



MARKET SEGMENTS

**Residential Building**

Municipality

Non-Residential Building

**A**

BOOTH NO.

**A73 Sylfen · France**

**Product:** Smart Energy Hub

## A system of energy storage, cogeneration and smart Energy Management

**THE NEED.** Buildings now integrate local energy production, but they can not rely on this renewable supply, due to lack of energy storage and management solution.

**THE SOLUTION.** Sylfen implements reversible Solid Oxide Fuel Cell / Electrolyser Cell (rSOC) technology that has been developed at CEA for over ten years, its lab scale pilot unit in 2014 being a worldwide first. This technology is packaged with: a 200 bars hydrogen storage unit, Li-ion batteries covering peak power needs and a proprietary software to tailor-made and operate the energy management according to the customer's specific needs.

### KEY FEATURES.

- Creation of electricity from hydrogen previously stored and from methane.
- Heat cogeneration: constant heat generation up to 120°C.
- Local creation of hydrogen by electrolysis of water with electricity.
- Supply electricity and heat.

### VALUE PROPOSITION.

- Buying electricity when its cost is less to constitute local energy bank.
- Creation of mini smart grid thermal energy.
- Local high capacity energy storage.
- Replacing electricity supply with gas when its cost is most advantageous.
- Self-effacement from the network when there is tension in supply.
- Using the stored hydrogen to create electricity when there is no more production.

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### THE TEAM

**Nicolas Bardi**  
*President and co-founder*

**Caroline Rozain**  
*Product innovation and co-founder*

**Marc Potron**  
**Hugo Radet**

### STRATEGIC PARTNERSHIPS/ CUSTOMER REFERENCES

A first 1-10 kW proof of concept prototype of the smart energy hub delivered to Engie in 2018. A first contract is signed to deliver a 3-modules 120 kW unit in Turin (Italy) in 2019.

✓ **COMMERCIALISED**