### WP title

WP2.1: Collation, Synthesis and Assessment of Existing Information

### Main Outcome

A document „Stakeholders‘ Requirements for Railway security“ with the contents to **collect, synthesise and assess** existing information concerning the security of railway assets and infrastructures and to **transform it into a set of User Requirements**.

### Contributors

- Ductis as WP responsible
- PKP, Litrail, ZSSK, TCDD, SNCF, UIC as Railway supporters
- ED, Sarad, Elbit as technical supporters
- ASTS as technical and management support
Position of WP21 within SP2
Observe our clear distinction between requirement types:

Outcome of D21 is a set of User Requirements

- A requirement which follows directly from the security needs of a railway infrastructure (including the security needs of its customers and other stakeholders). Nothing is said here about the technical realisation.

Not Functional Requirements

- A breakdown of a user requirement to one or more functional units. Each functional requirement has to refer to one or more user requirements where it is derived from.

Not Security Technical Requirements

- A technical description which satisfies a part of or a whole functional requirement or several of them, e.g. a scanning unit which shows the contents of luggage or a DFMD. Each technical requirement has to refer to the functional requirements it is derived from.
Potential Users are the different kinds of stakeholders in the Railway environment:

- Train Operators (including their customers) with their different departments
- Railway Infrastructure Operators with their different departments
- Security Authorities like Police etc.
- Technical authorities concerned with security
- Railway organisations like UIC, Unife
- Political instances like ministry of transport, ministry of the Interior

Note: We are restricted to requirements concerning security!
Our sources of information for User Requirements

- Conference reports and papers
- Workshop results
- Existing experiences (via questionnaires)
- Project results
- Policies and directives
- Train Operators (including their customers) with their different departments
- Train Infrastructure Operators with their different departments
- Security Authorities like Police etc.
- Technical authorities concerned with security
- Railway organisations like UIC, Unife
- Political instances
The main result of this collection and assessment is a

Structured Set of User Requirements

- Structured along the submissions of PROTECTRAIL
- Structured along the differentiation Terrorist attacks <-> Criminal attacks
- Structured along further Criteria
Characteristics of the set of User Requirements

• It is a strictly hierarchical tree with the requirements as leaves

• Each requirement
  ➢ has a unique numerical identification
  ➢ has a verbal title
  ➢ has a short verbal description

• Similar requirements can be collected to a class
### An excerpt of the Set of User Requirements

#### 3 To protect plant, signalling and ITT systems

**3.1 To protect from terrorist attacks**

- **3.1.1 To protect plants (power plants, marshaling yards too)**
  - 3.1.1.1 To control access
  - 3.1.1.2 To detect unauthorized people inside plants areas
  - 3.1.1.3 To have ID badge for the personnel
  - 3.1.1.4 To install armoured or reinforced doors, gates, fencings
  - 3.1.1.5 To have employees with a high security awareness and vigilance
  - 3.1.1.6 To have dedicated areas for dangerous goods
  - 3.1.1.7 To have real time information about dangerous goods carried by train (kinds and position)

- **3.1.2 To protect Signalling and ITT systems**
  - 3.1.2.1 To control access
  - 3.1.2.2 To detect unauthorized people
  - 3.1.2.3 To have ID badge for the personnel
  - 3.1.2.4 To install armoured or reinforced doors, gates, fencings
  - 3.1.2.5 To have employees with a high security awareness and vigilance
  - 3.1.2.6 To ensure all signalling and ITT systems against any unauthorized cyber intrusion

**3.2 To protect from other threats (hackers, vandalism, robberies, etc.)**

- **3.2.1 To protect plants (power plants too)**
  - 3.2.1.1 To control access
  - 3.2.1.2 To detect unauthorized people
  - 3.2.1.3 To have ID badge for the personnel
  - 3.2.1.4 To install armoured or reinforced doors, gates, fencings
  - 3.2.1.5 To have employees with a high security awareness and vigilance
  - 3.2.1.6 To have dedicated areas for dangerous goods
  - 3.2.1.7 To have real time information about dangerous goods carried by train (kinds and position)

- **3.2.2 To protect Signalling and ITT systems**
  - 3.2.2.1 To control access
  - 3.2.2.2 To detect unauthorized people
  - 3.2.2.3 To have ID for the personnel
  - 3.2.2.4 To install armoured or reinforced doors, gates, fencings
  - 3.2.2.5 To have employees with a high security awareness and vigilance
  - 3.2.2.6 To ensure all signalling and ITT systems against any unauthorized cyber intrusion
How User Requirements look like

**UR1.1.1.1**  
*To identify people with abnormal behaviour*  
Abnormal behaviour means, a person is constantly walking around and looking for different points “of no interest” like waste baskets, edges etc.

**UR1.1.2.10**  
*To control accesses*  
This means for each security relevant room: (i) Access only for authorized people, (ii) Record and store who accessed and left when, (iii) Check correctness of authorizations.

On the whole there are about 150 different User Requirements.
Traceability of the User Requirements

Traceability

Will be assured by

• a defined process and

• a suitable technical tool

User oriented

UR x

SP2/ WP21

Functional

FR y

SP2/WP24

Technical

TR z

SP2/WP25

Integrated System/
Prototype/
Demonstrator

SP3/4/5
Evolution of the User Requirements System
Evolution of the User Requirements System

The evolution will be implemented by

• Taking up new developments and trends
  ➢ From the different stakeholder groups
  ➢ From inside the project

• Two additional versions of the User Requirements document which will follow in 2011 and 2012
Thank you for your attention!

Questions?