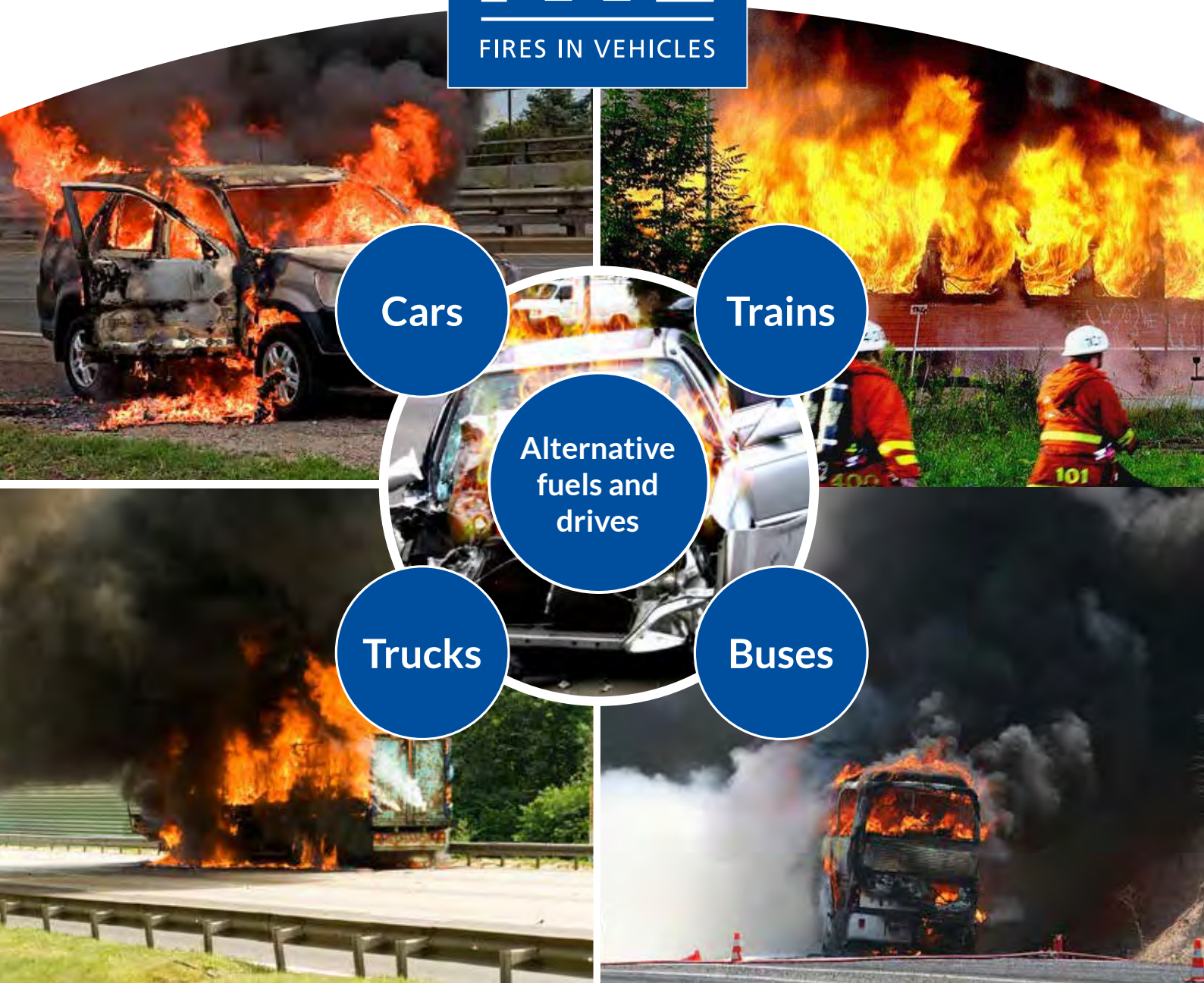
Programme

5th International Conference on

Fires in Vehicles - FIVE 2018

October 3-4, 2018 • Borås, Sweden

www.firesinvehicles.com



Fires In Vehicles - FIVE 2018

Fires in vehicles pose a significant threat to life and property. Recently, fires in buses have been in focus but fires in trains are also high on the agenda due to the new European train standard. At the same time new fuels and electrical vehicles are emerging together with new lighter materials in response to our need for sustainable transport alternatives. Such alternative vehicles introduce new fire challenges that need to be accounted for.

RISE Research Institutes of Sweden has instigated the International Conference on Fires In Vehicles (FIVE). The objective of this conference is to exchange knowledge concerning 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.

FIVE has become an important meeting place for fire researchers, operators, vehicle manufacturers, authorities, insurance companies and other stakeholders interested in vehicle fire safety. The conference was first held in Gothenburg (2010), next in Chicago (2012), Berlin (2014) Baltimore (2016) and is now held in Borås, Sweden.

Venue

The FIVE 2018 conference is held at:

Textile Fashion Center
Skaraborgsvägen 3
Borås, Sweden

FIVE 2018 at the Textile Fashion Center in Borås.

Conference Themes

FIVE 2018 presents a broad range of interesting aspects all related to fires and vehicles including fire statistics, fire development, mitigation, ignition fire investigations, case studies and fire risks in vehicles with alternative fuels and alternative drives. It includes all types of vehicles such as passenger cars, buses and coaches, trains, trucks, etc. These aspects are covered both in speaker sessions and posters.

Each day is opened by invited Keynote Speakers, leaders in their field, providing an overview of their topic of expertise as an introduction to the themes of the day. FIVE 2018 invited Keynote speakers are:

Peter Newman, OTSI, Australia
Peter Newman has been an investigator at the NSW Office of Transport Safety Investigations (OTSI) since 2004, the year the office commenced. He has conducted investigations into bus, ferry and rail incidents. He also conducts rail investigations for the Australian Transport Safety Bureau. As investigator in charge he has completed numerous bus fire investigations, including the bus fire on the Sydney Harbour Bridge in 2016. For the past 3 years he has compiled the annual summary report on 'Bus Fires in NSW'.

Peter holds a Master of Safety Management from the University of Technology Sydney, a Graduate Certificate in Transport Safety from UNSW and a Diploma of Transport Safety Investigation from the Australian Transport Safety Bureau. He is a member of the Human Factors and Ergonomics Society of Australia.

Annika Ahlberg Tidblad, Volvo Car Group, Sweden
Annika is an electrochemist with extensive experience working with diverse aspects of battery technology and application. She is currently employed by Volvo Cars Corporation where she is committed to developing propulsion battery solutions for electric vehicles. Annika represents OICA in UN regulation development for Electric Vehicle Safety (EVS) and Environmental Factors (EVE) and is vice chair of ACEA TF-EVS. Previous employments include, Senior Engineer at Scania, Technical Director of Battery Expertise at Etteplan, Global Technical Manager for Electrochemical Energy Sources at Intertek and Senior Consultant in Battery Technology at Sagentia Catella.

Ola Willstrand, RISE Research Institutes of Sweden
Ola Willstrand works at the department of Fire Research at RISE Research Institutes of Sweden, Safety & Transport Division, since 2013. He is leading different types of projects focused on vehicle fire safety, fire detection, and spray diagnostics. Mr. Willstrand has experience of performing laboratory fire tests, from small-scale to full-scale, including extensive testing of different types of fire detection systems for vehicles. He has developed new test methods and certification rules in the area of vehicle fire safety and is involved in training offered by RISE within this area. Mr. Willstrand holds a Master of Science degree in Engineering Physics from Lund University.

Sign up for FIVE Newsletter

Please subscribe by filling out the form here https://app.bwz.se/ri/b/v?subscribeto=29&ucrc=69851D46. There is also a link to the form on www.firesinvehicles.com.

Gold Sponsors

Fogmaker develops, manufactures and markets fire suppression systems with high pressure water mist for engine compartments/enclosed spaces. 150 000 Installations in more than 50 countries since 1995. Approved by: SBF127, AS 4587/5062. FM 5970-pending and UL-listed. Fogmaker's manufacturing and R&D facility are located in Växjö, Sweden. Fogmaker is approved according to ISO9001:2015 and ISO14001:2015 and is currently working towards IATF 16949. Stand No. 1.

Dafo Brand is one of the leading Nordic suppliers of fire and safety products. The company was founded in 1919 and is Sweden's oldest manufacturer and wholesaler of fire equipment. Dafo is a pioneer in Vehicle Fire Suppression with more than 120.000 sold systems for both military and civil customers in more than 35 countries worldwide. Stand No. 16.

Rotarex Firetec is a world leader in certified, total flooding fire suppression systems with over 80 years of know-how. Rotarex Fitetec offer a complete range of premium quality fire protection solutions with over 600 000 trusted installations worldwide. The FireDETEC Compact Line System is the most-compact fire suppression system with UNECE R107 approval that is extremely easy to install. With the Compact Line Bus Engine Fire System you can be UNECE-compliant and strongly enhance your productivity. Stand No. 2.

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Wiejelo is an independent organization closely cooperating with the world leading manufacturers. With their extensive experience and track record in the world of automatic lubrication systems and automatic fire suppression systems they can offer a tailor made solution for every demand. Wiejelo are confident to offer a unique range of services.

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protecfire GmbH is a German manufacturer of state-of-the-art fire suppression systems for usses, coaches, trucks and underground mining and tunnel construction vehicles. Founded in 2001, protecfire delivers only the finest components meeting top quality standards capable of withstanding even the roughest of all mining applications and environmental conditions. Their unique and patented detexline technology combines detection and extinguishment in one and the same line. The system requires no external power, is non-pressurized when in stand-by and requires no change of parts for 10 years. The extinguishment agent is free-of-fluorine, environmentally friendly and future-proof. Stand No. 14.

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RISE Safety & Transport has extensive experience of working for the automotive industry. With our expertise, we are involved in most aspects of vehicle safety. The department of Fire Research has worked for a long time in the field of vehicle fires, including fires in road vehicles, off-road vehicles, rail vehicles and vehicles at sea. In particular, buses, ships and vehicles in mines, tunnels, and other underground facilities have been in focus for several research projects in recent years. RISE has a well-equipped and experienced fire lab for full scale testing as well as small scale testing. RISE performs active research with respect to vehicle fire safety and offers services such as testing and certification, fire investigations, risk assessments and training.

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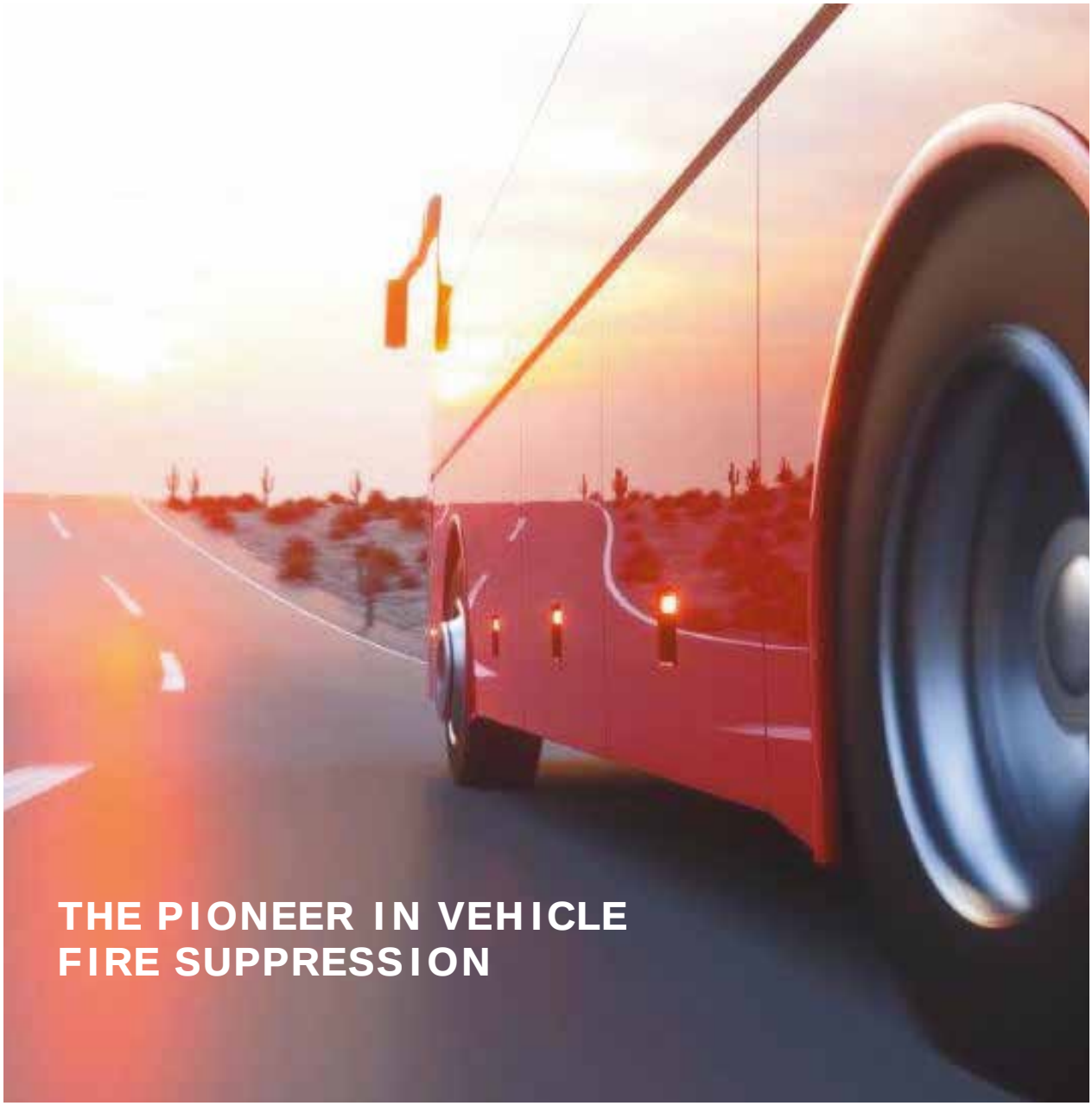

More than 100,000 sold vehicle fire suppression systems worldwide, knowhow and experience ensures our customers the latest technology combined with proven reliability.

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Thanks to a dedicated engineering and sales team we are able to meet global market demands in terms of quality, price, availability and after sales service.

As a supplier Wiejelo Equipment offers a wide range of products and components commonly used in the fire suppression and lubrication industry. This makes us an important partner for end users. They rely on our expertise and knowledge.

Wiejelo has the privilege to serve and supply leading manufacturers of buses and other equipment in the transport industry. This indicates our importancy of being an OEM partner. They rely on Wiejelo Equipment.

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FIVE - Fires in Vehicles programme

	Tuesday October 2nd
18.00-19.00	Preregistration and reception with posters.
Day 1	**Wednesday October 3rd**
08.00	On site registration open
08.30-08.45	Opening ceremony
	Keynote Session **Chair: Petra Andersson**
08.45-09.15	Regulatory outlook on electric vehicle safety *Annika Ahlberg Tidblad, Volvo Car group, Sweden*
	The fire problem **Chair: Ola Willstrand**
09.15-09.35	Bus fires in the United States; Statistics, causes, prevention and the impact of fire suppression systems *Robert A Crescenzo, Lancer Insurance Company, USA*
09.35-09.55	PRM safety at fire hazard in passenger rolling stock *Jolanta Maria Radziszewska-Wolińska, Instytut Kolejnictwa, Poland*
09.55-10.15	Case Study: Did the Israel standard – Automatic fire extinguishing systems in bus engine compartments (I.S. 6278), solve the problem of bus fires in Israel? *Shahar Dadon, A. A. Brit Ltd, Israel*
10.15-10.25	Discussion
10.25-11.05	Coffee break and exhibits
	Electrical vehicles **Chair: Annika Ahlberg Tidblad**
11:05-11:25	Full scale tests of electric vehicle *Andreas Sæter Bøe and Nina K. Reitan, RISE Fire Research, Norway*
11:25-11.45	Gas and fire risks with Li-ion batteries in electrified vehicles *Fredrik Larsson[1, 2], Petra Andersson[1] and Bengt-Erik Mellander[2]* *[1]RISE Safety and Transport, [2]Chalmers University of Technology, Sweden*
11.45-12.05	Promoting fire safety in innovating design of electric vehicles: the example of the EU-FUNDED DEMOBASE project *G. Marlair[1], A. Lecocq[1], P. Perlo[2], M. Petit[3], D. N'Guyen[4] & P. Desprez[4]* *[1]INERIS, France ; [2]IFEVS, Italy, [3]IFPEN, France, [4]SAFT, France*
12.05-12.15	Discussion
12.15-13.45	Lunch and exhibits
	Alternative fuel vehicles **Chair: Guy Marlair**
13.45-14.05	Fire and explosion hazards of alternative fuel vehicles in tunnels *Ying Zhen Li, RISE Safety, Sweden*
14.05-14.25	Experimental investigation on the accidental release of CNG from cars *Lucie Hasalová[1], Milan Jahoda[2], Václav Vystrčil[1,2] and Jan Karl[1]* *[1]Technical Institute of Fire Protection in Prague, Fire Rescue Service of the Czech Republic* *[2]University of Chemistry and Technology, Prague, Czech Republic*
14.25-14.45	Experimental investigation of failure of LPG gas tanks in passenger cars during full fire development *Daniel Krentel, Rico Tschirschwitz, Martin Kluge, Enis Askar, Karim Habib, Harald Kohlhoff, Patrick P. Neumann, Michael Rudolph, André Schoppa, Sven-Uwe Storm & Mariusz Szczepaniak, BAM, Germany*
14.45-14.55	Discussion
14.55-15.35	Coffee break and exhibits
	Alternative fuel vehicles **Chair: Petra Andersson**
15.35-15.55	Fire performance of a cryogenic UN-T75 storage tank: Phase I – LN2 *Jason Huczek[1], Alexandra Joyce[1], Marc Janssens[1], Bill Bendele[1], Keith Friedman[2], Garrett Mattos[2], and Rhoads Stephenson[2]* *[1]Southwest Research Institute (SwRI), San Antonio, TX, USA* *[2]Friedman Research Corporation (FRC), Austin, TX, USA*
15.55-16.15	The residual strength of automotive CFRP composite cylinders after fire *Yohsuke Tamura, Koji Yamazaki, Kiyotaka Maeda, Japan Automobile Research Institute, Japan*
16.15-16.25	Discussion
16.35	Bus leaves for social event at RISE. Bus will return to Scandic Plaza at 20.00.

FIVE - Fires in Vehicles programme

Day 2	Thursday October 4th	
	Keynote Session	**Chair: Björn Sundström**
08.30-09.00	Bus fires in New South Wales: an investigation agency's response *Peter Newman, OTSI, Australia*	
09.00-09.30	Fire risk management: best approach to prevent vehicle fires *Ola Willstrand, RISE Safety, Sweden*	
09.30-09.45	*Posters corner*	
09.45-10.05	*Next FIVE*	
10.05-10.45	Coffee break and exhibits	
	Fire investigations and case studies	**Chair: Peter Newman**
10.45-11.05	Independent public Investigation of two bus fires in Norway *Per Olav Hetland, AIBN, Accident Investigation Board Norway, Norway*	
11.05-11.25	Unconsidered hot surface ignition *Robert Bruce McKay, McKay Forensic Investigations, Australia*	
11.25-11.45	Case study of P-marked Fire suppression systems in Australia *Mick Cory, Firestorm Fire Protection, Australia*	
11.45-11.55	Discussion	
11.55-13:25	Lunch and exhibits	
	Fire mitigation	**Chair: Michael Försth**
13:25-13.45	Fire safety requirements and testing of electrical boxes installed on passenger aircraft *Thomas Krause, Thomas Vielhaben, Airbus Operations GmbH, Germany*	
13.45-14.05	Flammability of interior materials – overview *Jason Huczek[1], Marc Janssens[1], Keith Friedman[2], Garrett Mattos[2], and Rhoads Stephenson[2]* *[1] Southwest Research Institute (SwRI), San Antonio, TX, USA* *[2] Friedman Research Corporation (FRC), Austin, TX, USA*	
14:05-14.25	What can we learn from European train fire safety regulations for fire safety regulations for buses? *Anja Hofmann[1], Steffen Dülsen[2], Michael Försth[3,4], Jonas Brandt[3]* *[1] BAM Federal Institute for Materials Research and Testing, Berlin, Germany* *[2] Bombardier Transportation GmbH, Hennigsdorf, Germany,* *[3] RISE Research Institutes of Sweden* *[4] Luleå University of Technology, Sweden*	
14:25-14:45	Improvement of vehicle fire safety in mines by using intelligent digital systems for experience feedback from inspections and incidents *Artur Zakirov[1] and Mia Kumm[1,2]* *[1]RISE Safety, Fire Research, Sweden* *[2]Mälardalen University, SWEDEN*	
14.45-15:20	Discussion and concluding remarks	

Media Partners

The Fire Product Search website is an ever growing international community of fire chiefs, professional fire fighters, fire training officers and trade specialists covering the field of fire fighting and rescue. With over 225,000 unique visitors each year and growing, Fire Product Search provides the latest information on fire fighting and fire rescue equipment as well as the largest and most detailed database of fire and rescue companies in the world.

Asia Pacific Fire Magazine, APF Magazine is the only quarterly journal for the Asia Pacific fire market dedicated to both fire protection and firefighting. Written by leading fire prevention and firefighting professionals, every issue is packed with in-depth technical features and the most recent developments in testing, codes and standards.

Gulf Fire Magazine is the only quarterly journal specific to the Middle East Fire market dedicated to both fire protection and firefighting. The editorial features are written by industry experts and comprise a unique blend focussing on the latest technology, training methods and equipment as well as highlighting sector specific issues from around the region. Regular product and company profiles, events updates and news make Gulf Fire Magazine the first choice read for fire protection and firefighting professionals. www.gulffire.com.

International Fire Fighter Magazine, IFF Magazine is the leading global publication for municipal and industrial fire fighters and the fire and rescue industry. The editorial features are written by industry experts and comprise a unique blend focussing on the latest technology, training methods and equipment as well as highlighting sector specific issues from around the world. Regular product and company profiles, events updates and news make IFF the first choice read for fire and rescue professionals.

International Fire Protection Magazine, IFP Magazine is the only international journal dedicated to fire safety, prevention and protection covering every aspect of the passive and active fire protection market. The editorial features are written by industry experts and comprise a unique blend focusing on the latest technology and equipment as well as highlighting sector specific issues from around the world. Regular product and company profiles, events updates and news make IFP the first choice read for fire safety professionals.

Media Partners

UK Fire is a quarterly journal specific to the UK Fire market dedicated to both fire protection and firefighting. The editorial features are written by industry experts and comprise a unique blend focussing on the latest technology, training methods and equipment as well as highlighting sector specific issues from around the region. Regular product and company profiles, events updates and news make UK Fire the first choice read for fire protection and firefighting professionals. www.ukfiremag.com.

Brandposten is published in Swedish and English by RISE Safety – Fire Research, and distributed without charge to RISE's customers, fire and rescue services, public authorities, certification bodies, classification bodies, fire consultants, fire engineers and architects. The Swedish edition is distributed in 6000 copies and the English edition in 1500 copies worldwide. Brandposten can also be read online at www.sp.se (search for Brandposten). To receive a paper version, please read below.

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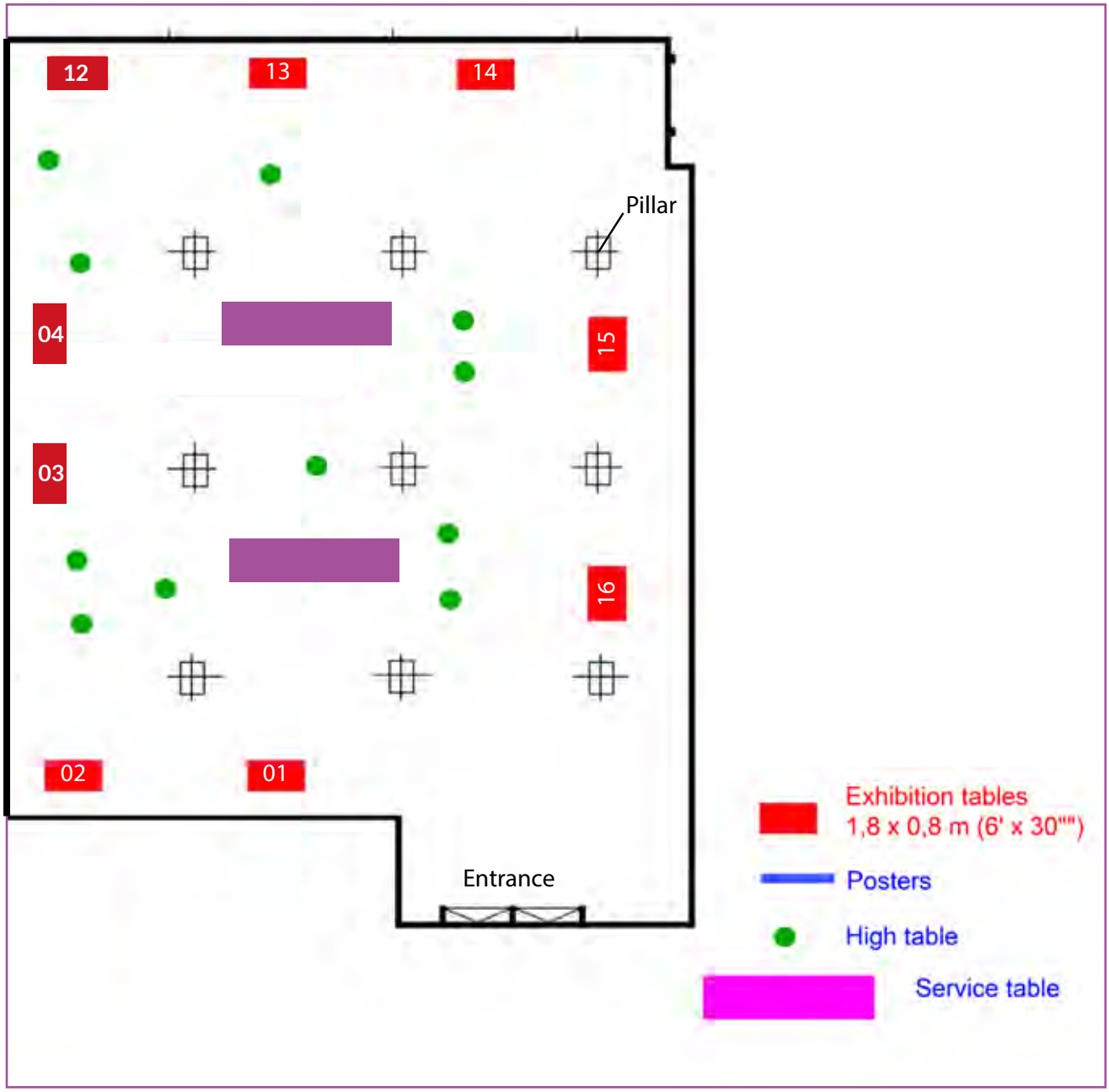
12	REACTON FIRE SUPPRESSION
13	Lehavot
14	protecfire Made in Germany
15	DND Dynamit Nobel Defence
16	dafo vehicle fire protection

Floor Plan for Exhibitors



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Fires In Vehicles 2020

Call for papers

The language of the symposium is English.

Authors are invited to submit a manuscript for presentation at FIVE 2020. Manuscripts and posters will be reviewed on the basis of an extended abstract of not more than 2 pages. Acceptance for presentation and publication will be based on scientific quality and significance.

The manuscripts accepted for presentation at the symposium will be published as Proceedings of the Symposium.

Manuscript abstracts should be submitted to the Secretariat by email (five@ri.se) by 1st December 2019. All submissions should be in Microsoft Word (.doc) format, typed single-spaced on A4 white paper with 25 mm margins. Please use one-column format and 12 pt text.

Abstracts should contain the following details: Title, Authors, Affiliation/ Organisation of the Authors, Content.

Manuscript authors will be informed of the decision of the Scientific Review Board by 1st February 2020. Successful authors will be sent full instructions on formatting and submission of their papers in due time.

Conference venue

The 6th FIVE will be held in 2020. More information concerning the venue and program will be posted on the Conference website www.firesinvehicles.com.

RISE Research Institutes of Sweden • Safety - Fire Research

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