



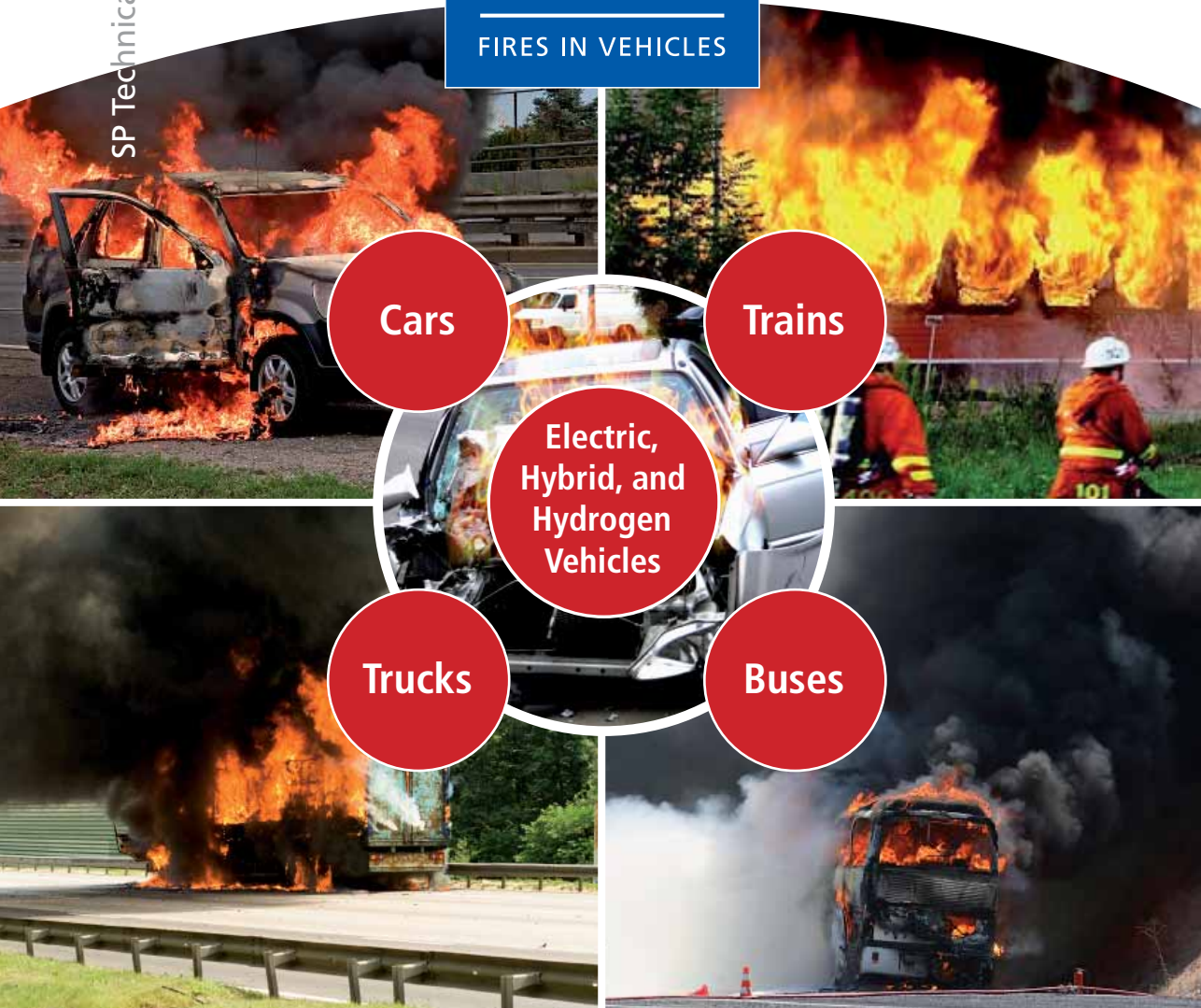
INTERNATIONAL
CONFERENCE

FIVE – Fires In Vehicles

September 29–30, 2010 • Gothenburg, SWEDEN

www.firesinvehicles.com

SP Technical Research Institute of Sweden



Cars

Trains

Electric,
Hybrid, and
Hydrogen
Vehicles

Trucks

Buses

FIVE – Fires In Vehicles



Fires in vehicles pose a significant threat to life and property. Recently, fires in buses have been in focus due to catastrophic incidents for example in Germany. Train fires are also high on the research agenda due to recent European-based research projects such as TRANSFEU. A nightmare scenario is a large vehicle fire in a tunnel. At the same time new fuels and electrical vehicles are emerging in response to our need for sustainable transport alternatives. Such alternative vehicles introduce new fire challenges that need to be accounted for.

In response to the pressing need for international dialogue SP Technical Research Institute of Sweden is organising a new international conference: FIVE (Fires In Vehicles). The objective of this conference is to exchange knowledge of fires in vehicles, including both road and rail vehicles. In recognition of the fact that many of the fire problems faced by these vehicles are the same, the solutions to them can also be similar.

Who should attend?

- National road and rail authorities
- Coach operators
- Body and trailer building companies
- Motor vehicle manufacturers
- Train and metro operators
- Rolling stock manufacturers
- Train leasing companies
- Component manufacturers
- Composite manufacturers
- Insurance companies
- Fire detection system manufacturers
- Fire extinguisher system manufacturers
- Fire testing companies
- Research institutes
- Consultants
- Universities



Conference Themes

■ Regulations and standards

Relevant regulation concerning fire performance of vehicles is patchy at best. In some fields there has been significant progress in recent years (e.g., trains) while other fields have been unchanged for decades (e.g., requirements for the fire performance of materials in the interior compartment of cars). FIVE will offer a forum for identification and discussion of our most pressing regulatory needs.

■ Fire statistics and insurance issues

Statistics from Sweden and Norway indicate that 1–2 % of all buses catch fire each year. At the same time, recent statistics have shown that requirements concerning fire suppression systems in engine compartments have drastically reduced the number of totally burned buses. Further study is needed concerning the frequency and extent of fires in vehicles internationally. FIVE will provide an opportunity for international discussion of experience of fires in vehicles and a first identification of challenges for the future.

■ Fire development in vehicles

The majority of bus fires start in the engine compartment. The situation is similar for most vehicles equipped with an internal combustion engine. How can these fires be controlled, or at best entirely avoided? Electrical engines may start fires due to electrical faults. The available electrical power may be considerable, e.g. in a train or in the battery pack of a car. The development of fires in vehicles will be a central theme of FIVE.

■ Electrical, hydrogen, hybrid vehicles and other alternative fuels

Electrical and hybrid vehicles introduce new risks mainly through the large battery assemblies that are carried on the vehicles. More and more studies have

been initiated during recent years concerning the fire properties of battery assemblies and tactics for fire suppression. Hydrogen as a fuel has attracted considerable interest due to the clear environmental benefits that it offers in terms of efficient fuel-lean combustion, resulting in high thermal efficiency. Alternative fuels that are similar in many ways to conventional fuels, such as E85 (85% ethanol, 15 % gasoline), require a risk assessment despite the fact that this fuel is quite similar to conventional gasoline.

FIVE will provide a forum for the discussion of important issues concerning all alternative fuels.

■ Incident management and case studies

Fire investigations are crucial for improving our knowledge of the main root causes for fires in vehicles. This provides input both to regulation and to first responders in terms of defining what can be expected in vehicle fires. Incident management is based to a large degree on experience of previous incidents and as new vehicle technologies emerge new strategies need to be developed. First responders are in dire need of guidance concerning how to respond to fires in new vehicles. Incident management will be a key area of discussion at FIVE with knowledge drawn from specific case studies.



■ Fire detection and fire suppression in vehicles

Many incident reports show that the driver is not the first person to observe a fire on a vehicle. An efficient fire detection system would greatly enhance the time available for egress in the event of a fire. Once a fire has started it is important to control and ultimately extinguish the fire as early as possible to avoid injuries, loss of lives and cost. FIVE will discuss experience from Sweden and abroad and how this can be expanded to new potential applications.

Programme Day 1 | Wednesday

08.00 Registration and coffee

- 09.00 ■ Opening Ceremony
Jan-Eric Sundgren, Senior Vice President, Public & Environmental Affairs, Volvo Group (Chairman of SP's Board)
- Keynote
- 09.20 ■ The Hanover bus fire and activities on improving fire safety in buses
Richard Damm, Federal Ministry of Transport, Building and Urban Development, Germany

Regulations and standards (Chair: Marc Janssens)

- 09.50 ■ European railway regulations – towards harmonised requirements
Bas Leermakers, European Railway Agency
- 10.10 ■ Bus fire legislation in the European Union
Jean-Paul Delneufcourt, European Commission
- 10.30 ■ Comparison of product evaluation systems in Europe for road and rail vehicles
Björn Sundström, SP Fire Technology

10.50 Coffee break

Fire statistics and insurance issues (Chair: Anders Lönnermark)

- 11.20 ■ Bus fire safety and statistics in Sweden
Jan Petzäll, Swedish Transport Agency
- 11.40 ■ Statistical analyses of vehicle fires in the U.S
Marty Ahrens, NFPA – National Fire Protection Association
- 12.00 ■ New NFPA guide on fire hazard in road vehicles
Marcelo M Hirschler, GBH International

12.20 Lunch and Exhibits

Fire development in vehicles (Chair: Craig Beyler)

- 13.40 ■ Experiments for fire hazard assessment of motor vehicles
Marc Janssens, SWRI – Southwest Research Institute
- 14.00 ■ Bus fires – presentation of a large Nordic research project
Michael Försth, SP Fire Technology
- 14.20 ■ Large scale experiment of a car fire and comparison with numerical investigations
Anja Hofmann, BAM – Federal Institute for Materials Research and Testing
- 14.40 ■ Fire propagation in a full-scale vehicle burn test
Jeff Colwell, Exponent (Chairman of the Fire Safety Committee of SAE – Society of Automotive Engineers)

15.10 Coffee break

Fire development in vehicles, continued (Chair: Marty Ahrens)

- 15.40 ■ Development of transport fire safety engineering methodology in European Union – EU project TRANSFEU
Alain Sainrat, LNE – Laboratoire National d'Essais
- 16.00 ■ Predicting fire growth and heat release rates for rail vehicles
Craig Beyler, Hughes Associates Inc
- 16.20 ■ Bombardier's view of the development of fire safe trains
Heinz Reimann, Bombardier Inc.

Discussion

- 16.40 ■ Discussions of day 1 (Moderator: Björn Sundström, SP Fire Technology)
- 17.00 ■ End of presentations day 1

19.00 Banquet

- 22.00 Close day 1

Programme Day 2 | Thursday

08.00 Registration and coffee

Keynote session (Chair: Björn Sundström)

- 08.30 Keynote
■ Fire department's operations at large incidents involving vehicles
Reinhard Ries, Frankfurt am Main Fire and Rescue Services, Germany

Electrical, hydrogen, hybrid vehicles and other alternative fuels (Chair: Michael Försth)

- 09.00 ■ Special fire risks associated with new energy carriers
Anders Lönnemark, SP Fire Technology
- 09.20 ■ Safety issues of hydrogen-powered vehicles
Vladimir Molkov, University of Ulster
- 09.40 ■ Actions to control potential risks with new fuels in the automotive industry
Patrik Klintbom, Volvo Technology Corporation
- 10.00 ■ Crash safety of lithium-ion battery's in hybrid vehicles
Rainer Justen, Daimler AG – Mercedes-Benz Cars Development
- 10.20 ■ Alternatively fueled vehicles: Research needs in support of safety standards
Casey Grant, Fire Protection Research Foundation

10.40 Coffee break

Incident management and case studies (Chair: Jeff Colwell)

- 11.00 ■ Emergency response to incidents involving hybrids & electric cars
David Dalrymple, RoadwayRescue
- 11.20 ■ Investigation of four bus fires in western Sweden
Kjell Wahlbeck, SÄRF – Södra Älvsborg Fire & Rescue Services
- 11.40 ■ Bus fire investigations
Jan-Olov Åkersten, Volvo Buses
- 12.00 ■ Managing fire safety in suburban trains
Arnaud Marchais, RATP – Régie Autonome des Transports Parisiens

12.20 Lunch and Exhibits

Fire detection and fire suppression in vehicles (Chair: Marcelo M Hirscher)

- 13.30 ■ Principles of fire detection in vehicles
Klas Nylander, Consilium Transport Safety
- 13.50 ■ Fire safety in large construction equipment
Per Björnberg, Volvo Construction Equipment
- 14.10 ■ Scania's work on fire detection in buses
Max Mårtensson, Scania Buses and Coaches
- 14.30 ■ Principles of fire suppression in vehicles
Ben Hughes, FIRETRACE

Discussion

- 14.50 ■ Discussion of day 2 (Moderator: Björn Sundström, SP Fire Technology)
- 15.20 Closing remarks
- 15.30 Close of conference

General Information

■ Conference fees

Before September 1st 2010 3 900 SEK* +VAT (25%) (approx. 390 EUR +VAT (25%))

From September 1st 2010 4 900 SEK* +VAT (25%) (approx. 490 EUR +VAT (25%))

*The fee includes: technical sessions, exhibit, refreshments, lunches and conference documentation.

Banquet Dinner (Wednesday) 500 SEK (approx. 50 EUR +VAT (25%))

■ Venue

The FIVE conference will be held at:

Elite Park Avenue Hotel
Kungssportsavenyn 36–38
Gothenburg
Sweden
www.elite.se

■ Registration

Registration, hotel booking and transportation details are provided at www.firesinvehicles.com.

For further information, please contact Congrex Sweden,
tel: +46 31 708 60 00, e-mail: five2010@congrex.com

■ Conference language

The official working language of the conference is English.



Sponsorship | Exhibitor information

Sponsorship packages are offered at three different levels of sponsorship. The benefits of each are summarised below.

Benefit	Gold Sponsor 35000 SEK (≈3500 EUR)	Silver Sponsor 22000 SEK (≈2200 EUR)	Bronze Sponsor 15000 SEK (≈1500 EUR)
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Logo on Delegate Bag	✓	—	—
Advertisement in Conference Programme ¹	Full page	Half page	Quarter page

¹It is possible to upgrade the advertisement space for a fee. Costs can be provided on request.

Exhibitor information

Exhibit areas will be sold in three different sizes and specific sites can be chosen from the site map on the website. The cost of exhibit space is: 5 000 SEK (≈ 500 EUR) for 2 m², 10 000 SEK (≈ 1 000 EUR) for 4 m² or 15 000 SEK (≈ 1 500 EUR) for 6 m².

More information about sponsorship and exhibiting is available at www.firesinvehicles.com

Contact

Fredrik Rosén

Tel. office: +46 10 516 56 86

Tel. mobile: +46 70 334 56 86

E-mail: fredrik.rosen@sp.se



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- EARPA – European Automotive Research Partners Association
- ERA – European Railway Agency
- FKG – Scandinavian Automotive Suppliers
- Swedish Hybrid Vehicle Centre
- Automotive Sweden
- MechAero Foundation for Technical Research and Education Excellence (MAFTREE)
- RIFA – Rail Industry Fire Association
- SWEDTRAIN – Swedish Society of Railway Industries
- NASFM – National Association of State Fire Marshals
- IRU Academy – International Road Transport Union Academy
- Södra Älvsborg Fire & Rescue Services
- Greater Göteborg Fire & Rescue Services
- MSB – Swedish Civil Contingencies Agency
- CITA – International Motor Vehicle Inspection Committee
- CAL FIRE – California Department of Forestry and Fire Protection
- BRF – The Confederation of Swedish Firefighters
- EFFUA – European FireFighter Union Alliance
- The Swedish Fire Protection Association, SFPA
- SAE International



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