



## SEMINAR

# Hydrogen for Transport

Transport demonstration projects of the  
European Hydrogen and Fuel Cell Technology Platform  
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# Welcome and introduction

- n **Hydrogen and fuel cells have gained recognition** at European and international level as a potential future universal energy carrier, and **in particular as a potential alternative to oil derived fuels in the transport sector**
- n The European Commission (EC), through its research programme has progressively given more weight to these technologies. Currently the EC project portfolio represents and overall investment of **600 M€ of which the EC contributes 275 M€**
- n To better organise the European effort in hydrogen research the EC initiated in January 2004 the **European Hydrogen and Fuel Cell Technology Platform**



# Seminar overall purpose

- n The purpose of this seminar is to openly discuss with relevant Commission services **what can actually be expected from hydrogen** as a transport fuel in the coming years based on the facts derived from these projects.
- n This seminar should not be mixed-up with the many activities taking place these days in the context of the European Hydrogen and Fuel Cells Technology Platform and the preparation of a Joint Technology Initiative.



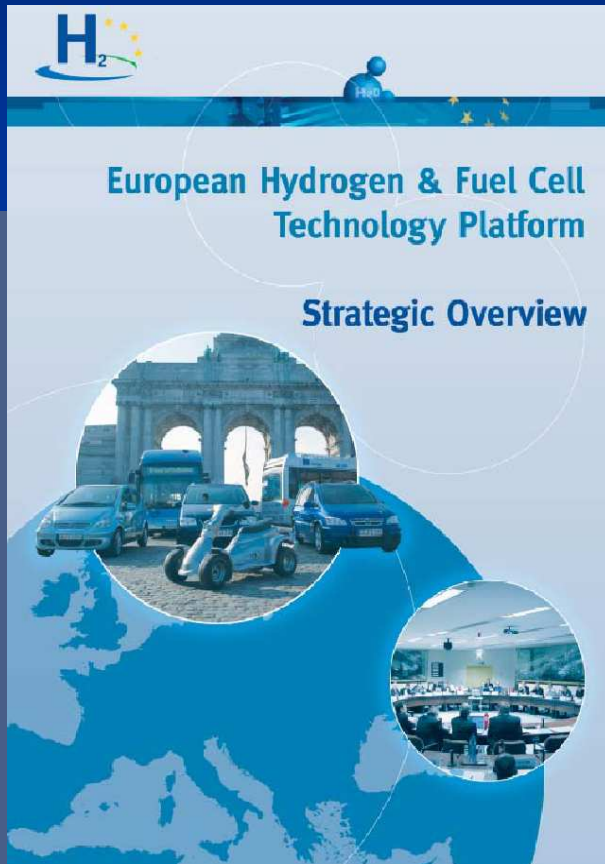
# Seminar specific objectives

- n 1.- To present the learning process of these demonstration projects; What are the questions that they are expected to answer?
- n 2.- To present the state of the art of the technology that is being or is going to be demonstrated, and the prospects for future developments.
- n 3.- To present the project partners motivations and how these activities fit in their individual organisation/sector strategy.
- n 4.- To set the basis for cross-project cooperation within the “Hydrogen for Transport” family and with other projects. Would each of these projects be able to solve all the problems on their own? Or, would they be more efficient and effective working coordinated?
- n 5.- To compare the EU activities with those taking place in other parts of the world, strengths and weaknesses.



# Strategic Overview

## SRA + DS



1.- Confirms the European Sustainable Hydrogen Economy vision, underlining the importance of hydrogen for transport

2.- Requests a 10 year RTD+D programme

- 2.1 Hydrogen production and distribution (competitive)
- 2.2 Storage (on board)
- 2.3 Fuel cells (durability, performance, economics, industrialisation)

3.- “European Joint Technology Initiative”

**4.- Large scale demonstration: “Lighthouse projects”**

5.- Policy and financial framework

6.-	2010	Early markets
	2015	Stationary
	2020	Transport

<https://www.hfpeurope.org/>



# “HYDROGEN FOR TRANSPORT”



## Buses

### HyFLEET:CUTE



## Cars

### ZERO REGIO



Zero Regio  
H2-MotorFuel



## Mini:Transport

### HyCHAIN



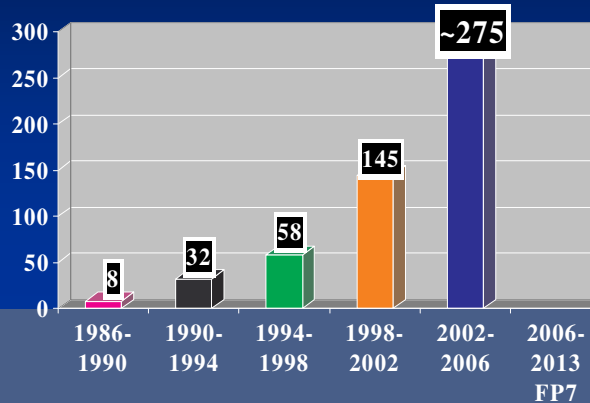
### HyLights

Monitoring Demos  
and Preparation of  
« Lighthouse projects »

## Coordination action



# European Commission effort



Total € 105 M  
EC € 48 M

Total € 60 M  
EC € 21 M



## "HYDROGEN FOR TRANSPORT"

Buses	Cars	Mini:Transport
<b>HyFLEET:CUTE</b> 	<b>ZERO REGIO</b> 	<b>HyCHAIN</b> 
<b>premia</b> <b>HyLights</b> Monitoring and Preparation of « <b>Lighthouse projects</b> »		
<b>Coordination action</b> <small>Directorate General for Energy and Transport - European Commission</small>		

2001

2006

2008-10

7/10



# “HYDROGEN FOR TRANSPORT”



## Demonstration sites





# Seminar agenda

- n 1.- Hydrogen vehicles
- n 2.- Hydrogen infrastructure
- n 3.- Learning from large demonstrations
- n 4.- Debate and conclusions