

**TRIPS**



**Transport Infrastructures Protection Systems**

# **TRIPS DEMONSTRATION**

## **October 17th 2007**

European Commission



Security Research

## **THE TRIPS PROJECT**

Under PASR 2005 (Preparatory Action Security Research), the European Commission decided to fund the research project TRIPS (TRansport Infrastructures Protection System) to design and demonstrate an anti-terrorist security system architecture to better detect terrorist threats and hence better protect railway passengers and infrastructures.

The TRIPS project will investigate possibilities offered by technology and improved processes to consider innovative solutions that increase the effectiveness and reactivity for protection of passengers and infrastructure.

## **THE TRIPS SECURITY TECHNOLOGIES DEMONSTRATION**

The TRIPS Security Technologies Demonstration, as a deliverable of the project, will be the opportunity to demonstrate in real context the system concept and achievable performances as well as the actual limits of the state-of-the art, focused on typical and critical aspect of railway systems, like rail track and infrastructures surveillance, inside carriage and coach detection of explosive or other non conventional threats, communication and protection system architecture.

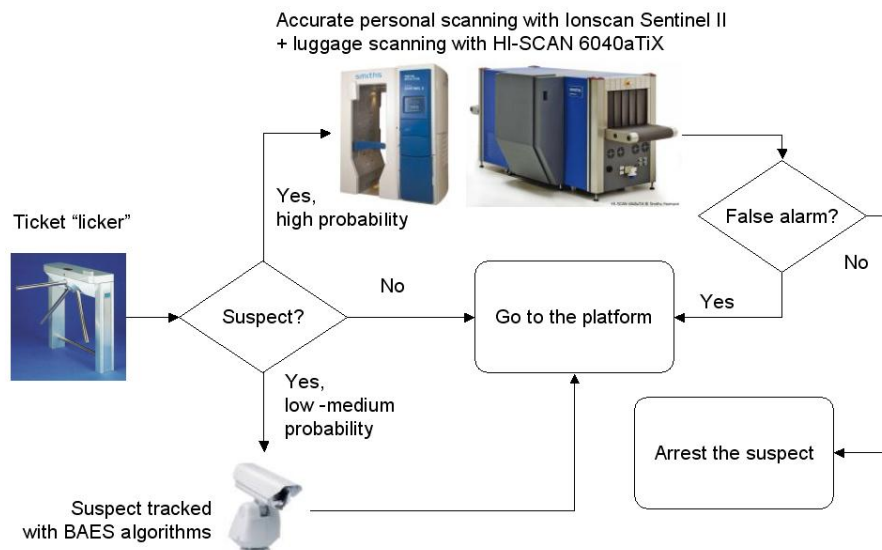
The demonstration & trials day, hosted by the SNCF will be constituted of 6 workshops led by the different industrial partners and described below.

## WORKSHOP 1: BOARDING SECURITY CHECK

Monitoring this area is essential, as a terrorist aiming at making an explosive attack on a passenger train has to cross this transit area in order to enter the train. The aim of the equipment placed there is therefore to monitor all passengers and luggage accessing the platform, in order to detect potential explosive threats and react in an appropriate way.

The main schematic to monitor this area will be based on an airport checking model, but with much more flexibility: no scanning of all passengers (not to delay trains), ticket "lickers", etc.

The process is described below:



## WORKSHOP 2: VIDEO TRACKING

The previous system in Railway station doesn't avoid all risks: all passengers and luggage are not fully checked (it would take too long to do this) and a continuous monitoring has to be done, which includes the platform.



### WORKSHOP 3: SIMULATION OF A TERRORIST ATTACK IN A TRAIN STATION

This simulation will be made by SAGEM systems, and aims to:

- Evaluate the efficiency of the communication links that will be used in case of a terrorist attack.
- Simulate the intervention of police/counter-terrorist units in the train station.

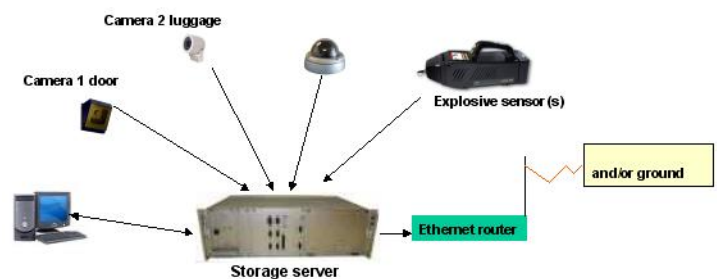
This workshop will take place in a separate area, in a meeting room, located 50m away from the carriages.

### WORKSHOP 4: ON-BOARD MONITORING

Accordingly, nothing but intelligence or abnormal behavior detection will really prevent an explosive luggage from arriving on-board a passenger coach; to remain un-noticed it will most probably be left in a luggage bin, the perpetrator remaining or not on-board.

The assumption made here is that affordable atmospheric sensor (or set of sensors) can be located in the luggage bins or in their vicinity and will detect immediately or during the trip explosive traces; this same principle applies to other types or threats like CBR (Chemical, Biological or Radiological) contaminants. To some extent the process can remain applicable in situations where police has received a warning call or something suspect has been detected by accident.

The objective is to evaluate in-situation with a limited demonstration how situation can be assessed, how ground and on-board staff can be efficiently alerted, react properly and communicate with the passengers to avoid panic and mitigate casualties, how evidence can be collected for the investigations to come, etc.



The set-up of this area would therefore include:

- Detection of explosive (or chemical agent) in the luggage bin, with Thales technologies.
- Video monitoring of the relevant zone and nearby cabin, with Thales technologies.
- Wireless transmission of alarm and video to both the control centre and to the train manager, with ability to check through pre-recorded video if the individual, who brought the piece of luggage, is still on-board and finally means to communicate with the passengers real-time or pre-recorded. This functionality will be implemented by Thales.

## WORKSHOP 5: REMOVAL OF EXPLOSIVE

The aim of this workshop is to present and simulate the intervention of a remotely controlled robot to remove an explosive. The simulation will show the intervention of this robot, equipped with a handheld chemical detector (used to find precisely which bag has launched the alarm), measuring several bags and removing the suspicious one. This scenario comes after a suspicious luggage has been detected, for instance thanks to the system simulated in previous workshop.



PIAP will provide the remotely controlled robot that will be used to remove potential explosive devices. PIAP will therefore provide for the trials;



An explosive material simulator provided by SMITH will be needed, to be detected by the sensor.

A handheld chemical detector, the *Sabre 4000* (photo below), provided by SMITH, will be equipping the robot hand and used to detect the suspicious luggage.

## WORKSHOP 6: DETECTION OF EXPLOSIVE UNDER BALLAST

The objective of this scenario is to evaluate the detection system mounted in front of the locomotive and running on the track. This device aims to detect, while the train is running, the presence of a hole or a suspicious object buried under the ballast.

According to the purposes of the project, the system will be composed by:

- a laptop computer
- a battery
- a GPR control unit
- a GPR multiplexer unit
- up to 4 GPR antennas
- an odometer
- a fixing frame
- relevant connection cables.



## REGISTRATION INFO.

Participation to the demonstration is free of charge but the number of available places is limited.

Registration must be done *before the 2<sup>nd</sup> October*.

The demonstration will take place *from 9am to 5pm*

To apply, please contact Mr. Lionel PARRA

**Email:** [lionel.parra@sncf.fr](mailto:lionel.parra@sncf.fr)

**Tel:** +33 1 53 42 99 72



## VENUE



### Villeneuve – Prairie

EMM VP

Chemin des vaches

94600 Choisy-Le-Roi

#### Access :

##### ✓ By road

EMM Villeneuve-Prairie  
Chemin des vaches, 94600 Choisy-Le-Roi.

##### ✓ By train, from Paris

RER D, Villeneuve-Prairie station.  
20 minutes from Paris Gare de Lyon.

##### ✓ By air - Paris Charles de Gaulle

Take the RER B from the airport to Chatelet les Halles.  
Then take RER D to Villeneuve-Prairie.  
Approximately 1hour.

##### ✓ By air - Paris Orly

Take the RER B from the airport to Chatelet les Halles.  
Then take RER D to Villeneuve-Prairie.  
Approximately 1hour.

#### Useful telephone numbers :

TRIPS coordinators : (+33)1 53 42 99 72 or (+33)1 53 42 92 99

TRIPS contact during the day of the presentation (mobile phone) : (+33)6 85 63 90 74

Police : 17

Emergency : 112

## HOTEL LIST

There is a number of good hotels near Paris Gare de Lyon (the closest point to reach the trial site).  
Listed below is a selection of hotels within no more than 5 minutes by walk from Gare de Lyon railway station.

✓ **Novotel Paris Gare de Lyon**

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2 rue Hector Malot, 75012 PARIS

Tel : (+33)144676000

Fax : (+33)144676060

E-mail : [h1735@accor.com](mailto:h1735@accor.com)

<http://www.novotel.com>

✓ **Ibis Gare de Lyon Diderot**

150m from Paris Gare de Lyon

31 Bis Boulevard Diderot, 75012 PARIS

Tel : (+33)143461272

Fax : (+33)143416801

<http://www.ibishotel.com>

✓ **Ibis Paris Gare de Lyon/ Ledru Rollin**

300m from Paris Gare de Lyon

41/43 avenue Ledru Rollin, 75012 PARIS

Tel : (+33)153023030

Fax : (+33)153023031

<http://www.ibishotel.com>

✓ **Mercure Paris Gare de Lyon**

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2 place Louis Armand , 75012 PARIS

Tel : (+33)143448484

Fax : (+33)143474194

E-mail : [H2217@accor.com](mailto:H2217@accor.com)

<http://www.mercure.com>

✓ **Best Western Aurore**

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13 Rue Traversiere, 75012 PARIS

Tel : 33 1 43 435412

Fax : 33 1 43 435320

<http://www.bestwestern.com/>



**TRIPS trials of the 17th of october 2007**  
**Registration form**

Company/ Organization:

Name:

First name:

Means of transport:

Railway RER D (Station Villeneuve-Prairie)

Car

Other. Comments:

Participation to the lunch:

Yes

No

Remarks:

In order to confirm your participation to the trial day, please fill in this form and send it by e-mail before October the 2<sup>nd</sup> to :

Lionel Parra

SNCF Direction de l'Innovation&Recherche

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