

Programme Committee

- **F. Amberg** – Chairman of ITA-COSUF
- **R. Leucker** – STUVA, Germany
- **E. Iglesias** – VSH, Switzerland
- **D. Tigréat** – INERIS, France
- **H. Ingason** – SP, Sweden
- **D. Sprakel** – FOGTEC, Germany
- **C. Dumoulin** – Bouygues-Construction – ECTP FA Underground Construction, France
- **T. Jordan** – FZK – HySafe Coord., Germany
- **P. Adams** – Volvo Technology, Sweden
- **R. Wurster** – LBST – HyApproval Coord., Germany
- **N. Pralle** – ZÜBLIN – ECTP FA Underground Construction, Germany

Key Dates

Programme completed and opening of the registration by **15 September 2008**.
Registration possible until **31 October 2008**.

Registration fee

The registration fee to the workshop is **490 €**. It includes catering for breaks and lunch.
Please register through the website **before 31 October 2008**:
at <http://www.lsurf-services.com> under "Events" tab.

Workshop Secretariat

For further information about the organization of the workshop, please contact:
secretariat@lsurf-services.com

Sponsored by



ITA-COSUF



FA
Underground



STUVA



INERIS



**Safety and security for
underground systems
and tunnels**

Workshop Announcement

**New energy carriers in tunnels
and underground installations**

20 November 2008

InterCityHotel
FRANKFURT AIRPORT

Frankfurt a. M. / Frankfurt Airport
Germany

Organised by L-surf Services
grouping of the following organisations

<http://www.lsurf-services.com>

Deadline for registration: **31 October 2008**

Objectives of the workshop

The workshop aims at creating awareness and identifying the challenges related to the safe use of new energy carriers in tunnels and underground facilities. By gathering the key players in the domains of energy and underground/tunnel as well as safety experts, it is expected that a better definition of the problems will help elaborating an action plan addressing applied research or demonstration activities to inform objectively about these new risks.

Background

The evolution of energy consumption and energy availability has an impact on the vehicle propulsion and energy systems in general. EU policies recommend the development of alternative fuels for cars and this has an impact on several underground infrastructures like tunnels and underground car parks.

Banning cars using gas (Biogas, LPG, LNG, CNG...), hydrogen or capacitors from tunnels or car parks in the cities can be a major barrier for the interest of these technologies, and the popularisation of the vehicles using these new energy carriers. Ignorance, fears and emotion can not be the key factors for such an important question.

On the contrary, if the public is reassured that manufacturers, infrastructure operators and competent authorities have properly dealt with the safety issues, then it can be an argument to quickly market the new vehicles or energy systems.

Therefore actions have to be launched to make sure that the daily use of new energy carriers is consistent with the EU framework policies on climate change and energy consumption.

The preparation of a rigorous and efficient action plan to be implemented jointly by all stakeholders needs to follow the following steps:

- . Clearly define what is known and what is ignored, in terms of hazardous phenomena and impacts in underground systems, based on a rigorous accident analysis and transposition of known problems.
- . Assess the conditions of unwanted events like leakage of gas in a tunnel leading to an explosion or burning of a battery in parking with emission of toxic smoke.
- . Develop practical recommendations to optimise the system made of the vehicle or energy system; the tunnel or car park with the safety equipment; and the management and emergency teams. These recommendations might become a guidance document or a standard recognised and implemented by all stakeholders.
- . Define and implement a communication plan on risk control.

Date and Venue

The workshop "New energy carriers in tunnels and underground installations" will take place on 20th November 2008, at Frankfurt Airport (Germany) in the InterCityHotel Frankfurt Airport · Am Luftbrückendenkmal · 60549 Frankfurt CargoCity Süd · Telefon: +49 69 69709-480. Shuttle bus service is available from and to Terminal 1 & 2.

More information on the venue, hotel reservation details and access map can be found at: <http://www.lsurf-services.com>

Preliminary programme

| | | |
|-------|--|--|
| 9:00 | Welcome | |
| 9:30 | Welcome speeches from L-surF Services and from ITA-COSUF (Committee on Operational Safety of Underground Facilities) | O. Salvi, L-surF Services F. Amberg, Chairman of ITA-COSUF |
| 9:45 | The challenges related to new energy carriers in underground facilities and tunnels The paradox: case of parking refusing LPG / H2 cars; can we develop policy to use new energy carrier and not allow the new vehicles to use tunnels or car parks? Information on recent tests made with LNG, H2, batteries and capacitors, on ethanol 85% and implications for tunnels and underground facilities. Analysis of accidents in tunnels & underground systems involving new energy carriers. | D. Tigréat, INERIS E. Iglésias, VSH H. Ingasson, SP R. Leucker, STUVA |
| 10:15 | Presentation of projects dealing with hydrogen safety in tunnels and confined spaces: HySafe Network, HyTunnel and InsHyde | T. Jordan, FZK A. Venetsanos, DEMOKRITOS |
| 10:45 | Break | |
| 11:00 | Tests on LPG cars and possible transposition for tunnels and car parks | A. Ratzek, ADAC |
| 11:20 | Round table I: What are the needs and challenges to enable the use of energy carriers such as H2, batteries in tunnels and underground systems? Chairperson: E. Iglésias (VSH) The speakers will present their point of view regarding the technical, organisational, regulatory, societal needs. Do we have enough knowledge on the phenomena? Do we need further research or experiments? Did we learn lessons from LPG experience? Are the existing regulations appropriate? Do they address these energy carriers? What about the public acceptance? Do we need demonstration projects to tell the true and avoid false believes? | Participants from car manufacturers, construction companies, tunnel and parking operators, regulators... |
| 12:30 | Lunch | |
| 14:00 | State of the art on safety measures in car design using new energy carriers | NN. |
| 14:30 | Round table II: What are the actions to be taken for a safe use of new energy carriers in tunnels and underground systems? Chairperson: A. Haack (STUVA) The objective of this round table is to further develop the ideas presented in the first round table to draft an actions plan, with a timeframe. Research needed? Experimentations? New regulations? Guidelines and standards? Working groups? Projects? Who should do what? At which level (European or worldwide)? What are the deadlines? | Participants from car manufacturers, tunnel operators, parking operators, manufacturer of safety systems |
| 15:45 | Wrap-up and conclusion | F. Amberg, Chairman of ITA-COSUF O. Salvi, L-surF Services |
| 16:00 | End of the workshop | |