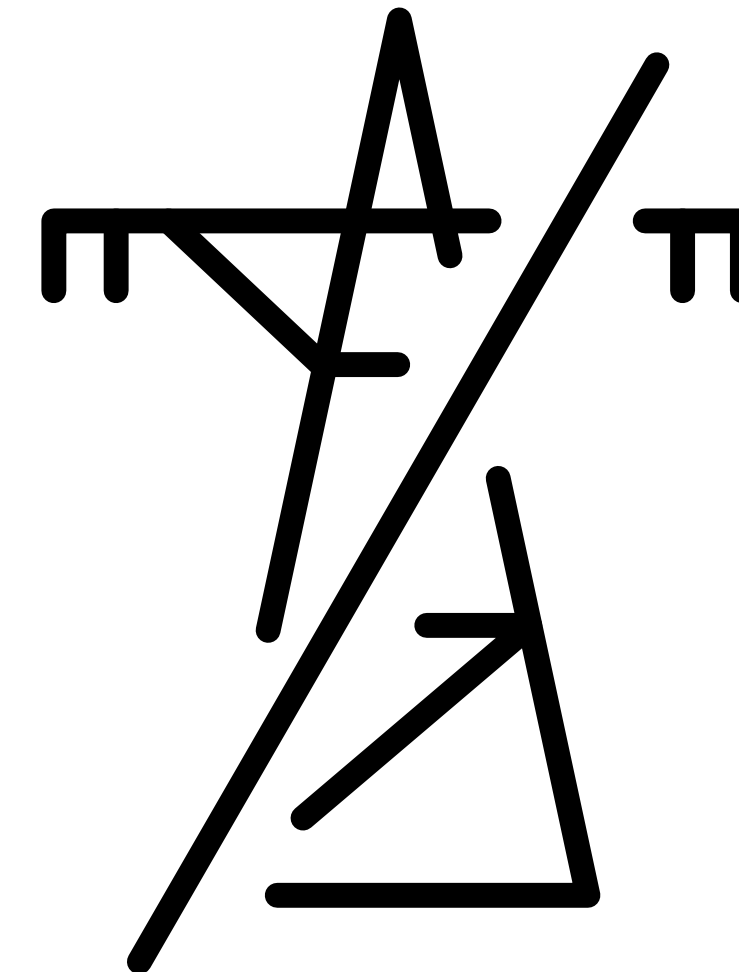
Plus de fraîcheur

Goals of the project

Renewable electricity



Security



Demonstrator

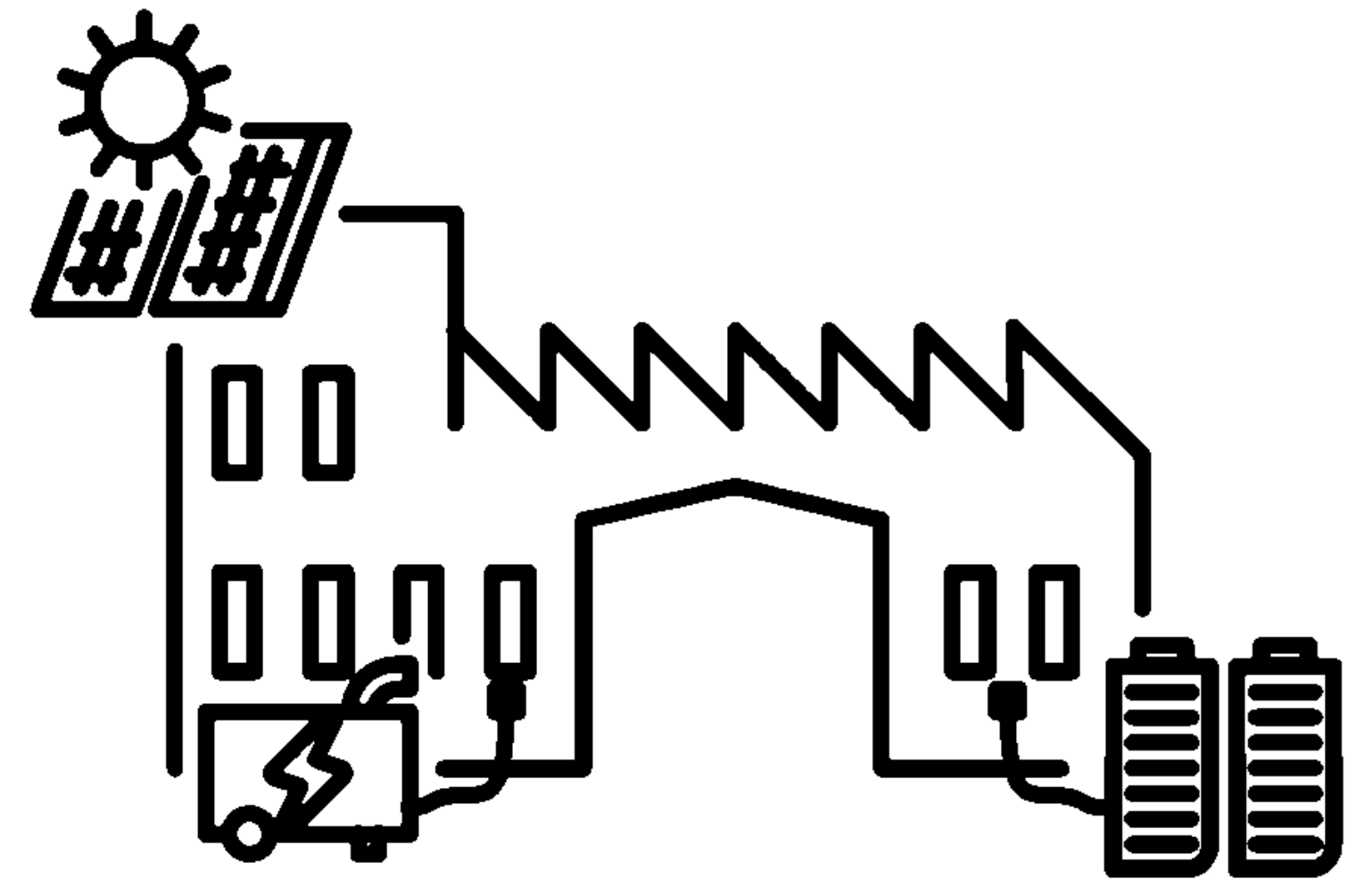
With Studer Products?

- 300A introduction to the building, do we need to backup 300A?
- A big 200kVA inverter unused most of the time?
 - Cost-benefit balance not OK
- Let's be more intelligent



Autarcity concept: we offer intelligent solar backup

- Supporting customers in their needs: security.
- Make the reflexion work about what's important: continuity plan of essential activities.
- Secure limited number of loads with distributed next3 to allow an acceptable operation of the factory.
- Add a global management for solar optimisation, but individual systems must work without communication (robustness to failures)



Exemple from the production

A **blocking process requiring little energy:**

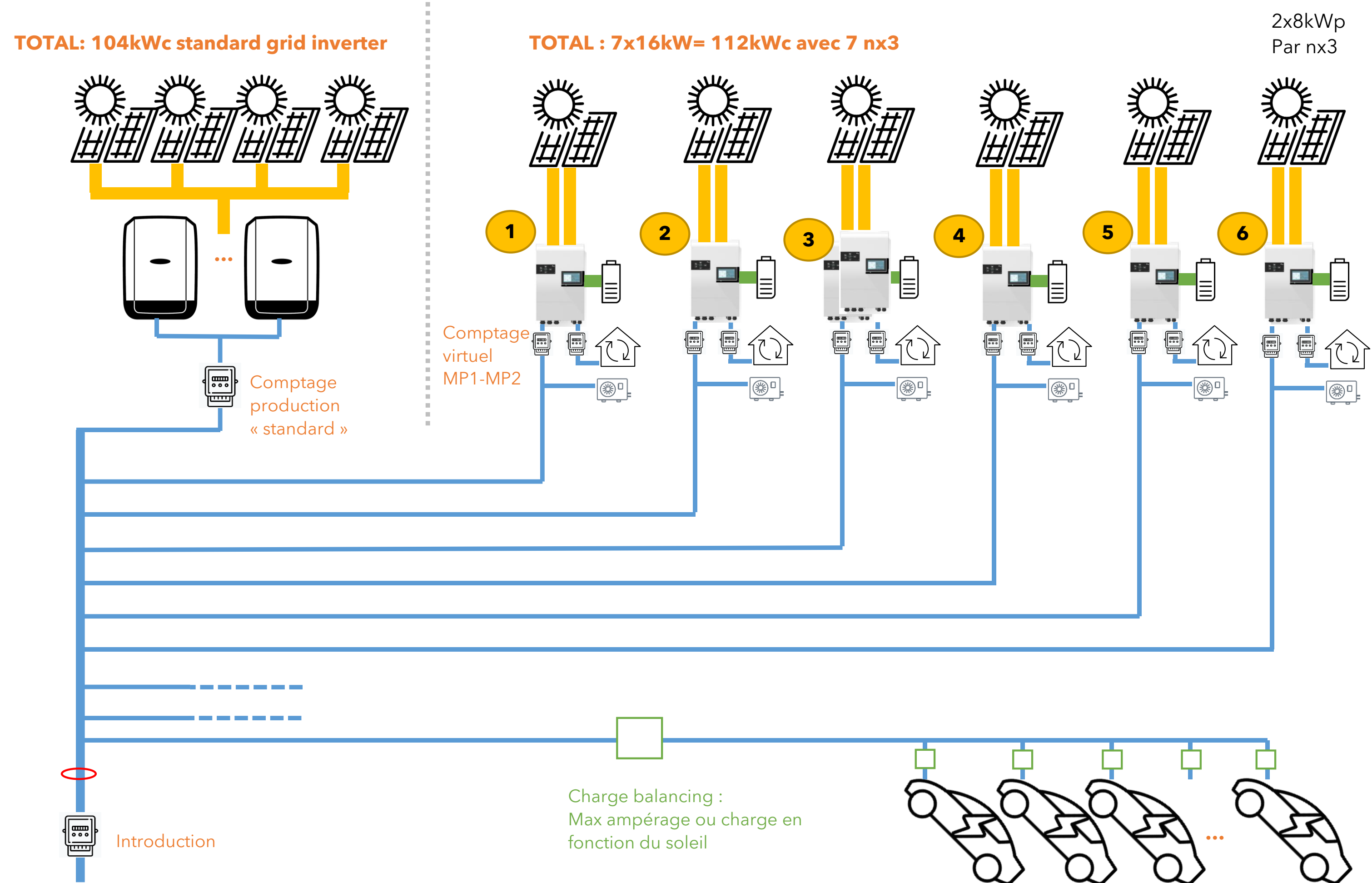
- Automatic doors and the lift
- Allows trucks to be loaded/unloaded and deliver ready products

High consuming welding machine

- not used during planned load shedding
- the job of collaborators can be planned accordingly

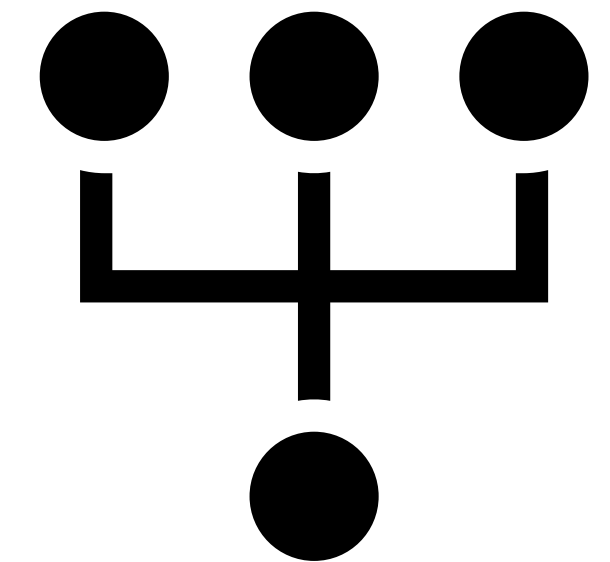


Schematics



Organizational: Prepare for load sheddings

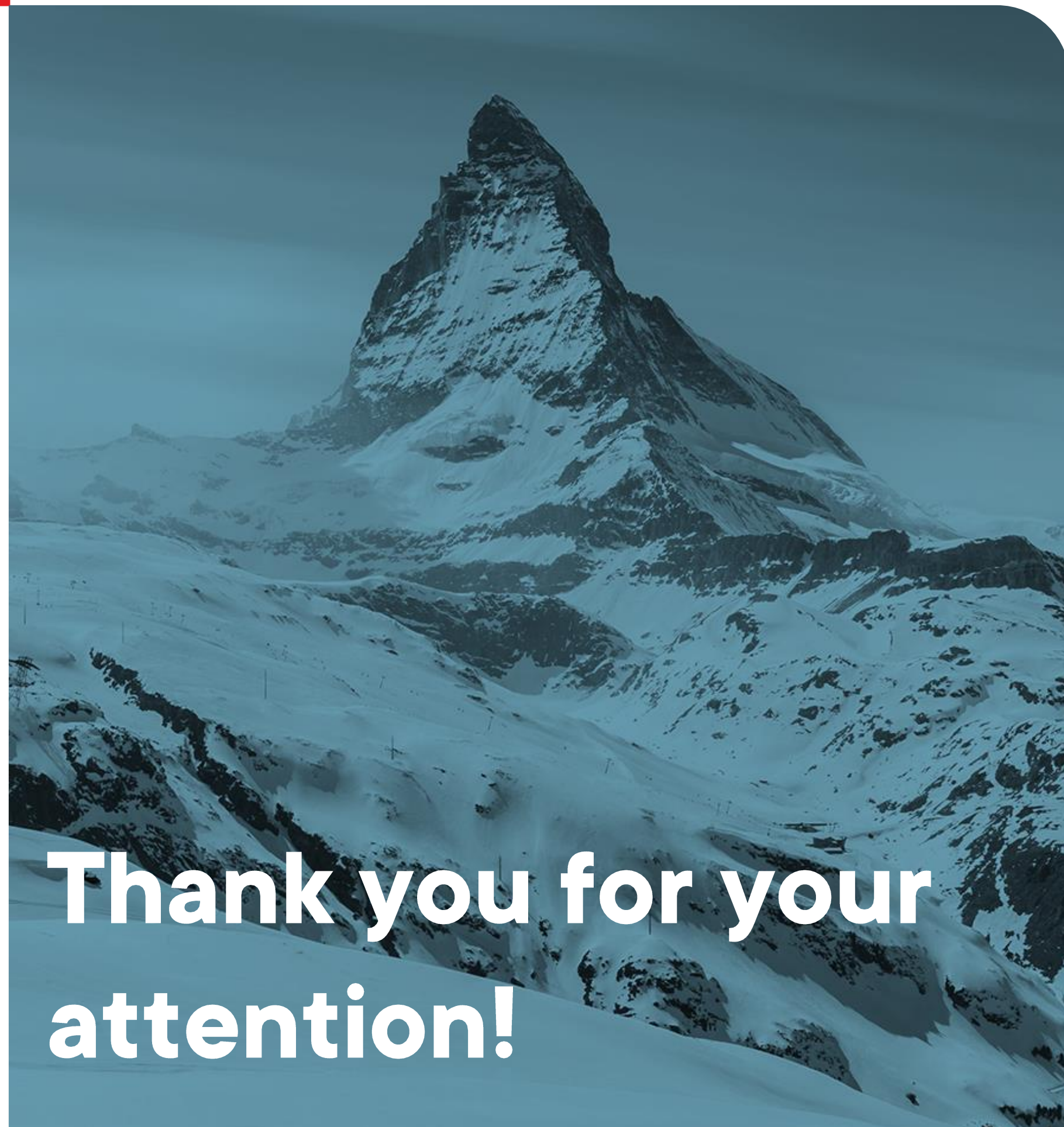
- 1) Identify **critical activities** to maintain and define a continuity plan (Limited to the essential).
- 2) Define an emergency crisis **management**: who's responsible for each sectors and who's setting up the required processes.
- 3) Live test: **train** and improve
- 4) Organise a **communication** crisis: information to all employees



Conclusion

- The concept is less straight forward than installing a big central backup
- It requires more **consulting** from the engineering company. Smartsuna tests this in Switzerland.
- We install it now and that will be a very interesting showcase for SME
- Brings more added value with the service and help the company to become **resilient**





Thank you for your
attention!

Contacts:

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- Julien Morard julien.morard@smartsuna.ch
- Pierre-Olivier Moix pierre-olivier.moix@studer-innotec.com



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Q&A



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Canadian Solar launches 700 W bifacial TOPCon solar modules

by Beatriz Santos



Virtual power plants roll out across the U.S.

by Ryan Kennedy



High time for a masterplan
Having weathered the first winter, solar's hour as energy savior has arrived

Coming up next...

Tuesday, 27 June 2023

1:00 pm – 2:00 pm EDT, New York City
7:00 pm – 8:00 pm CEST, Berlin

Wednesday, 28 June 2023

11:00 am – 12:00 pm EDT, New York City
5:00 pm - 6:00 pm CEST, Berlin

Many more to come!

**Smarter utility-
scale solar
construction
with digital
tools**

**Weather
parameters and
their effects on
PV performance**

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Jonathan Gifford
Editor in chief
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**Thank you for
joining today!**