

# Fuel Cell made simple. Now Shipping.

October 2009



# What we do



- Founded Jan. 2005 by serial entrepreneur, ElectroPS mission is to develop and manufacture innovative fuel cell systems for back-up power applications
- The only company with a family of fuel cell products for backup: 3, 6, 12kW.
- CE certification obtained 2006. CSA certification for the US obtained 2009. CTTL certification for China by Nov 09.
- More installed systems than any other fuel cell company in Italy (and probably Europe).
- A compelling technology roadmap to ensure a faster company's growth.



# An awarded Company

- ⊖ 2005 Italian Innovation Award.
- ⊖ 2008 The Guardian/Library House “European Cleantech 100” and Italian Start-up of the Year.
- ⊖ 2009 Won the biggest ever order of fuel cell systems for backup in Europe (telecom sector).
- ⊖ 2009 Won GSMA’s Mobile Innovation EMEA as “Most Innovative Product Enabling a Greener World” + nominated **World Finalist at 2010 GSMA Mobile Innovation Grand Prix.**
- ⊖ 2009 The Guardian “Global Cleantech 100”.



# Where we are



## Technology

A product generation ahead of our competitors. Simplest product for maximum reliability. Focus on cost reduction (more margins, lower pricing).



## Sales

Currently fulfilling the **biggest order ever** for backup fuel cell systems in Europe (120 units installed in 2009 for one single customer).

Signed **P.O. for 1,000 units** in 2010 with 2009 **turnover**: 4x 2008; in 2010: 5x 2009.

## Business Development

Focus on promising activities in the **PMR** sector in Germany, Switzerland, Norway and Italy.

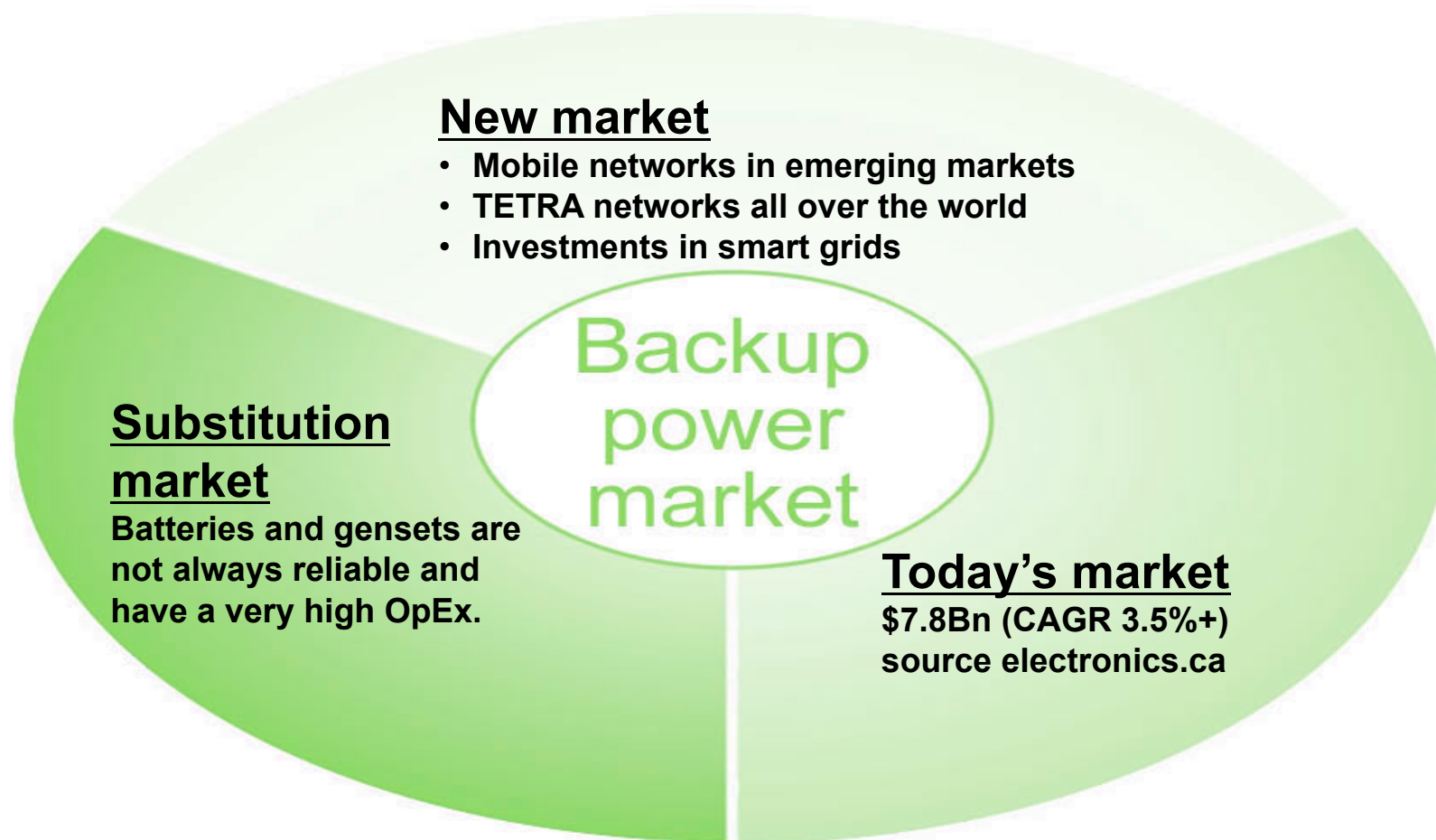
Strategic commercial partnership for **Latin America** in place. **North American** operations just started. Field test with starts Oct. 09.

# A big market



**Backup is key for industries such as Telecom/Utility**

Backup Power = Network/Service Uptime = Protect revenues





# A focused market strategy



## TELECOM

- ⊖ A growing number of Telecom Operators are “going green” out of necessity, due to the high cost of the fuel itself and the increasing fuel theft<sup>1</sup>
- ⊖ As a case in point, mobile operators are spending 3X more on OPEX than on CAPEX each year<sup>2</sup>
- ⊖ Network uptime is business-critical and cannot depend on unproven technologies

## PMR

- ⊖ In mission critical applications price is important but reliability is everything
- ⊖ Autonomy is long: never less than 20 hours (huge amount of batteries + gensets = heavy costs, heavy maintenance)

## UTILITIES AND SMART GRID

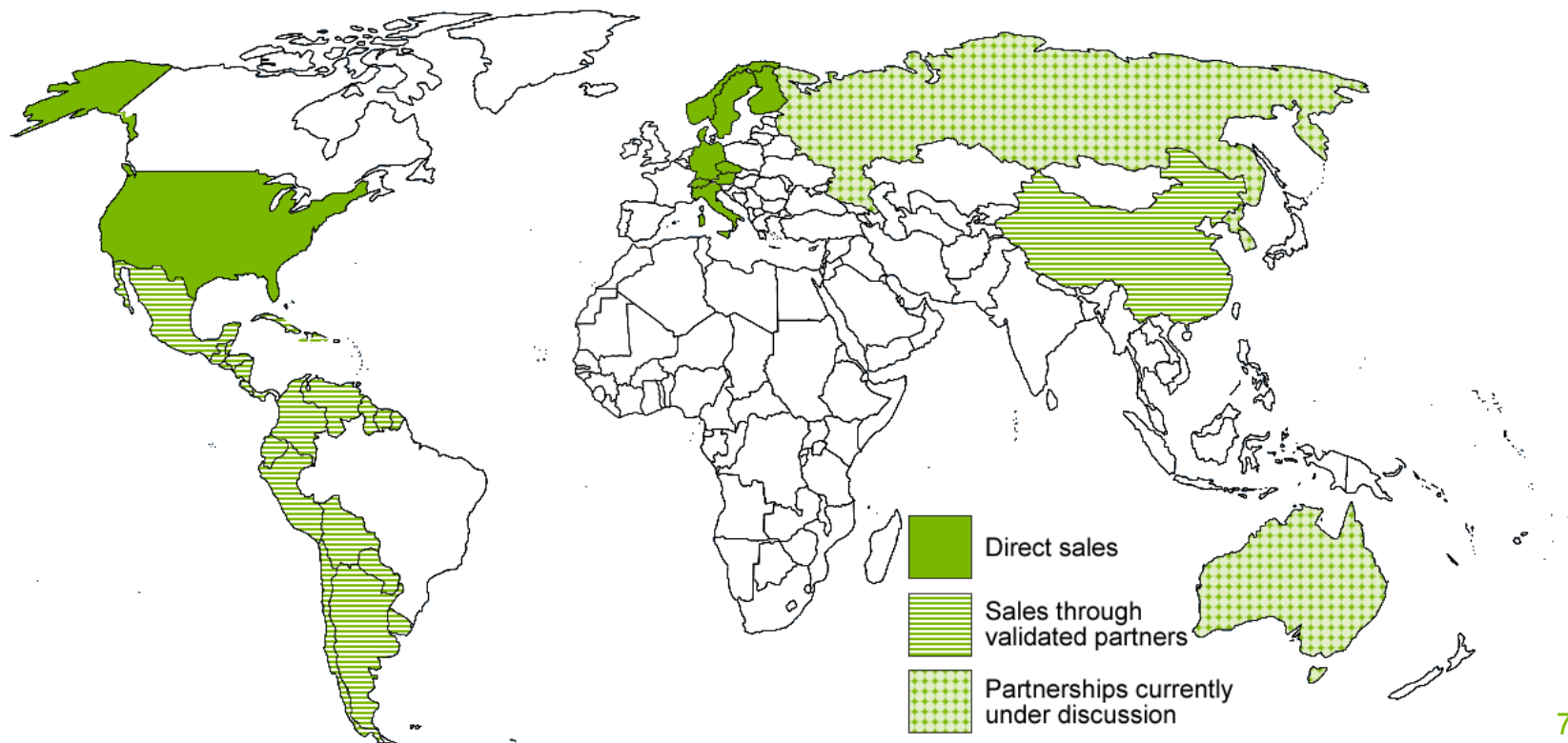
- ⊖ In the world there are millions of switching stations requiring rooms full of batteries
- ⊖ The forthcoming “smart grids” will increase the need of green, reliable backup solutions
- ⊖ ElectroPS is the first company with a FC commercial solution tailor made for utilities (heavily tested in Denmark, Sweden, Italy)

1. GSMA Development Fund

2. Pyramid Research, Inc report: “Demystifying Opex & Capex Budgets - Feedback from Operator Network Managers to their offering

# The go-to-market strategy

- ① **Direct sales on key accounts and/or verticals to ensure:**
  - Control on sales process
  - Monitoring of market evolution both in terms of competition and application
  - Focus on key opportunities and effectiveness in pre and post sale process
- ② **Indirect sales through a network of qualified and trained partners:**
  - Reselling, installing, maintaining our products
  - Granting us worldwide scalability and triggerable speed of the business model



# The magic word for customers: Savings!



- ⊖ **No components to be replaced, purchased or dismantled** during the product lifecycle, unlike existing UPS battery packs.
- ⊖ **Remote monitoring 24/7** via TCP/IP, SMS or customized protocols. No need for on-site visits.
- ⊖ **No or lower air conditioning** requires less energy.
- ⊖ **Rectifiers** used at their **maximum conversion efficiency** by feeding only **the load** and **not the batteries**.
- ⊖ **Save on square meters** thanks to **reduced footprint**.
- ⊖ Thieves love gensets and diesel, **not H<sub>2</sub>**





# ElectroPS® Certifications



- Our fuel cell systems have been certified in cooperation with the well-known organization Kiwa Gastec (leader in certification of hydrogen power system) in November 2006 and then also verified by TÜV Rheinland.
- CSA certification for United States achieved in September 2009.
- CTTL certification for China ongoing (exp. Nov 09).
- ElectroPS is ISO 9000 certified and is going to be ISO 14000 certified by the end of October 2009.



# CO<sub>2</sub> savings on three levels



**@ the  
beginning**

**1 ton** of **CO<sub>2</sub>** saved in manufacturing Electro6™ (7kVA, 10 hours autonomy) compared with traditional lead acid solutions

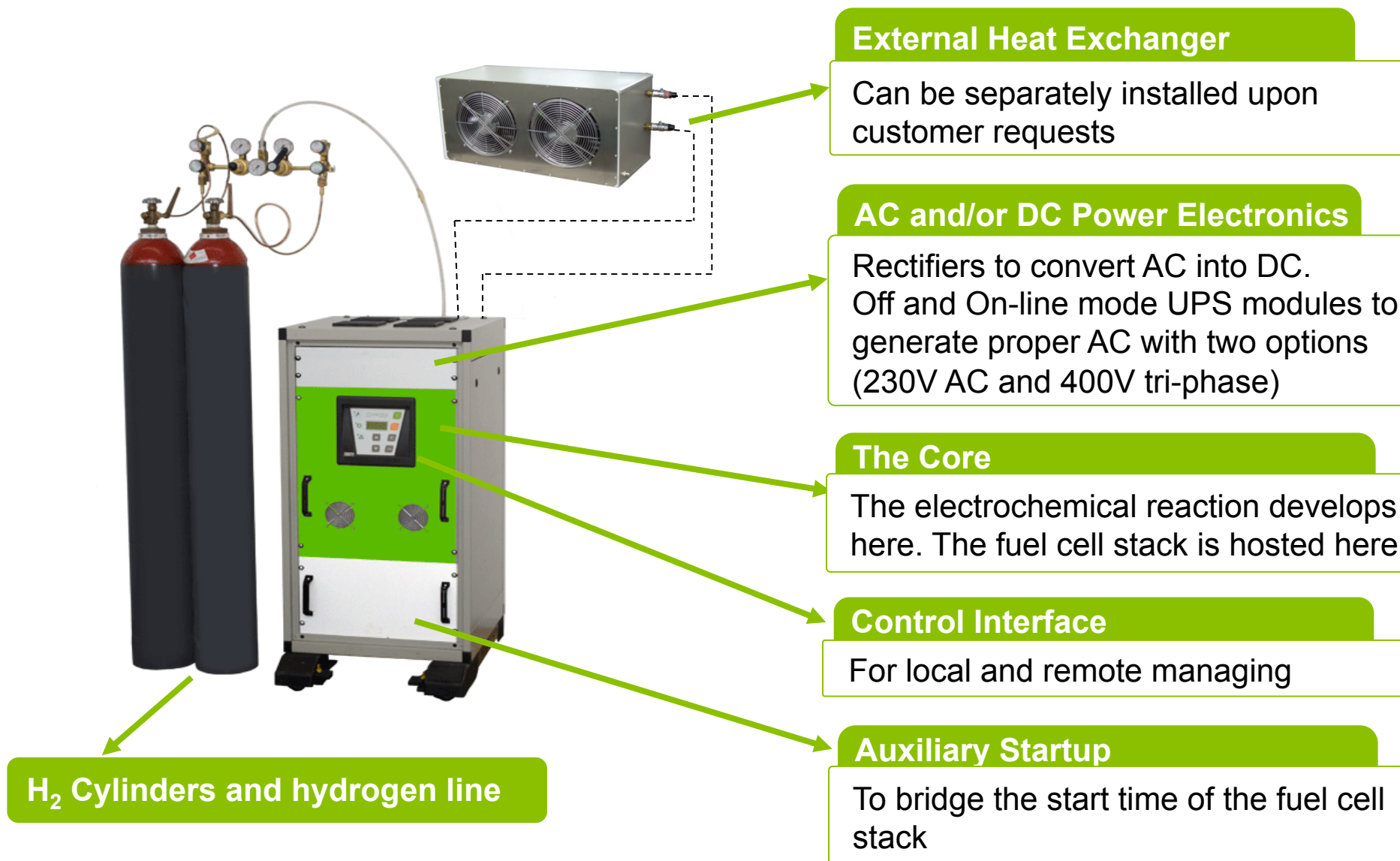
**During  
the use**

Around **2 ton** of **CO<sub>2</sub>** produced to replace 60kWh of batteries and **1,5 tons CO<sub>2</sub>** per year saved to maintain them

**On  
lifecycle  
basis**

10 years of use of Electro7 reduces up to **95%** the overall **CO<sub>2</sub>** emissions (ISO 14040)

# The main components



# Some examples of installations



ElectroPS Rack Mountable has been installed in two switching stations.



An ElectroPS 230VAC provides electric backup to a fiber optic regeneration site



Minishelter outdoor integrating a power system and the H<sub>2</sub> cylinders. Optimal performance even in an extremely cold environment.



Backup solution for Medium to Low Voltage transforming stations

# The new factory



- Based in Aosta, Italy
- Operating since February, 2009
- Capacity to produce up to 1500 units/year



# 2010, the year of The Fab Four



- From fuel cell manufacturer to Enhanced Energy Platform developer to give a real commercial boost to fuel cell systems.
- Focus on cost reduction, energy savings, green benefits.
- Four strategic inventions and improvements that will see the light next year.  
**Come and see them at  
GSMA 2010 in Barcelona (Feb).**



# Electro Power Systems SpA

[www.electroPS.it](http://www.electroPS.it)



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