

A GIPS symposium with support of Fraunhofer ICT



# IPASS

International Pyrotechnic Automotive Safety Symposium

2009

# PROGRAM

INTERNATIONAL  
PYROTECHNIC  
AUTOMOTIVE  
SAFETY  
SYMPOSIUM

Symposium venue at  
Cité Mondiale  
More at :  
[www.citemondiale.com](http://www.citemondiale.com)



BORDEAUX  
CITÉ MONDIALE  
NOVEMBER  
17-18  
2009



[www.ipass-pyro.org](http://www.ipass-pyro.org)

Contact us : [info@ipass.pyro.org](mailto:info@ipass.pyro.org)

### **IPASS 2009 will focus on:**

Explosives, Propellant and Pyrotechnics in automotive and their contribution to : mass, size and cost reduction for fuel efficient vehicles.

### **Presentation will be organised by:**

#### **) General topic:**

- OEM pyrotechnical equipment needs
- Tier 1 pyrotechnical solutions

#### **) Pyrotechnical systems (including hybrid & cold gas technologies)**

- Airbag seatbelt, pedestrian protection applications.
- Other applications: (battery cutters, steering column, whiplash systems...)
- Computing and simulation

#### **) Pyrotechnical components**

- Explosives, propellant, pyrotechnics (solid, liquid, gas...)
- Ignition systems (initiators, ignition composition...)
- Product safety (qualification, classification, transportation...)
- Service life, end of life, explosive, propellant and pyrotechnical wastes, ageing, recycling...

## SCIENTIFIC COMMITTEE

**Chairman :**

Eric GIRAUD ) SNPE Matériaux Energétiques  
(e.giraud@ipass-pyro.org)

Christophe DERYN ) TAKATA PETRI AG

Franck LEBAUDY ) AUTOLIV LIVBAG

Jochen NEUTZ ) FRAUNHOFER ICT

Manfred POCK ) HIRTENBERGER

Tim SCOTT ) FORD

Bernhard VETTER ) TRW

## ORGANISATION COMMITTEE

**Chairman :**

François CHASTELLIER ) SNPE Matériaux Energétiques  
(f.chastellier@ipass-pyro.org)

Eric GIRAUD ) SNPE Matériaux Energétiques

Henri FRIER ) ASSOCIATION FRANÇAISE  
DE PYROTECHNIE

TO SEMINAR VENUE

## How to go to « Cité Mondiale »

- ) From airport have a taxi
- ) From railway station:  
direct tramway (line C direction “Les Aubiers”)
- ) Car park at the Cité Mondiale
- ) Cité mondiale address :  
18 Parvis des Châtrons  
F-33000 Bordeaux
- ) More information at :  
[www.citemondiale.com](http://www.citemondiale.com)

City map



Street map



# SCHEDULE

DAY	TIME	ITEM
<b>Monday</b>	<b>17:00-20:00</b>	Registration
<b>Tuesday november, 17<sup>th</sup></b>	9:00 - 9:30	<b>Opening and Introduction</b>
	9:30 – 10:45	Session 1 : <b>OEM's Needs and regulations</b>
	10:45 - 11:15	Coffee Break
	11:15 – 12:15.	Session 1 : <b>OEM's Needs and regulations</b>
	12:15 - 13:30	Lunch Break
	14:00 – 15:15	Session 2 : <b>Safety systems design</b>
	15 :15 – 15:45	Coffee Break
	15:45 - 17:00	Session 2 : <b>Safety systems design</b>
	17:00 - 17:30	IPASS "Awards"
	17:30 - 19:30	<b>Poster Session- Booth exhibition</b>
	19:30	Official Dinner
<b>Wednesday November, 18<sup>th</sup></b>	9:00 – 12 :00	Group Departure to visit SME Facility*
	9:00 - 9:10	<b>Opening and Introduction</b>
	9:10 - 10:45	Session 3 : <b>Gas generating substances</b>
	10:45 - 11:15	Coffee Break
	11:15 - 12:30	Session 4 : <b>Performances evaluation and lifecycle</b>
	12:30 - 13:45	Lunch break
	14:00 - 15:30	Session 5 : <b>Computing and simulations</b>
	15:30 - 16:00	<b>Conclusion and closing remarks</b>
	16:00-16:30	Final Coffee Break

\*Tour of SME Facility

The SNPE Materiaux Energétiques (SME) Automotive Safety facility of St Médard en Jalles can be visited upon SME invitation on Wednesday 18 am. This tour requires security clearance. The number of invitations is limited. Please inform SME on your wish to participate by sending an email to [v.sana@snpe.com](mailto:v.sana@snpe.com) before October 9. In response SNPE Materiaux Energétiques will contact you by e-mail for personal data regarding the clearance, and will send your personal invitation.

# REGISTRATION

<b>Registrations fees</b> In euros VAT : 19,6 % included	<b>Before October 10</b>	<b>After October 11 and on-site</b>
<b>Attendee</b>	<b>660 €</b>	<b>900 €</b>
<b>Speaker</b>	<b>560 €</b>	<b>-</b>
<b>Accompanying person</b>	<b>300 €</b>	<b>380 €</b>

Registration fees include : presentations, proceedings, all caterings (welcome reception, lunches and coffee breaks) and social events. Accompanying person fees include welcome reception, social event and lunches.

## REGISTRATION FEES

### REFUND POLICY

#### **Before October 10th 2009 :**

100 % minus 100 (for management cost)

#### **From October 11th to 25th, 2009 :**

50 %

#### **After October 25th, 2009 :**

No Refund

## ACCOMMODATIONS

Blocks of rooms have been reserved at Symposium hotel and in close vicinity hotels.

Rooms rates (single) are from 89 € to 145 €  
(VAT and service included)

Rooms are guaranteed until October 12<sup>th</sup> on a first come, first served basis

REGISTRATION AND HOTEL BOOKING ARE POSSIBLE on [www.ipass-pyro.org](http://www.ipass-pyro.org) :

**1 )** Download the registration form, fill it and send it back to

[ipass@carlsonwagonlit.fr](mailto:ipass@carlsonwagonlit.fr)  
or by fax at : 33 (0) 47 20 07 30.

**2 )** Use the on-line registration menu

## YOUR CONTACT

For any request concerning registration, room booking, travel, payment or refund contact :

### **CWT MEETINGS AND EVENTS**

Hélène MONTAGNON

16 rue Ballu

75009 PARIS

Phone : 33 (0) 1 55 07 26 09

Fax : 33 (0) 1 47 20 07 30

Email : [ipass@carlsonwagonlit.fr](mailto:ipass@carlsonwagonlit.fr)



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GROUPE SNPE

[www.energetic-materials.com](http://www.energetic-materials.com)

**Tuesday, November 17<sup>th</sup>**  
9:00 am > 12:15 pm

### 09:00 / Opening and introduction

**Official welcome and introduction**  
Symposium Chairman

**Regional Officials Address**  
Aquitaine's Regional representative

**Organisation and Administrative Arrangements**  
François Chastellier  
Organisation Committee Chairman

### 09:30 / Session 1 – OEM's Needs and regulations

- S1-1 **Safety trends in TATA motors**  
Anil Kumar C  
INCAT TATA Technology – INDIA
- S1-2 **REACH European directive applied to an airbag module system**  
V.Deletang  
FIEV – FRANCE
- S1-3 **Certification of Pyrotechnic articles for vehicles according to the EU directive 2007/23/EC on the placing on the market of pyrotechnic articles**  
L.Aufauvre  
INERIS – FRANCE

10:45 **Coffee Break**

### 11:15 / Session 1 - OEM's Needs and regulations

- S1-4 **EuroNCAP integral safety ratings**  
M.Van Ratingen  
EuroNCAP – BELGIUM
- S1-5 **Airbags and aircraft cabin safety**  
JM.Petit  
AIRBUS industrie – FRANCE

12:15 **Lunch Break**



## Driven for Life

Our company is a worldwide leader in automotive safety, a pioneer in both seatbelts and airbags, and a technology leader with the widest product offering for automotive safety.

All the leading automobile manufacturers in the world are our customers.

We service them from 80 subsidiaries and joint ventures in 28 countries. We test their cars and products at 20 crash test tracks in 12 countries, and we have nearly 42,000 people globally to support them.

Every year, Autoliv products save over 20,000 lives and prevent ten times as many severe injuries.

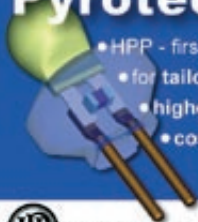
# Autoliv

[www.autoliv.com](http://www.autoliv.com)



## Pyrotechnic Competence

- HPP - first plastic igniter approved acc. AK-LV 16 specification
- for tailor-made ignition units in gas generators and activators
- highest integration level in customer applications possible
- cost effective



**HPP**  
PLASTICIGNITER

 **hirtenberger**

Pyrotechnical igniters and devices for occupant - and pedestrian protection systems.

**Automotive Safety**

[www.hirtenberger.at/automotive](http://www.hirtenberger.at/automotive)

**Tuesday, November 17<sup>th</sup>**  
14:00 pm > 19:30 pm

**14:00 / Session 2 – Safety systems design**

- S2-1      **Developments in pyrotechnic inflator coolant/filters**  
G.Greenwood  
ACS Industry – USA
- S2-2      **ADP-5 single stage pyrotechnic inflator Ø60 for frontal airbag application**  
J.Perreon  
AUTOLIV Livbag – FRANCE
- S2-3      **The APC system : an airbag incorporated into a standard crash helmet**  
M.Guerin  
APC system BCN - SPAIN

**15:15      *Coffee Break***

**15:45 / Session 2 – Safety systems design**

- S2-4      **State of the art in airbag inflator tubing and appropriate tube qualifying tests**  
Dr F.Neuner  
TRW airbag systems– GERMANY
- S2-5      **Innovative Bonnet Active Actuator (B2A) for pedestrian protection**  
E.Borg  
SNPE Matériaux Energétiques– FRANCE
- S2-6      **ASP-5.1 pyro inflator Ø20 mm for side, curtain and knee applications**  
F.Rigault  
AUTOLIV Livbag – FRANCE

**17:00      *IPASS “Awards”***

**17:30 / Poster Session-Booth exhibition**

**19:30      *Official Dinner***

**Our mission – your safety.**



**We dream of a future without traffic accidents.  
In the meantime, we are on the side of caution.**

At Takata, more than 35,000 employees are working to ensure that you arrive safely at your destination. Because when it comes down to it, we stand unfailingly by your side.

As one of the worldwide leading suppliers of occupant safety systems, we aspire to ever higher safety standards – based on innovations coupled with our untiring commitment. Our product portfolio consists of steering wheels, airbags, seat belts, electronics and sensors, as well as interior trim parts and child restraint systems.

Takata – We take you safely to your destination!



**TAKATA**

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## Pyrotechnic Competence

**Activators**  
for crash-active headrests,  
steering columns, pedestrian  
safety systems

**Side airbag gas generators**  
for front and front seats

**Micro gas generators**  
for occupant safety systems (retracting pretensioner,  
buckle pretensioner)

**GTMS and HPP**  
as ignitor elements for all  
pyrotechnical applications  
as airbag, gas generators,  
actuators, etc.



**hirtenberger**

**Hirtenberger Automotive Safety GmbH & Co KG**  
Lustenauer Straße 31-33, 2502 Hirtenberg, AUSTRIA

**Automotive Safety**

e-mail: [automotive@hirtenberger.at](mailto:automotive@hirtenberger.at)  
[www.hirtenberger.at/automotive](http://www.hirtenberger.at/automotive)

**Wednesday, November 18<sup>th</sup>**  
9:00 am > 12:30 pm

09:00 **Group departure to visit SME facility**  
12:00 B.Martinez - SNPE Matériaux Energétiques

**09:00 / Opening and introduction**

**09:10 / Session 3 – Gas generating substances**

- S3-1 **Development of a global gas generant for automotive inflators applications**  
G.Lund - AUTOLIV North America- USA
- S3-2 **Silinite™ a well known and reliable gas generating composition for active structures systems fitting with electro deposition process**  
S.Besombes  
SNPE Matériaux Energétiques– FRANCE
- S3-3 **Phosphorus as reducing agent for nanothermites**  
M.Comet - ISL-FRANCE
- S3-4 **High performances pelletizable ignition composition suitable for dry process manufacturing**  
F.Marlin - SNPE Matériaux Energétiques– FRANCE

10:45 **Coffee Break**

**11:15 / Session 4 – Performances evaluation and lifecycle**

- S4-1 **Successful imaging of combustion phenomena of airbag inflators by means of High Speed X-ray system**  
K.Hasegawa - JAEA-JAPAN
- S4-2 **Advanced kinetic analysis of thermoanalytical measurements to assess pyrotechnic substances for inflator applications**  
M.Bohn - Fraunhofer ICT– GERMANY
- S4-3 **Characterization of the performance of airbag by the thrust measurement method**  
H.Kratz - TAKATA Petri AG – GERMANY
- S4-4 **Demilitarization activities for civil pyrotechnics products in Europe**  
P.Lombardia - EXPAL-MAXAM-SPAIN

12:30 **Lunch Break**

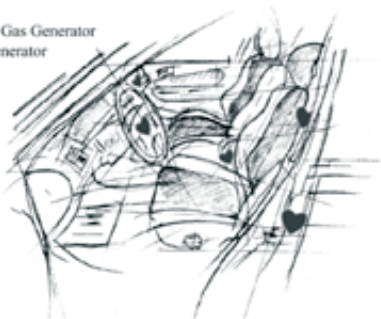


**Indet Safety Systems**  
Nippon Kayaku Group

**INDET SAFETY SYSTEMS** is a manufacturer of pyrotechnic initiators and gas generators. Our company builds upon the tradition of industrial pyrotechnic manufacture in Vsetin and makes full use of technologies developed by our parent company Nippon Kayaku as well as of our own know-how developed by our strong R&D team.

#### PRODUCTS

- Plastic Squib
- Glass-to-Metal Sealed Squib
- Micro Gas Generator
- Load Limiter
- Fusehead
- Lead-Wire Micro Gas Generator
- CB Micro Gas Generator



#### COMPANY MISSION

There is no system working without a reliable heart  
ISS Pyrotechnics: Hearts of Automotive Safety Systems

For more information please see [www.iss-cz.com](http://www.iss-cz.com)

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A TRW Automotive Company

**Wednesday, November 18<sup>th</sup>**  
14:00 am > 16:00 pm

### 14:00 / Session 5 - Computing and Simulations

- S5-1     **Discrete Element Method (DEM) applied to AUTOLIV pyrotechnic inflator development**  
F.Gaugain  
AUTOLIV Livbag – FRANCE
  
- S5-2     **Improved inflator modelling for advanced CFD airbag simulation**  
J.Hoffman  
TOYODA GOSEI Europe– GERMANY
  
- S5-3     **Evaluation of airbag inflators in initial onset chamber**  
R.Andry  
AUTOLIV Livbag – FRANCE
  
- S5-4     **Object oriented numerical tool for the design of automotive pyrotechnic systems**  
L.Chorel  
LAMEFIP Bordeaux-FRANCE

### 15:30 / Conclusion and Closing Remarks

E.Giraud     Scientific Committee Chairman

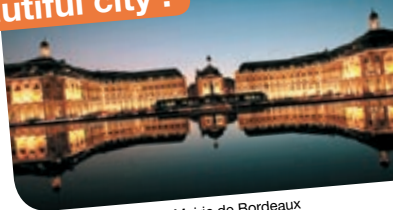
**16:00     Final coffee Break**

# WELCOME TO BORDEAUX

## Welcome to a beautiful city :

Bordeaux has been officially included on the list of UNESCO World Heritage sites as of 28 June 2007. This distinction

recognises the beauty and unity of style of Bordeaux's architectural heritage, which has developed harmoniously over the centuries and remained remarkably well-preserved.



© Thomas Sanson - Mairie de Bordeaux



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Discover a dynamic city with a concentration of monuments : Over 350 historic monuments in a protected area.

Bordeaux, an 18th century architectural gem, owes its beauty to architects spanning a number of periods: Jacques Gabriel Les Allées de Tourny, Victor Louis Le Grand Théâtre, Jacques d'Welles the municipal stadium, and Richard Rogers, who designed not only the Beaubourg Centre in Paris, but also the Bordeaux

Court of First Instance.

## Bordeaux, world capital of wine :

Bordeaux has always been associated with the exceptional quality of its wines by wine lovers from around the world. This worldwide renown is undoubtedly thanks to the role the city has played in the commercialization of its wines.



**More information at :**  
[www.bordeaux-tourisme.com](http://www.bordeaux-tourisme.com)

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- ) SCHOTT
- ) SNPE MATERIAUX ENERGETIQUES
- ) TAKATA
- ) TRW

# IPASS

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Is a GTPS symposium organized with the support of Fraunhofer ICT and AFP



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