

### HOW CHANGE THE ROLE OF STATION, HOW CHANGE THE RAIL SECURITY.

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# Threats to Railway Infrastructure and Trains

- CYBER ATTACK
- SABOTAGE
- TERRORISM



- ABUSIVE OCCUPANCY
- ACTIVATION OF THE EMERGENCY ALARM ON BOARD
- THROWING STONES
- VANDALISM
- GRAFFITI
- THEFT
- COPPER THEFT
- ROBBERY
- AGGRESSIONS
- OBSTACLES ON THE RAILWAY LINES
- ARSON

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17-18 October 2013 **Nexts** 

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# Stations: which role in the urban environment?

Major Stations : a prime target

- Major Stations as "open areas"
- Shopping center/Meeting place
- Optional facilities (parking areas, hotels, …)
- Intermodal transport exchange
- Concentration of social decay
- Masterpieces of contemporary architecture

- Easy target, complex environment, hard to protect
- High probability of success
- High economic damage
- Wide eco impact of mass media and on public opinion



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## Station security: what it's all about?



# Civil engineering for risk mitigation

J.											
	BLAST										
	Threats Guidelines		Counter measures								
	Fragmenting structural material	Strenghten infrastructure elements as columns, walls and floor slabs	<ul> <li>Insulating Concrete Forms (ICF)</li> <li>Use of barriers along the building perimeter as planters, bollards other barriers</li> </ul>								
	Building collapse	<ul> <li>Redund load bearing structures</li> <li>Designing redundancies into the structure to carry additional load</li> </ul>	Metals for structural protection as steel, alluminium, ect.								
	Breaking glasses (glazing break)	<ul> <li>Minimize the use of windows in facade</li> <li>Use proper material</li> </ul>	Thermally Tempered Glasses (TTG), Polycarbonate films or Polycarbonate in place of glass								

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# Civil engineering for risk mitigation

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	CBRN									
	Threats	Guidelines	Countermeasures							
	Unauthorized access	Protect physical accesses	<ul><li>Armoured doors</li><li>Control access</li></ul>							
	CBRN substances spreading	<ul> <li>Install air monitoring systems</li> <li>Partition the areas</li> </ul>	<ul> <li>Sensors and hand-held detection equipment</li> <li>Segregated ventilation ducts and emergency doors</li> <li>Training in CBRN awareness as basic characteristics and symptoms of substances</li> </ul>							
	Contamination of the attacked areas	Use of non porous surfaces	Use of easy to decontaminate materials							

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## Security in the layout

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#### **Police Forces Office**

- Maximum visibility to travelers
- Easily access to/from different station areas
- Control Room on site

#### Technological premises (Operation Control Center, Energy Power Station,

- Control Room,...)
- Strategic building far from crowded area
- Not accessible place

#### **Commercial Area**

- Far from emergency exit
- Proportional to flow analysis

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### **Security Technologies**

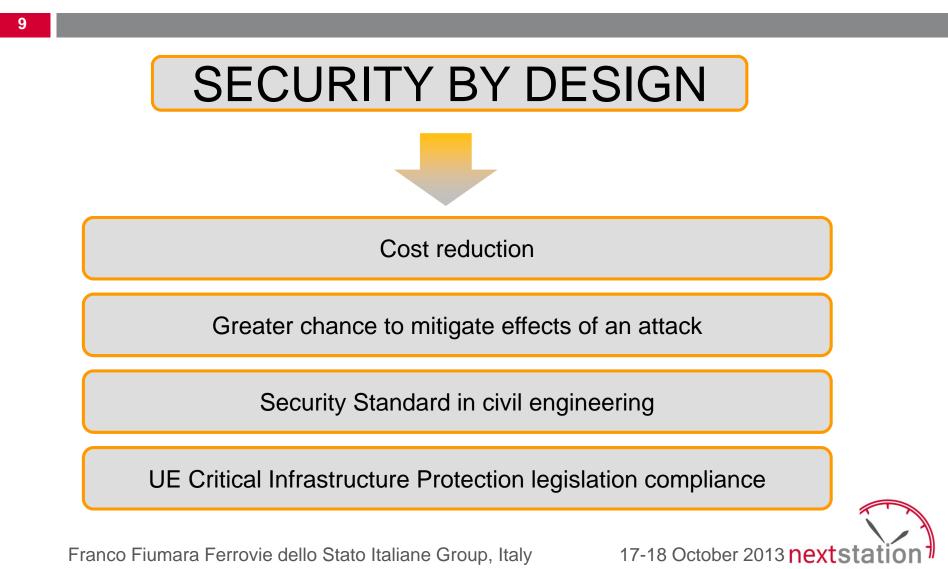
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WHERE / WHAT TO USE	ССТV	ACCESS CONTROL	INTRUSION DETECTION	SOS COLUMNS	PASSIVE PROTECTION
Sidewalks, subways, atrium, waiting rooms, ticket office and ticket self machines	х				x
Sensitive and technological premises and buildings	х	Х	х		х
Accesses and accessible windows in sensitive premises			Х		х
Atrium and sidewalks (only if Police is on duty 24hrs/day)	х			х	
External areas of the station	х				Х

<u>Procedures and staff training</u>: Emergency plans, and easily accessible procedures/Regular training program/E-learning/Joined emergency plans testing (Police, Fire brigades, Civil Protection)/Debriefing

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### The outcome



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### ...Thank you

for your kind attention

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