



# Workshop 1

## Commercialisation Roadmap Perspectives and Gaps for Hydrogen Storage

(Moderated by: AIR LIQUIDE / Colom, MAGNA STEYR / Bartlok)

**June 3, 2008**  
**Poissy, France**

# Workshops Objectives & Structure



## Objectives

- Discussions and exchanges among StorHy partners and external experts
- Reflecting StorHy results and state of the R&D outside StorHy
- Identification of future R&D needs

## Structure

- Statement on StorHy achievements and recommendations
- Experts statements to dedicated topics
- General discussions of gaps & needs
- Summary of workshop results presented on the plenary Expert Session II “Conclusion and outlook on future R&D needs for Hydrogen Storage”

**➡ You are are welcome to contribute with your expertise!**

# Workshop 1 Programme



14:00	<b>Welcome notes:</b> introduction, goals of the workshop (AIR LIQUIDE / Colom, MAGNA STEYR / Bartlok)
14:10	<b>Users Session:</b> Requirements, targets, commercialisation roadmap (Daimler / Zieger) - StorHy achievements and recommendations - Discussion
14:30	<b>C-H<sub>2</sub> Session:</b> Vessel manufacturing & mass production scale-up (AL / Colom) - StorHy achievements & recommendations
14:40	Statements, discussion of gaps & needs: - Experts of cylinders manufacturers - Expert of composite manufacturing - Discussion
15:20	<b>L-H<sub>2</sub> Session:</b> Tanks with complex shapes based on lightweight materials (MS / Bartlok) - StorHy achievements & recommendations
15:30	Statements, discussion of gaps & needs: - Experts of composite manufacturing & coating - Experts of cryogenic storage - Discussion
16:00	<b>Coffee break</b>

# Workshop 1 Programme



16:15	<b>Solid Storage Session:</b> Perspectives of commercialisation (IFE / Sartori) <ul style="list-style-type: none"><li>- StorHy achievements and recommendations</li><li>- Discussion pros / cons, gaps &amp; needs</li></ul>
16:40	<b>Evaluation Session:</b> Main StorHy evaluation results (CEA / Montignac) <ul style="list-style-type: none"><li>- StorHy achievements and recommendations</li><li>- Technical comparison, public perception</li><li>- Main cost drivers of C-H<sub>2</sub> and L-H<sub>2</sub> storage systems</li></ul>
17:00	Statements about cost reduction perspectives: discussion of gaps & needs: <ul style="list-style-type: none"><li>- Experts of carbon fibre production</li><li>- Expert of components</li><li>- Expert of cost reduction and up-scaling of automotive storage systems</li></ul>
17:30	<b>Session:</b> Outlook for future automotive and mobile applications (AL / Colom, MS / Bartlok) Statements of users and discussion: <ul style="list-style-type: none"><li>- Experts of car manufacturers: new vehicle architectures and concepts</li><li>- Expert of commercialisation roadmap for early markets</li></ul>
18:00	<b>Concluding discussion and summary</b> (AL / Colom, MS / Bartlok)
18:15	<b>End</b>

# Users Session



## Requirements, targets, commercialisation roadmap

- What are the main achievements and recommendations?

### Expert key statement:

- “ ... ”

(Daimler / Zieger)

### Discussions: pros / cons, gaps & needs

- Pro / cons
  
- Gaps & needs

# C-H<sub>2</sub> Session



## Vessel manufacturing & mass production scale-up

- What are the main achievements and recommendations?

### Expert key statement:

➤ “ ... ”

➤ “ ... ”

### Discussions: pros / cons, gaps & needs

- Pro / cons
  
- Gaps & needs

# L-H<sub>2</sub> Session



## Liquid hydrogen tanks with complex shapes based on lightweight materials

- What are the main achievements and recommendations?

### Expert key statement:

- “ ... ”
- “ ... ”

### Discussions: pros / cons, gaps & needs

- Pro / cons
  
- Gaps & needs

# Solid Storage Session



## Perspectives of commercialisation

- What are the main achievements and recommendations?

### Expert key statement:

- “ ... ” (IFE, Sartori)
- “ ... ”

### Discussions: pros / cons, gaps & needs

- Pro / cons
  
- Gaps & needs

# Evaluation Session



## Main StorHy evaluation results

- What are the main achievements and recommendations?

### Expert key statement:

- “ ... ”
- “ ... ”

### Discussions: pros / cons, gaps & needs

- Pro / cons
  
- Gaps & needs

# Future Perspectives Session



## Outlook for future automotive applications

- What do future vehicle architectures and concepts need?

### Expert key statement:

➤ “ ... ”

➤ “ ... ”

### Discussions: pros / cons, gaps & needs

- Pro / cons
  
- Gaps & needs