FCH JU Programme Review Day 2012
Brussels, 29th of November

MobyPost
GA n°256834

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MobyPost
Mobility with hydrogen for postal delivery

Budget: 8.2 m€

FCH JU funding: 4.2 m€

Carbon neutral vehicle for postal delivery, based on a solar hydrogen and fuel cell system:

- Hydrogen production, storage and refueling infrastructures built on two existing postal centers in Franche-Comté (France)
- A fleet of 5 fuel cell powered vehicles per center, used everyday for postal services

SMEs:

INSTITUT P VERNIER
Franche-Comté Innovation et Transfert

H2 Nitidor s.r.l.
HIGH PRESSURE GENERATOR

STEINBEIS-EUROPA-ZENTRUM

Ma Hy Tec

Research centers:

EIFER

utbm
université de technologie
Belfort-Montbéliard

Large companies:

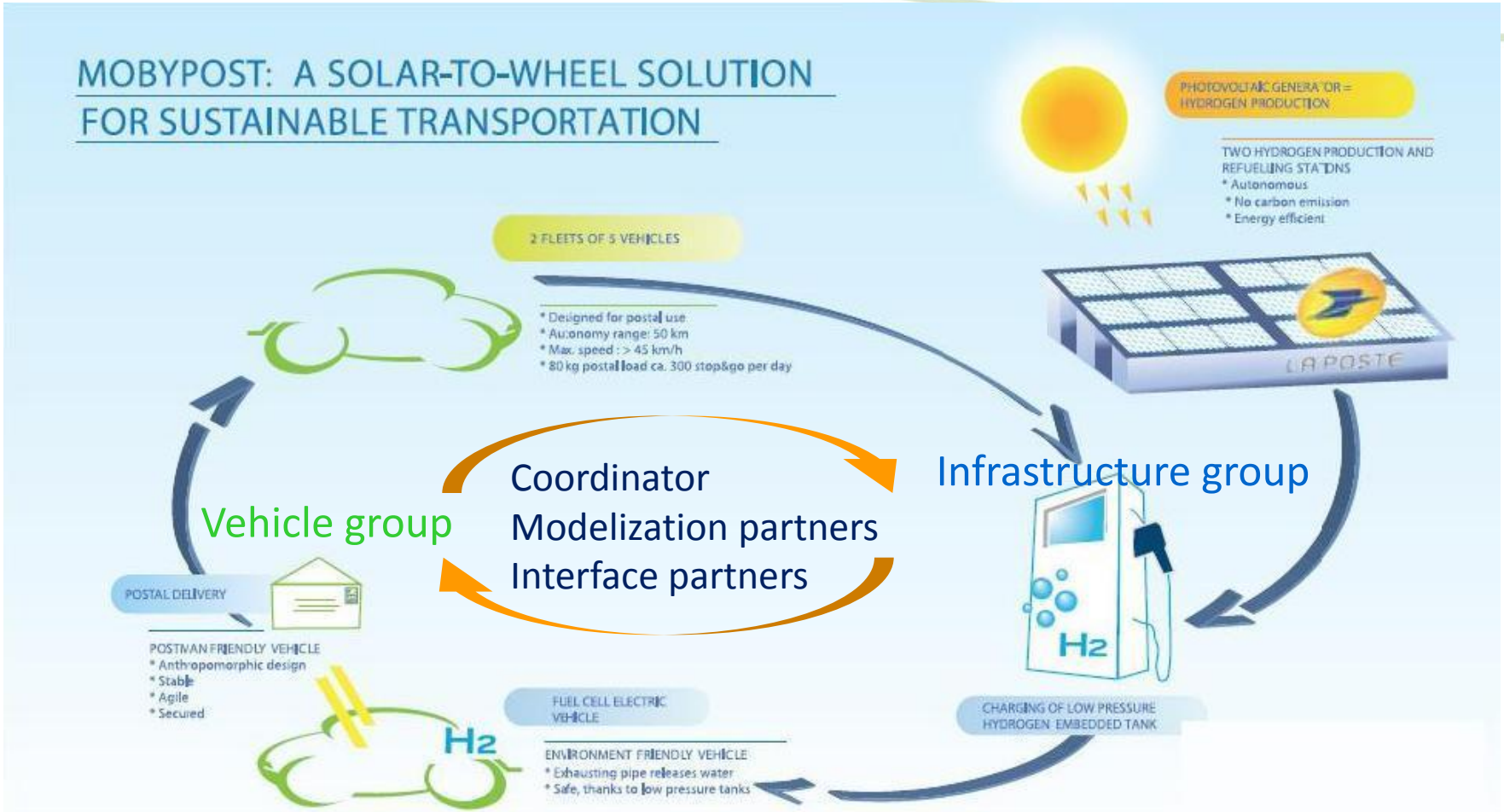
MES

DUCATI energia

LA POSTE

Approach

Project



Alignment to MAIP/AIP

Application area

- MobyPost belongs to the « early markets » category of the 2009 call
- It is a demonstration project (includes RTD activities)
- Show the technology readiness of specialty vehicle including the related hydrogen refueling infrastructure
- Demonstrate the components and systems lifetime, cost competitiveness, reliability and sustainability

Technology

- PEM Fuel cell on mobile application
- Decentralized H2 production thanks to alkaline electrolyze fed by solar energy
- Low pressure H2 storage (metal hydrides)

Technological breakthroughs

Demonstration

- Complete solar to wheel solution implemented on existing industrial sites
- FCEV used every day on heavy duty cycle and under demanding climatic conditions
- Autonomous energy production by coupling an electrolyser to solar energy
- Guaranteed safety with low pressure storage on board of the vehicle

Performance indicators

- Reliability monitored during experimentation
- Fuel cell cost and lifetime
- Cost of renewable hydrogen
- Acceptance of an innovative transportation mode meeting the requirements for the future

Project milestones

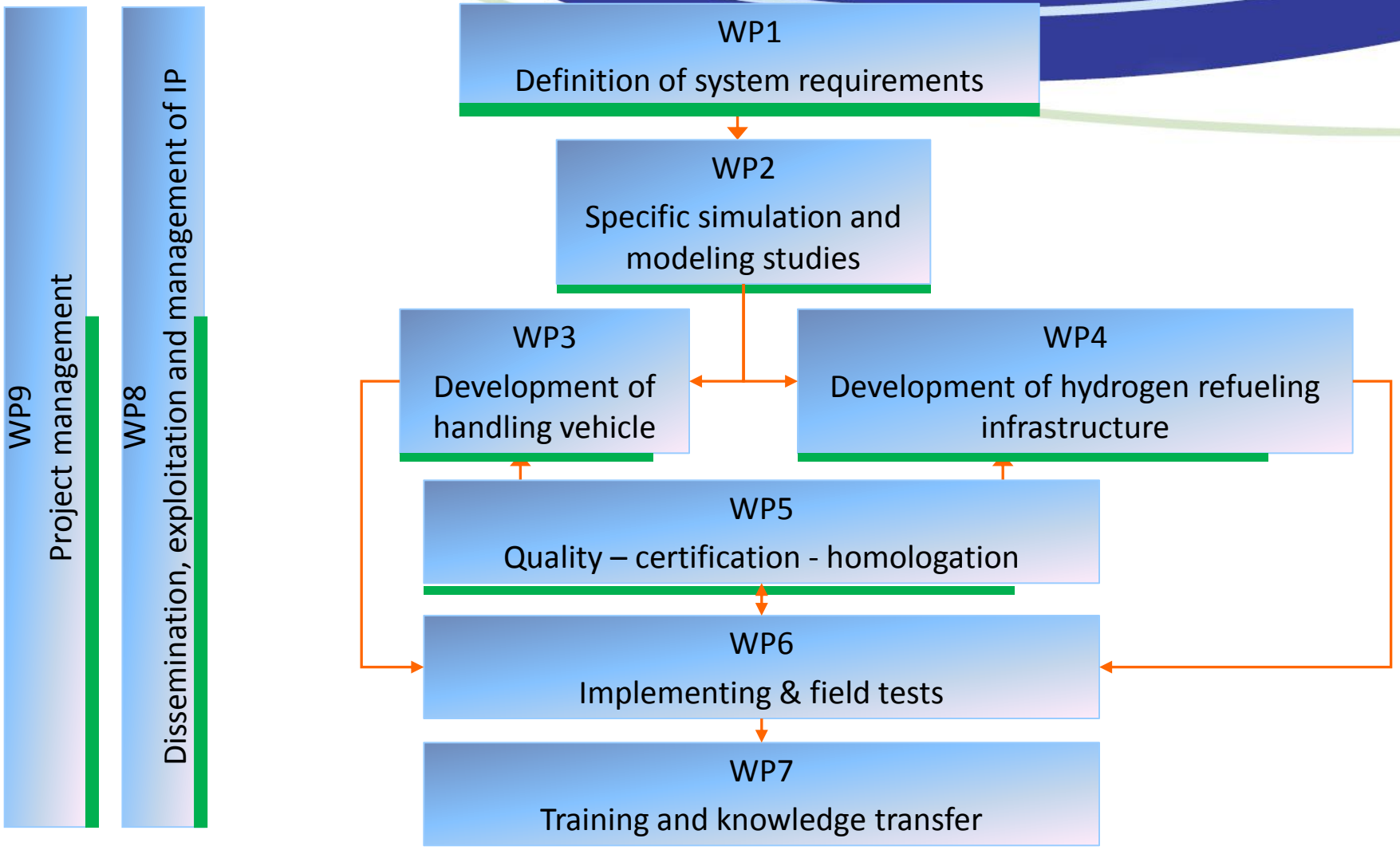
02-2011

04-2013: start running both infrastructure and vehicles.

2011 Designing	2012 Building	2013 Testing
• Vehicle *Power train* *Mechanical structure* *Ergonomics and style* • Infrastructure *Dimensioning of equipment & monitoring system* *Safety and regulation analysis*	• Vehicle *Power train final test* *Manufacturing of 10 FCEV* *Homologation* • Infrastructure *PV generator* *Electrolyser* *On-site storage* *Refueling station* *Certification*	• Vehicle *Postmen training* *Deployment of the FCEV* *Performance monitoring* • Infrastructure *Performance monitoring* *Business plan,* *Dissemination and knowledge transfer*

Approach

Work packages and status at M22



Update on project's progress

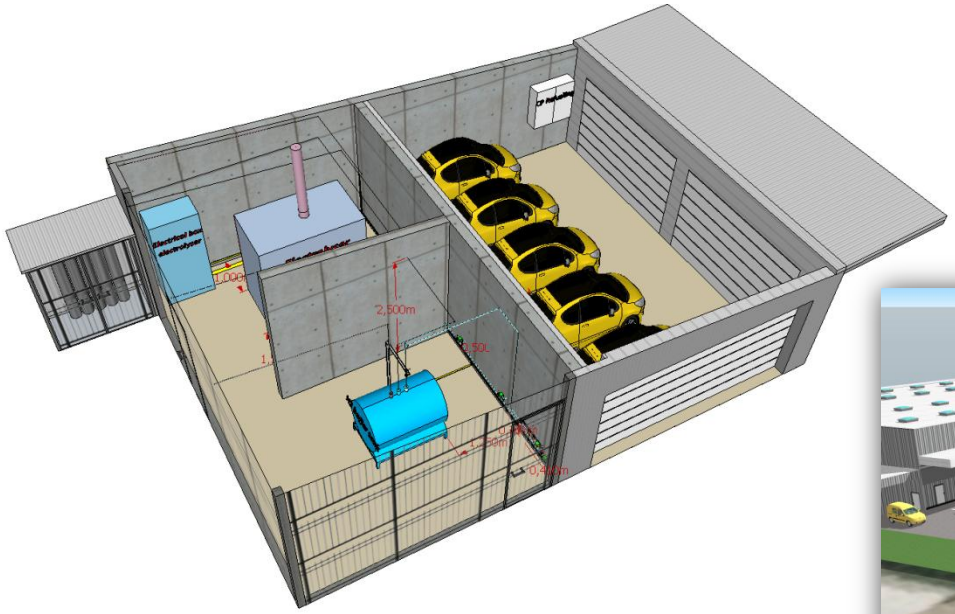
Key figures and main achievements

	Objective	Realized at M22
Vehicles	10 vehicles running M25	Prototype running, fleet for M27

Update on project's progress

Key figures and main achievements

	Objective	Realized at M22
Infrastructure	2 stations running M24	1 site: M26, 1 site: M27



Alignment to MAIP/AIP

Key figures and main achievements

	Call 2009	MobyPost
Total cost of FC system	< 4000 € / kW	~ 5000 € / kW *(additional RDT deployed for our system, else 3000€/kW)*
Hydrogen price at pump (Renewable)	< 13 € / Kg	~ 13€ / Kg *(to be finalized with data from experimentation for final business plan)*
System efficiency (tank to wheel)	> 40%	32% *(on test bench, with FC system eff. > 0.4)*
Refueling time	< 5 min	3 hours *(uncooled refueling of hydride tanks)*

Alignment to MAIP/AIP

Activities

- Cooperation in RTD activities of SMEs, large companies, Research centers
- Design of the solution strongly linked to real use (final user La Poste)

Results

- Run 10 vehicles and 2 hydrogen plants for a one year monitored experimentation
- Allow the technology to progress and the companies to increase their competitiveness
- Reduce the greenhouse gases emissions of postal activities

Cross-cutting issues

Safety, regulation, codes and standards

- French regulation on hydrogen production (Low quantities, no commercial use)
- FCEV homologated according to European and French regulation

Dissemination & public awareness

- Direct and large diffusion thanks to the postmen and the distribution centers of La Poste
- Impact on societal acceptance by showing a safe, friendly and clean vehicle
- Other means:
  - Expositions, events, forums, scientific meetings
  - Scientific publications, press releases
  - Indirect diffusion – professional and private network

Enhancing cooperation and future perspectives

Technology Transfer / Collaborations

- MobyPost beneficiates from similar successful experiences (F-City H2)
- MobyPost beneficiates and feeds associations / projects covering the same activities (H2, FC)
- French national call for H2 and Fuel cells (ADEME) – Mobilihytest – includes certification center for H2 storage solutions in the same region as MobyPost experimentation
- “East of France” : development of hydrogen field of activity :FC LAB testing facilities for FC, PVF-ITS platform for vehicle testing.

Project Future Perspectives

- Data collected during the experimentation year will be used for future projects
- Partners cooperation will lead to new projects
- Successful demonstration will accelerate the market growth

Any questions ?

Thank you for your attention !