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Security of Mass Transportation

Priority subjects for future research
Reflections about a common understanding of security

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Used Definitions (Source: EU “Non-Paper”)

“The security terminology for 'Mass Transport' used in the European Union is "Urban Transport Security“ as used in the White paper 'Mid-term review of the European Commission’s 2001 Transport White Paper‘ (COM(2006) 314 final of 22.06.2006), the European Commission's Green paper 'Towards a new culture for urban mobility' (COM(2007) 551 final of 25.9.2007) as well as in the European Commission's Communication COM (2007) 649 final of 06.11.2007, titled 'Stepping up the fight against terrorism'.

The definition of mass transportation is therefore mostly oriented towards urban public transportation (masses = many individuals in a confined area / Mass Transport = Urban Public Transport). Urban public transportation is, in other words, all the means of public transport that people uses daily to go to and from work and education (school etc).”

Quotes from the Green Paper 'Towards a new culture for urban mobility'

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"Every EU citizen should be able to live and move in urban areas with safety and security. When walking, cycling, or driving a car or a truck, one should be able to do so at minimum personal risk. This requires a good design of infrastructure, especially at intersections."

"The sometimes perceived low personal security of passengers inhibits certain social groups from travelling, or from using public transport services. This concerns not only vehicles, terminals and bus/ tram stops but also the walk to and from the stops."

"A specific matter is anti-terrorism security in urban transport."

Quote from EC communication
‘Stepping up the fight against terrorism’

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- Protecting our critical infrastructure;
- Improving the exchange of information between national authorities and
- cooperation between all stakeholders when appropriate;
- Improving the detection of threats;
- Supporting victims;
- Research and technological development

Security and Safety
Related terms but different interpretation

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What does “security” mean? *)

- The quality or state of being secure
- Freedom from danger
- Freedom from fear or anxiety

What is the meaning of “safety”?

- The condition of being safe from undergoing or causing hurt, injury, or loss *)

  Safety devices in railway business are designed to prevent inadvertent or hazardous operation

*) Definitions from http://www.merriam-webster.com/

General Remarks

Security

- “Security” is a generic term; a “security market” as such can be defined differently
- Most security and safety relevant business opportunities are NOT intermodal
- Most security markets are dominated by government regulations and laws; authorities are often customers

A collection of security affected business fields (in the scope of the discussed project)

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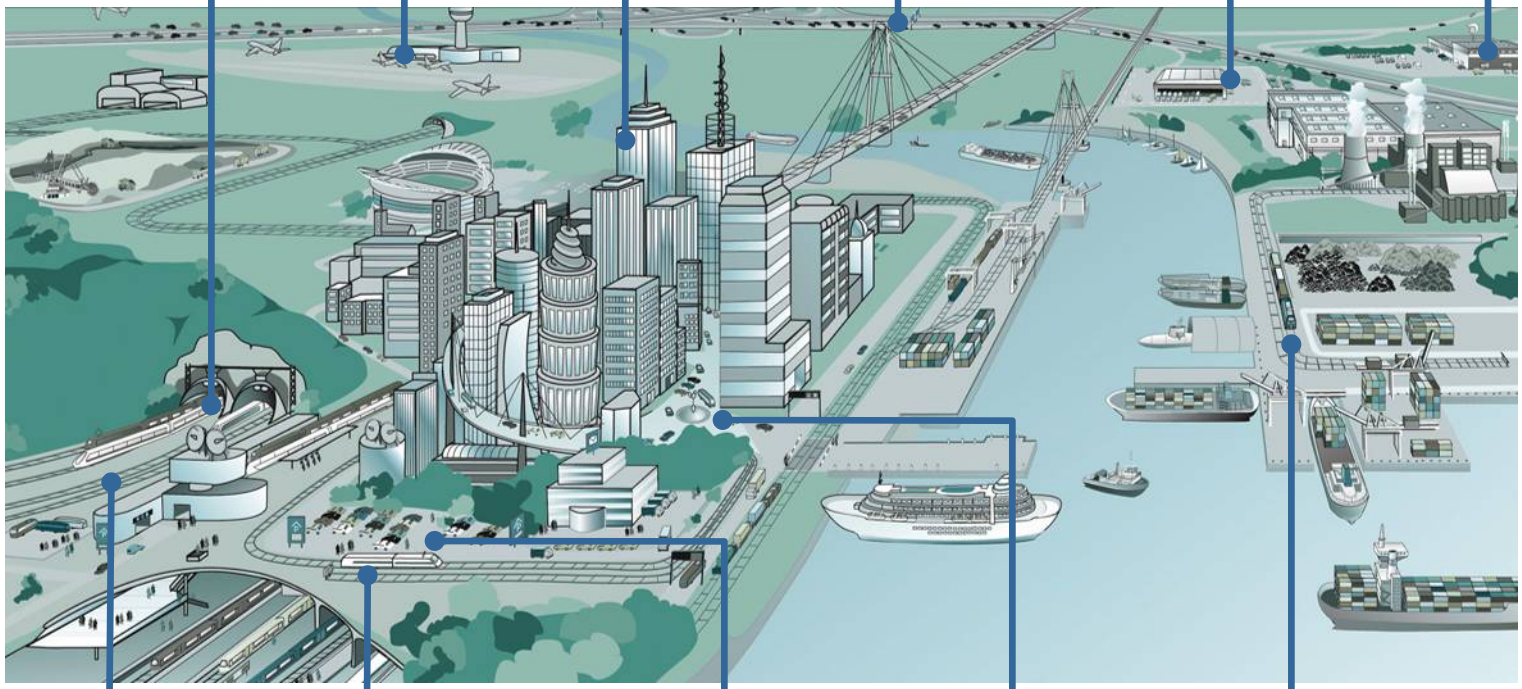
Integrated solutions are the key to safe, clean and reliable mobility!



What is security relevant in urban transport?

- An incomplete selection
  - Operational particularities
    - congestions (for whatever reasons)
    - packed vehicles and stops
  - General threats
    - sexual harassment
    - verbal and physical threats
  - Criminal acts
    - physical force
    - pickpocketing
    - robbery
    - drug dealing
    - damage to property (like tagging and scratching)
  - Terrorist acts
    - the use of arms by single persons or groups
    - bombs / missiles / grenades
    - setting a fire blast or causing a flooding
    - releasing toxic biological or chemical substances

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In an open system surveillance measures can help to to give our citizens the required feeling of security by discouraging some kind of criminals

Measures for infrastructure
Possible today

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- Installing sensors and all kind of surveillance equipment in order to get sufficient situation awareness
- Protection of control centres against attacks (sheltered sites, access protection)
- Protection of essential installations against external influence (air filters, fire protection, IT firewalls)
- Highly available power supply (emergency power for essential equipment and emergency lights)
- Redundant means of communication (use of physically different and encrypted communication links)
- Pre-planned safe escape routes for travellers and access for emergency services
- Common interfaces between stakeholder's systems in order to exchange first-hand information like real-time surveillance, building plans etc.
- Pre-planned scenarios in order to provide in control systems automated or guided alarm-sequences, check-lists and prepared communication links (tested and trained)

What can we do today?
Example: Rail Automation

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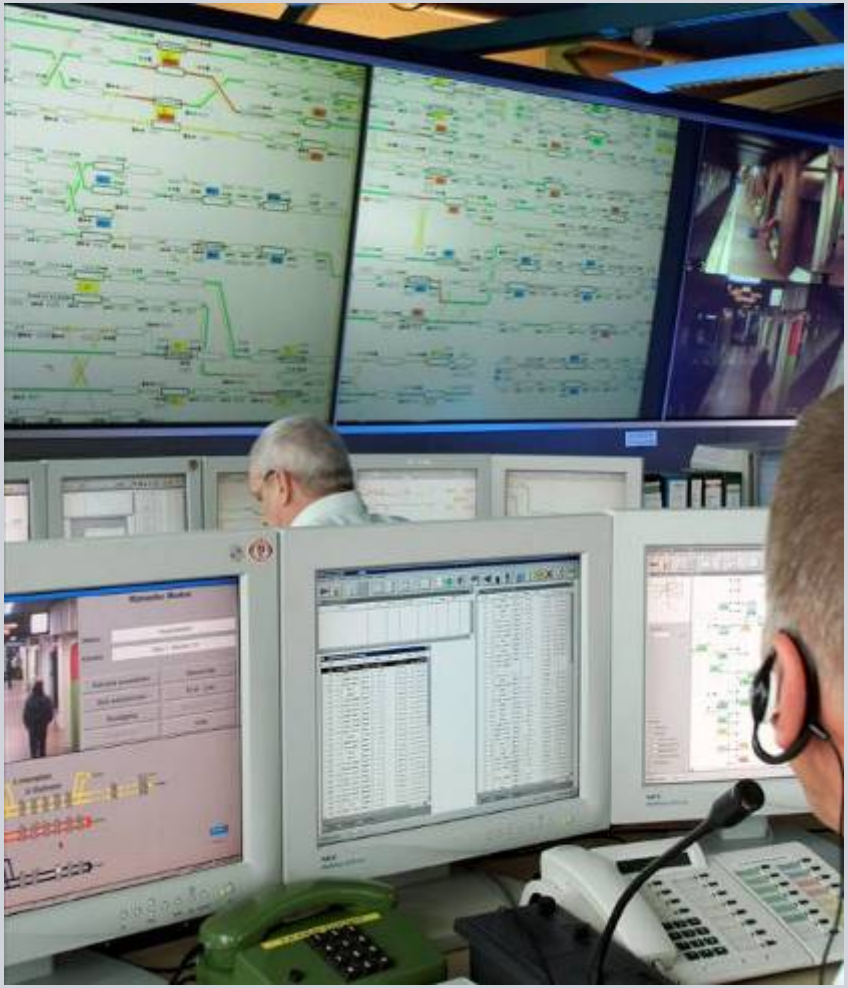

Our Railcom Manager integrates multiple communications systems into a single user interface. Passengers are automatically kept informed via public address systems, information displays and interactive computer screens. Pictures captured by closed-circuit TV monitors are automatically fed into the system, and passengers can contact the control center via emergency phones. This makes rail operations run more smoothly and increases passenger and system safety.

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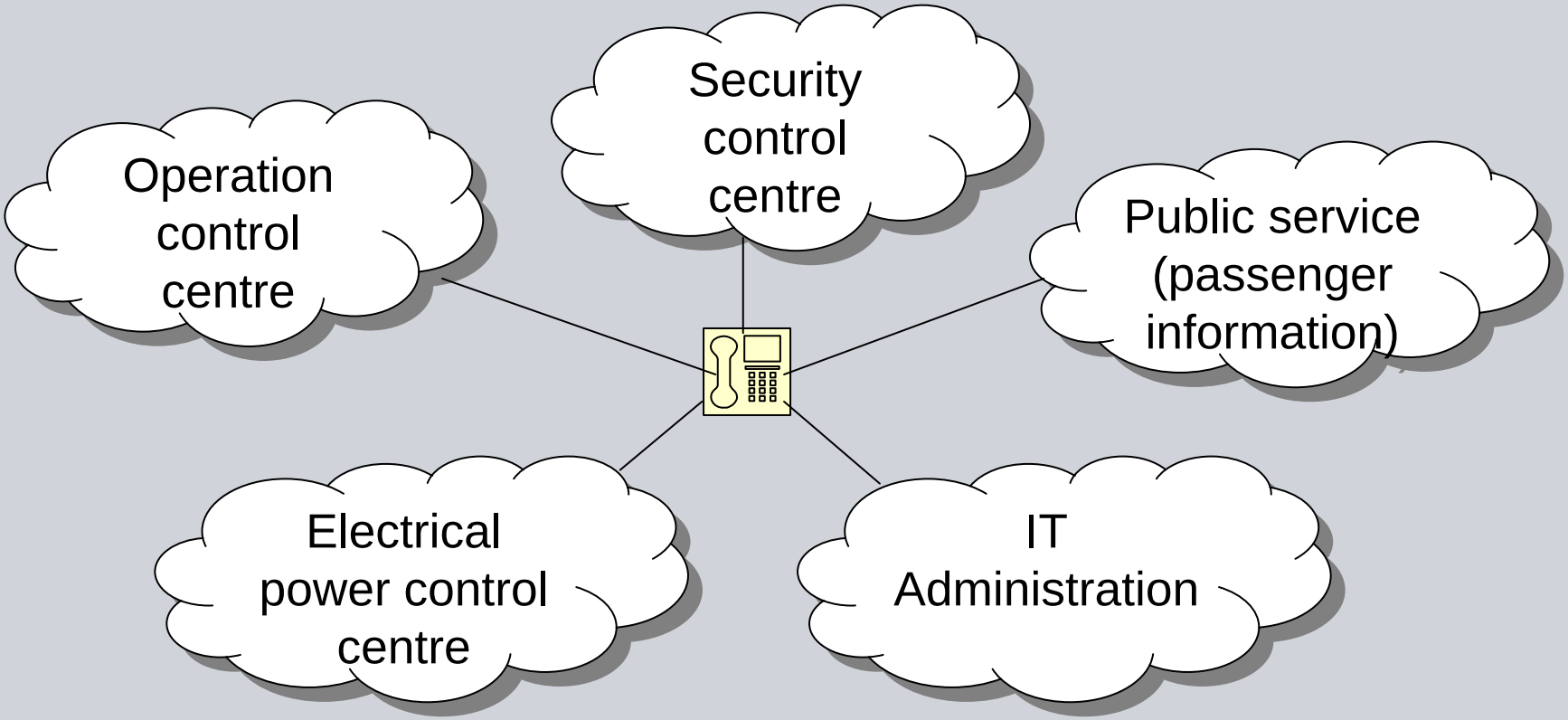
A look for a stakeholder

A typical structure of a public transport undertaking



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No common stakeholder in public transport

Public transport undertaking

central control

local control

Long distance transport undertaking

(local) Police

Fire Brigade

State (Federal) Police

Agency for Technical Relief

Emergency Management

+ Hospitals

+ Doctors

+ Pharmacies

Local traffic control centre

Crisis Squad

No common stakeholder in public transport

Public transport undertaking

central control

local control

Long distance transport undertaking

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Fire Brigade

State (Federal) Police

Agency for Technical Relief

Emergency Management

Radio communication will be likely not compatible between services today

Local traffic control centre

Crisis Squad

+ Hospitals

+ Doctors

+ Pharmacies

What's the matter with the travellers? Some more statements

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Obviously the mentality is not the same everywhere in Europe

The feeling and behaviour of people is influenced by the "collective memory" of the local society

- Thus the perception and the acceptance of security measures is not comparable all over Europe

  (Example: The way how video surveillance of public space and related data storage is seen in Britain and Germany)

Priority subjects for future research
Sociological and political questions

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Statement:

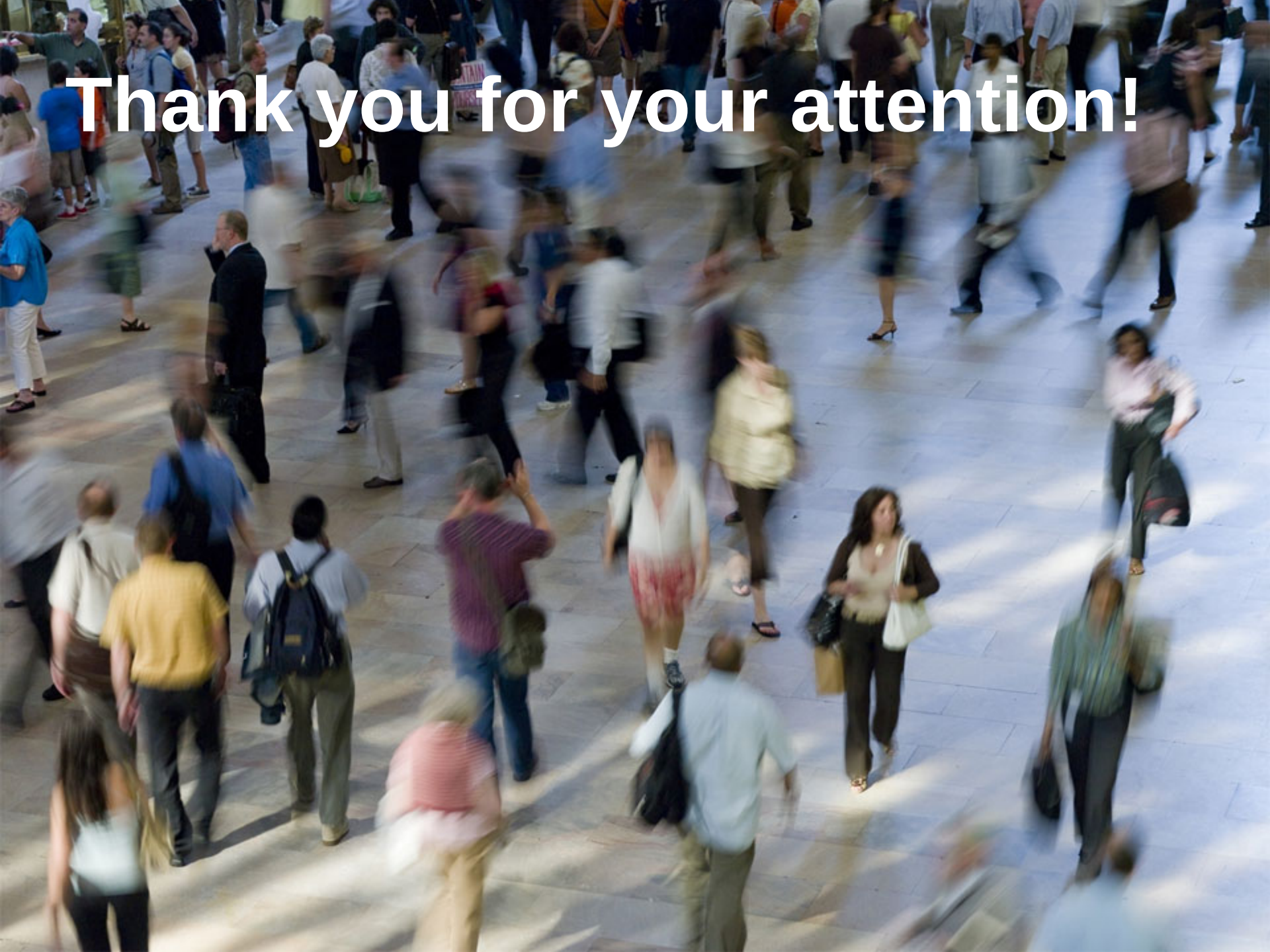
- The development of single product solutions like smart sensors and evaluation software for video and audio inputs will go on, but it will be tough finding anybody who feels responsible for integrated solutions affecting more than one stakeholder

Open questions:

- How is the difference in mentality between European Member States or even regions influencing the perception of possible threats?
- Is there a European common sense about acceptable surveillance measures in public spaces?
- How is it possible to overcome the particular interests of stakeholders in security matters (how to create a market for integrated solutions)?
- How can a surveillance network be used for different purposes legally (based on a European common sense)?

  Examples:

  Automated identification and tracking of suspected persons cannot be a task of operators
  Congestions in station areas could lead to operational measures and could indicate a security threat as well


Thank you for your attention!