



# EFFISEC

## Efficient Integrated Security Checkpoints

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# EFFISEC – Target & objectives



## ▶ General target

- **Currently, border security efforts focused on airports:**
  - => Security of air traffic
- **Land borders (and maritime) regular checkpoints**
  - => Could be weak points for screening people & traffic
- **Vast majority of travellers are honest:**
  - => Need to combine security efficiency & fast flow management



## ▶ EFFISEC Objectives

### 1. To enhance security & efficiency through technology:

- travel documents + identity checks using biometrics
- luggage checks - for dangerous/forbidden goods
- vehicle control (stolen vehicles)

### 2. To improve work conditions for border inspectors:

- Ergonomic tools
- Enhance the use of border inspectors know-how

### 3. To increase the flow of people crossing the border:

- Fast processing of travellers (pedestrians or passengers in vehicles)



# EFFISEC – Participants



Beneficiary Number	Beneficiary name	Beneficiary short name	Country
1	Sagem Sécurité	SAG	FR
2	Thales Security Systems	TSS	FR
3	Thales Electron Devices	TED	FR
4	Galileo Avionica	GAL	IT
5	Elsag Datamat Spa	ED	IT
6	Smiths Heimann	SDH	DE
7	Sociedad Europea de Analisis Diferencial de Movilidad	SEA	ES
8	Technical research Centre of Finland	VTT	FI
9	Swedish Defense Research Agency	FOI	SE
10	University of Reading	UoR	UK
11	Miniturul Internelor si Reformei Administrative - Romanian Border Police	RBP	RO
12	Secalliance	SEC	FR
13	MC2	MC2	FR
14	Port of Lisbon	APL	PT
15	Joint Research Center	JRC	EU
16	Thales Security Systems Portugal	THP	PT



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## **3 Use Cases – Integrated Approach**



SEVENTH FRAMEWORK  
PROGRAMME

SUBITO Technology Workshop, GENOA, September 14th, 2010



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# ■ Cars use case



## ▶ **WP3.1 – Document management**

- Analysis of existing solutions
- Solution proposal for a few people within a private car

## ▶ **WP3.2 – Identity management tools**

- Tool designed for several type of documents
- Multi-biometry capture from people seated in a car
- Mobile tools design/adaptation
- Reconciliation of documents and holders through biometry (either stored in document or in database)

## ▶ **WP3.3 luggage scanning in car's trunk**

- Mobile tools designed for controlling car's trunk
- Development of a solution to detect CBRN-E in car's trunk

## ▶ **WP3.4 Passengers inspection**

- Analysis of existing solutions
- Design solution for people seating in a car
- Development of a new innovative solution

## ▶ **WP3.5 Car inspection**

- Application of document management solution for car's registration document
- Video analysis of plate and car's type
- Connection to the central database

## ▶ **WP3.6 Integration of car use case**

- Design of a fast/efficient flow for personal car inspection

Enhancement of all proposed solutions based on end-users evaluation: ergonomics, security and ethics

# Bus use case



## ▶ WP4.1 – Document management

- Analyse the existing solutions
- Solution proposal for a large number of people in a bus (in the range of 25- 35 people)

## ▶ WP4.2 – Identity management tools

- Tool designed to be carried into the bus
- Multi-biometry capture from people seating in a bus
- Mobile tools design/adaptation
- Reconciliation of document and holder through biometry (either stored in document or in database)

## ▶ WP4.3 Luggage scanning in bus

- Mobile tool design/ to bus's trunk and bus trailer
- Development of a solution to detect CBRN-E in bus's trunk or trailer

## ▶ WP4.4 Passengers inspection

- Analyse the existing solution
- Design solution for people seating in a bus
- Development of the solution

## ▶ WP4.5 Bus inspection

- Analyse existing solution
- Video analysis of plate and bus's type
- Connection to database

## ▶ WP4.6 Integration of bus use case

- Design of fast/efficient flow for bus inspection

Enhancement of all proposed solutions based on end-users evaluation: ergonomics, security and ethics

# ▀▀▀▀ Pedestrians use case



## ▶ **WP2.1 Travel document management**

- Read document's MRZ
- Read MRZ contactless ?
- Check electronic document or not
- Identify document type and apply associated procedure
- Tests of document against databases

## ▶ **WP2.2 Biometry multi-modality**

- Verification: facial, fingerprint
- Database verification for visa (VIS/ BMS)

## ▶ **WP2.3 Luggage inspection**

- Self scanning facilities of luggage by means of new innovative tools
- CBRNE detection

## ▶ **WP2.4 Pedestrian inspection**

- Weapons detection
- Explosive detection

## ▶ **WP2.5 Pedestrian integration**

- Self-border crossing (individual + luggage)

Enhancement of all proposed solutions based on end-users evaluation: ergonomics, security and ethics



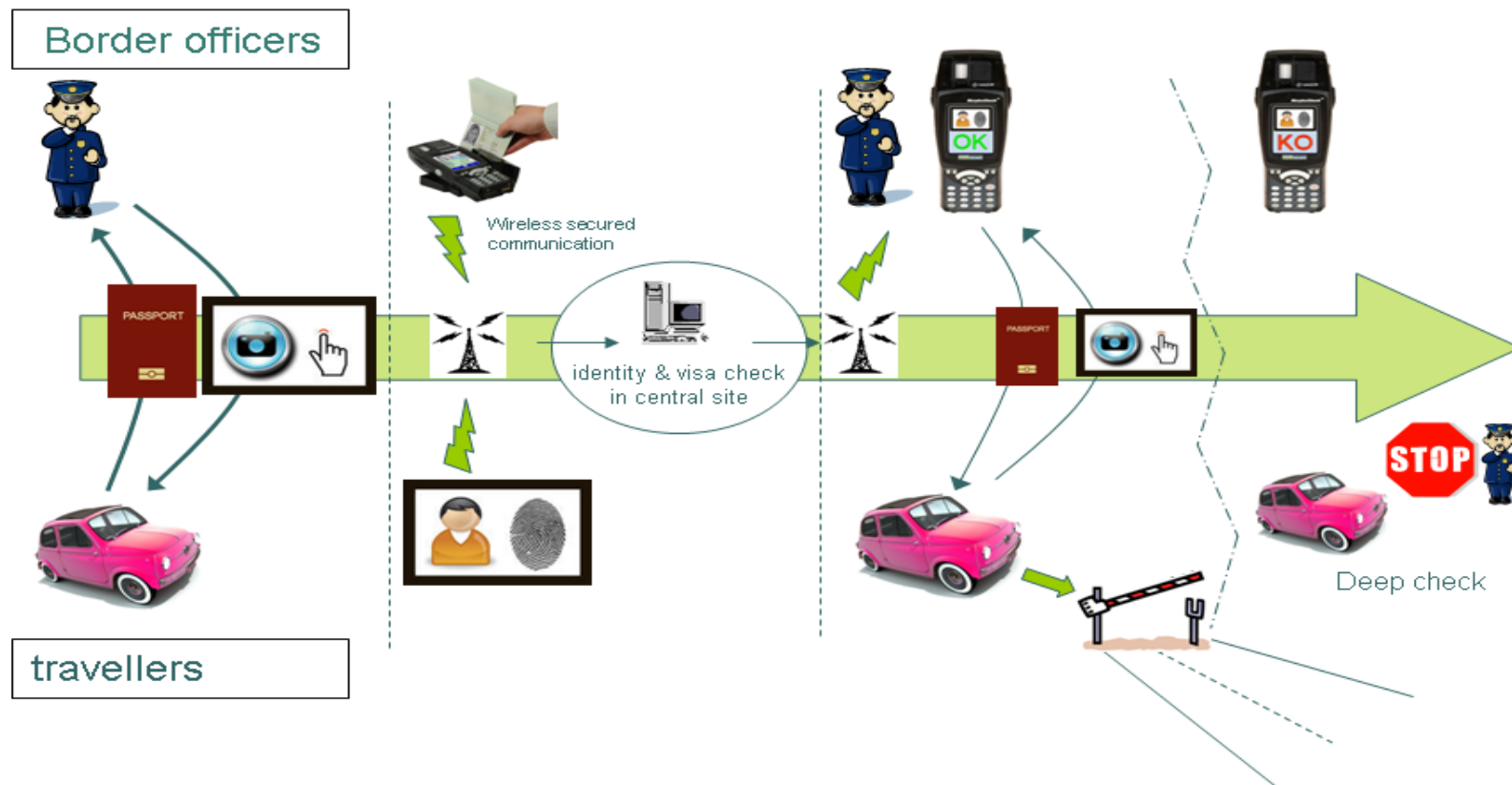
**EFFISEC**

## Identification of passengers

**use cases  
&  
technologies**

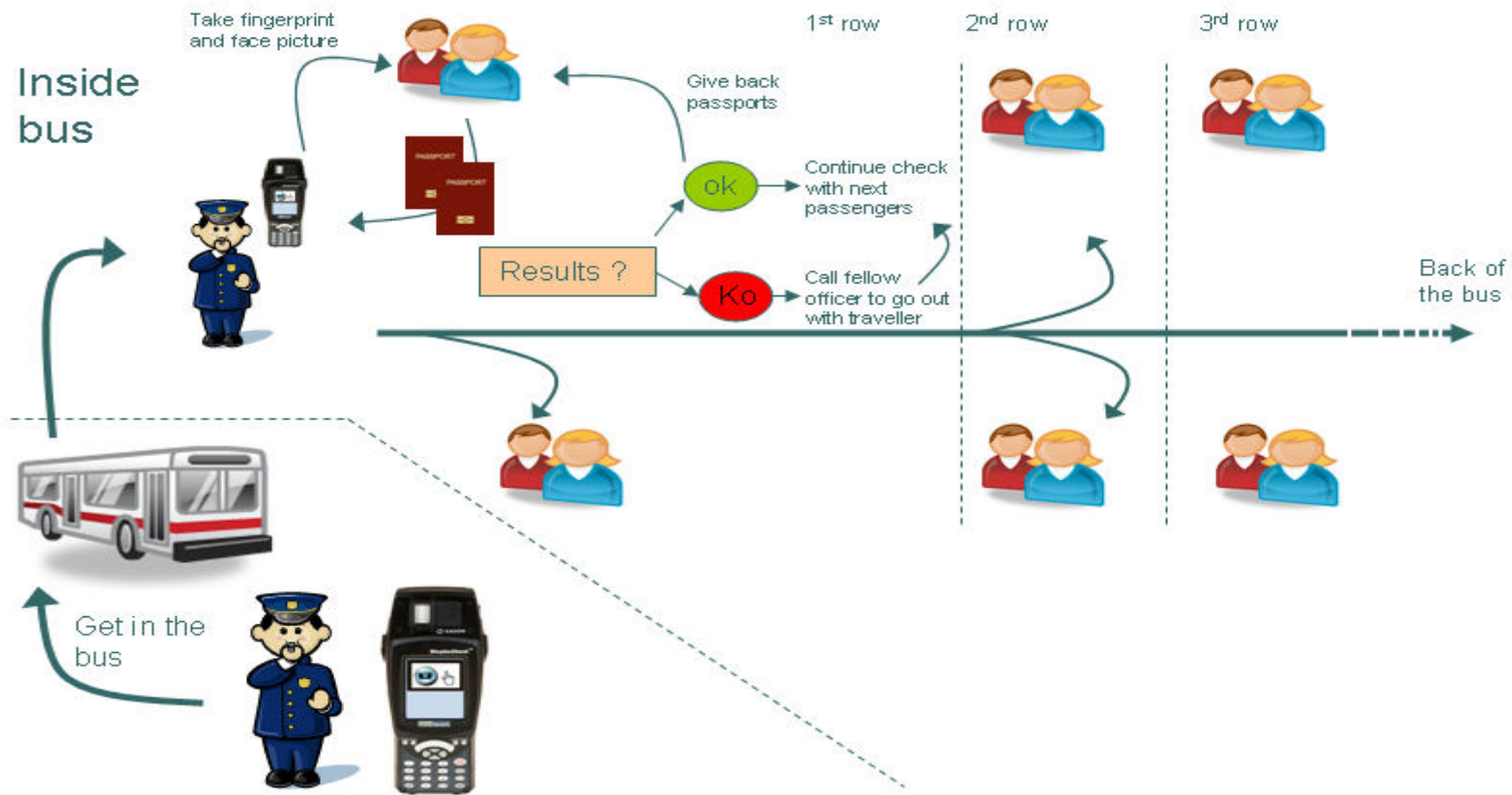
# Car check point description 2

## checkpoint description : car use case



# Bus check point description 2

## checkpoint description : bus use case





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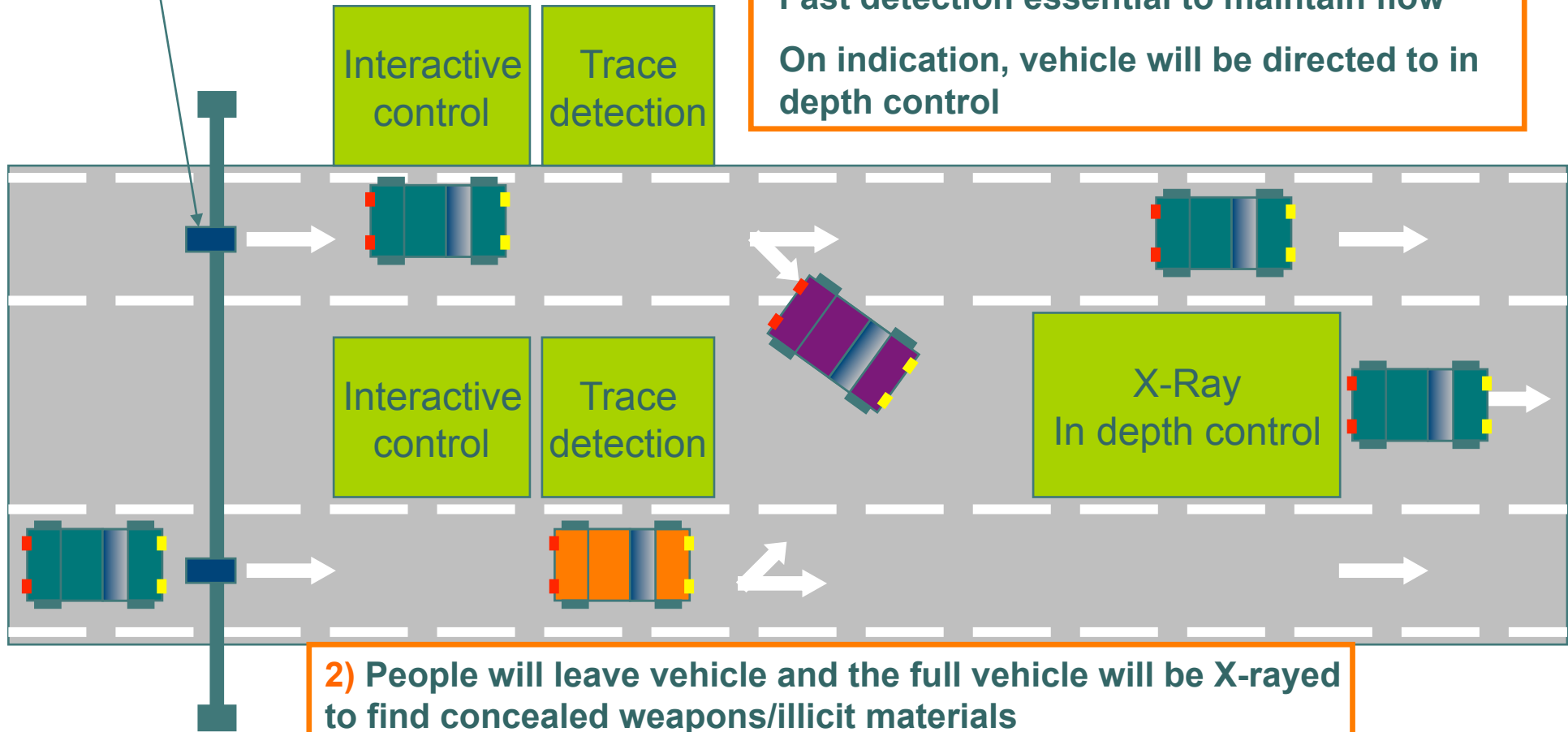
## Detection of Illicit Substances

**use cases  
&  
technologies**

Automated control  
(Camera)



1) Trace Detection and initial R-detection to be done at first interactive control stop  
Fast detection essential to maintain flow  
On indication, vehicle will be directed to in depth control



2) People will leave vehicle and the full vehicle will be X-rayed to find concealed weapons/illicit materials

3) Luggage to be unloaded and X-rayed using material identifying X-ray (multi-energy)  
Possibility to use radiometric camera on persons

# Fixed e-Gate for pedestrians & central site



# ■ Description



## Main objectives :

- To develop an e-Gate mock-up for pedestrians to be used in seaports and land border checkpoints
- To verify the validity & authenticity of the document.
- To authenticate the bearer of the document using multi biometrics
- To harden the hardware solution

## Output to EC :

- Operational specification delivered in April 2011 & mock-up delivered in April 2012





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**Intelligent Video Analysis  
objectives  
&  
technologies**

# ■ Objectives and Technologies



## ▶ Objective: Supervise the process flow:

- Access control of vehicles and passengers with fixed cameras
- Identify and classify correctly all vehicles in transit and provide an estimate of the number of passengers within each of the vehicles
- Supervise flow of vehicle's type and passengers in appropriate queues
- General border check-point surveillance

# ■ ■ ■ ■ Main Achievements in Year 1



## ▶ Requirements of end users

- All information from interviews with operators and end users
- Particular attention to visit to Romanian-Moldovian checkpoint

## ▶ Survey of CBRNE detection technologies

- Overview of 390 external papers

## ▶ Architecture of complete system

- Preparing ground for future integration and demonstration



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**WEBSITE**

**<http://effisec.eu>**



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# **NEWSLETTER**

**Sign up:  
newsletter@effisec.eu**



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## **END USER CLUB**

***EFFISEC is committed to strong end user participation to ensure fulfillment of technological operational needs at both land and sea border checkpoints.***

***Towards this end, a panel of users has been set up to help precisely define user needs through interactive sessions.***

**[enduser@effisec.eu](mailto:enduser@effisec.eu)**