Vulnerability Assessment Tool and its Manual

TNO – Puck van den Brink

Manual EU VAT: Table of contents

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Introduction

Protection of public space against terrorism

WP2.1 Assessment Tool Training Package PRoTECT

Activities (by TNO & EFUS):

- Study & analysis of the DG HOME EU Vulnerability Assessment Tool
- Production of implementation manual

Deliverable:

- Manual for vulnerability assessment

WP2.2 – WP2.6 Workshops with five cities identifying their vulnerabilities

Security management and assessing vulnerabilities

- The cyclic process of developing and maintaining a security plan
- The security/audit inspection
- Risk assessment
- Vulnerabilities

Probability	Low	Med	High
Low	Low	Med	Med
Med	Med	Med	High
High	Med	High	High

Figure 1 - Example of a risk matrix

Soft targets

- Target: Attacking it will allow terrorist organisations to obtain their goals
- Soft: Relative to the threat. The target can be “hard” for pickpockets, but still be soft for terrorist attacks.
- What was once a hard target, can over time become a soft target because of changes in:
  - Modus operandi
  - Use of the asset
  - Security measures

Public space

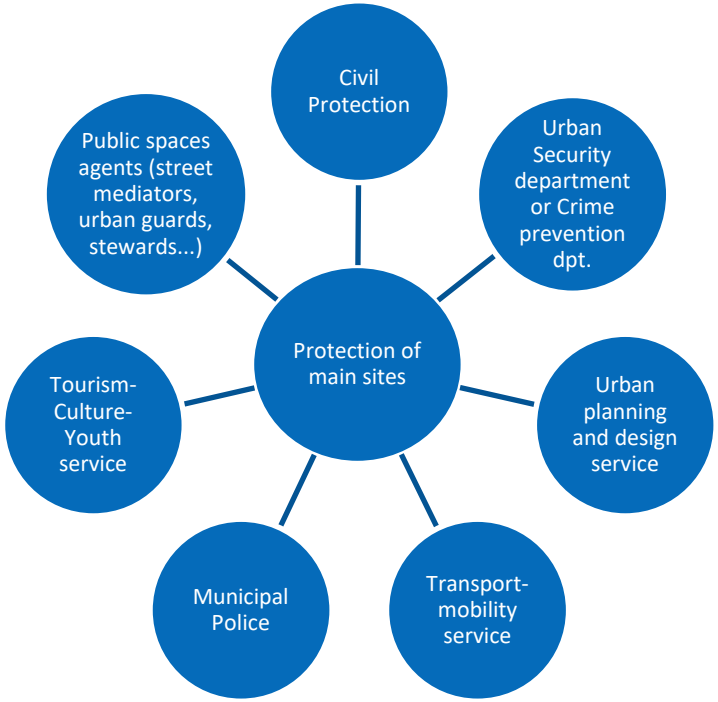
- … is a type of domain:
  - Public space (previous slide)
  - Private domain (shop, business office)
  - Personal domain (home, vehicle)
  - Intimate domain (body and mind)
  - Closed domain (government owned and partly closed, e.g. police station, jail)
- … could be privately owned (e.g. transport hubs, business venues, shopping area's)
- … is typically directly adjacent to privately owned space (e.g. a public shopping street)

➔ Expectation of privacy depends on the domain and the law

EU VAT: public space of Interest

Categories of main sites	
Category	Examples
Transport hubs	Train station, bus hub, underground metro stations, etcetera.
Squares	Squares were many events take place, are next to important buildings, have regular big markets, festivals, etcetera.
Shopping areas	Malls, main shopping street in city centre, etcetera.
Cultural venues	Concert hall, museum, monuments, sport events, stadiums, amusement parks, tourist sites, etcetera.
Business venues	Big hotels with meeting rooms, large offices, conference centres, etcetera.
Places of worship	Churches, mosques, etcetera.
Institutional venues	Public buildings, health buildings, education buildings, etcetera.

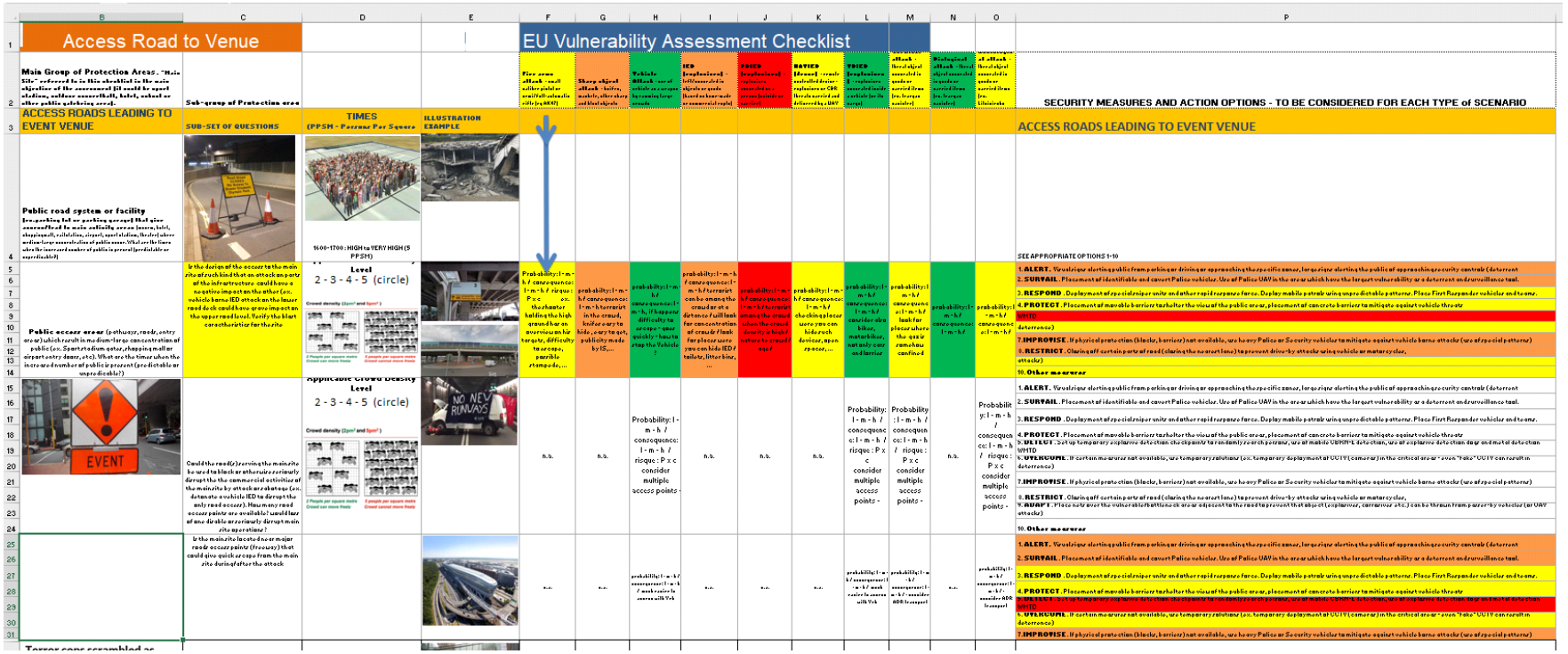
EU VAT Users: municipal services and stakeholders



Municipal services

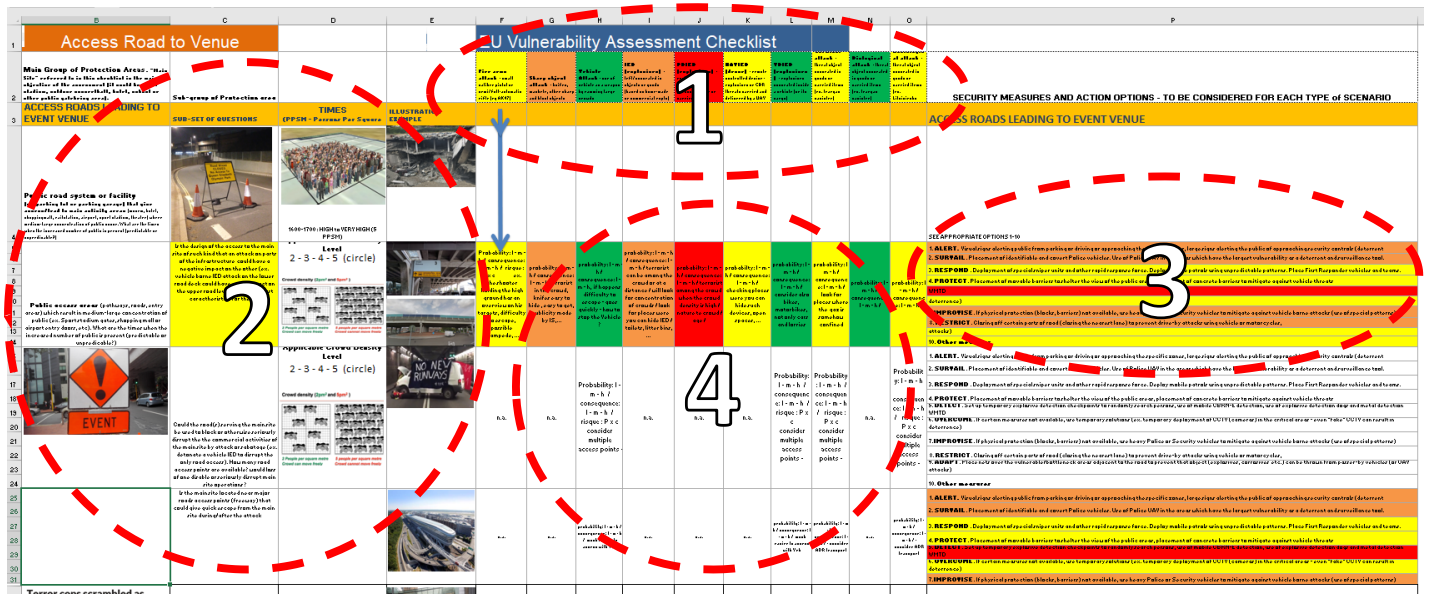
Key local stakeholders

EU VAT functionality

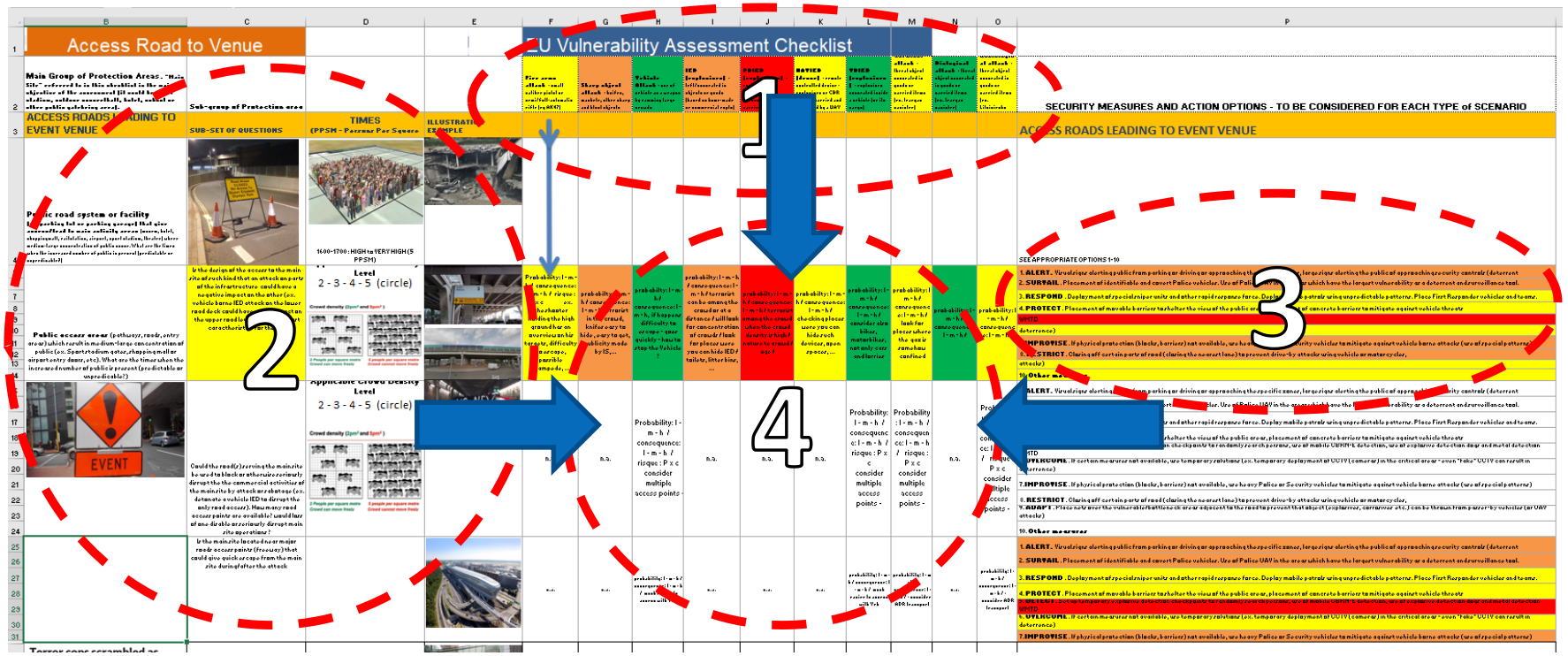


EU VAT functionality

- Decide which phase is relevant for the main site and each surrounding site (so the whole PSOI).
- Conceive viable attack scenarios from combinations of threat types (section 1), situations (section 2) and currently existing natural and emplaced security measures which have been classified to the measure types (section 3).
- Estimate the consequence and probability of each attack scenario following the assessment suggestions (section 4).



EU VAT functionality



Using the EU VAT: getting started

- Organisation: managing body decides on PSOI and establishes:
  - Information on organisation of the PSOI (governance, operations, maintenance, safety and security, communication, etcetera);
  - Place of security management;
  - Geographical boundaries of PSOI;
  - Stakeholders and their roles and responsibilities;
  - Project plans for the event(s), timelines, deadlines, etcetera;
  - Budget for security;
  - Risk evaluation criteria;
  - Map out the several sites of the PSOI (also who manages what).

EU VAT: mapping out Public Space of Interest (PSOI)

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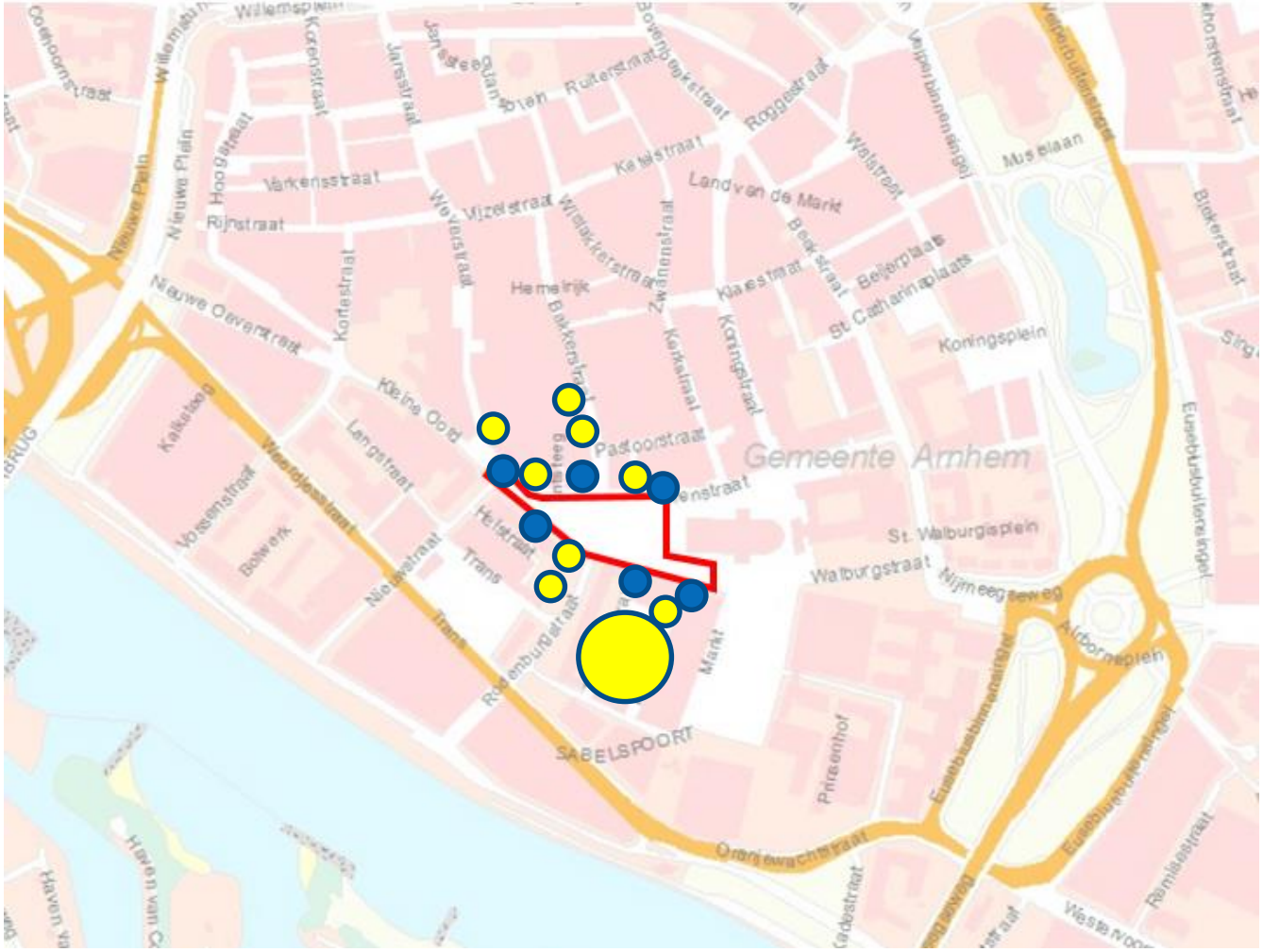
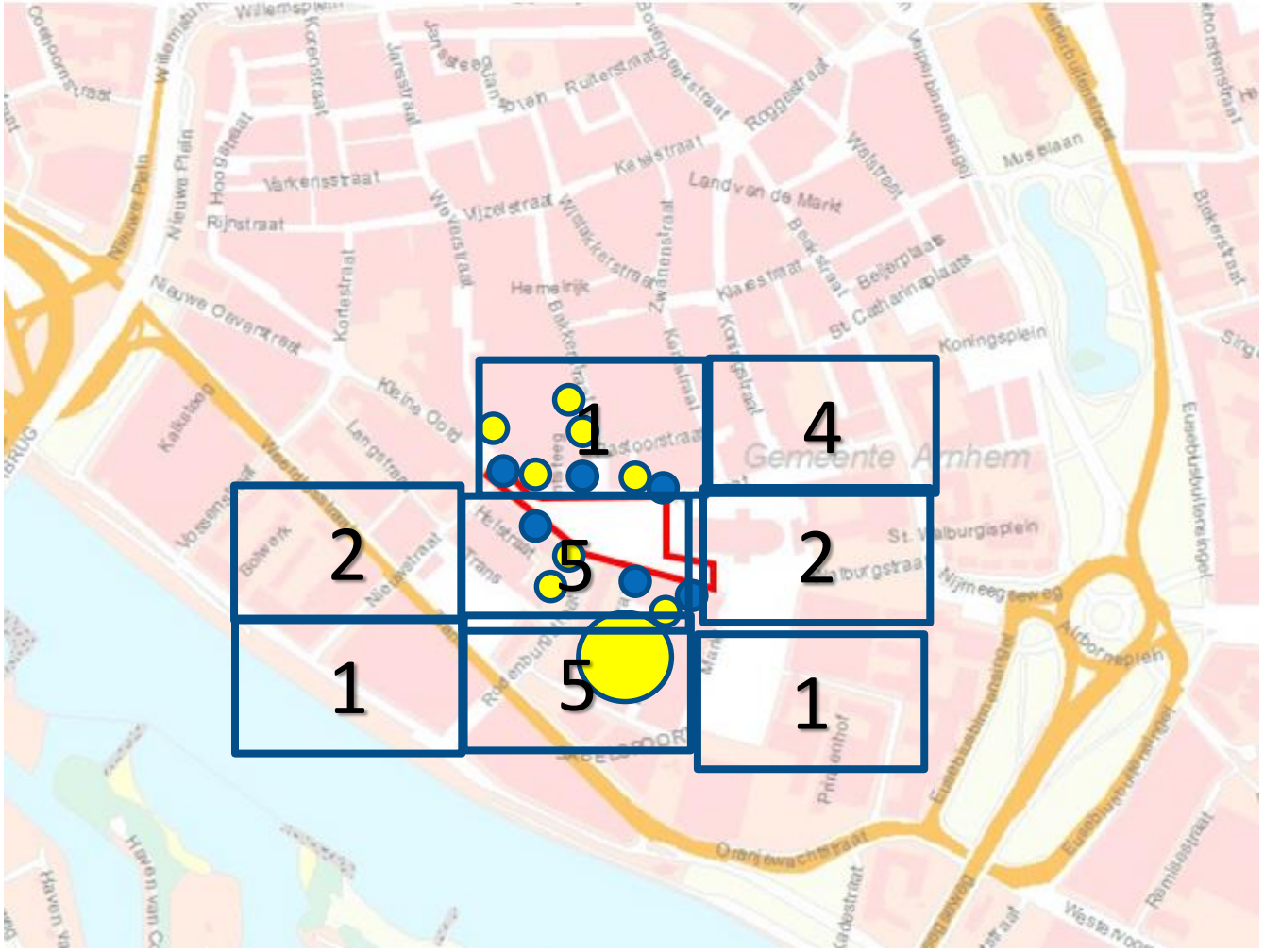


Phases / sites

- Phase 1: Access to the Venue
- Phase 2: Parking and Transport
- Phase 3: Approach to Venue
- Phase 4: Arrival at Venue
- Phase 5: Venue Security – No Access Control
- Phase 6: Venue Security – With Access Control

EU VAT: mapping out Public Space of Interest (PSOI)



Using the EU VAT

The team of experts

- Managing body creates a team of experts that has (access to):
  - Detailed knowledge of the PSOI's sites and activities;
  - Known (security) policies, current threats, threat scenario's, security plans, existing natural and emplaced measures;
  - Stakeholder preconditions and requirements.

Using the EU VAT

The work method

- Managing body should decide on a work method:
  - Decide and plan how the team of experts will conduct the vulnerability assessment;
  - Recommend forming a team/workgroup session;

- Please see 'Guidelines for the organization of a local workshop Vulnerability assessment'.

Using the EU VAT: assessing the PSOI

Record template

5 steps to assess the PSOI:

- Step 1: Characteristics of the site
- Step 2: Existing security measures
- Step 3: Scenario per threat type
- Step 4: Consequence and probability
- Step 5: Analysis and results

Using the EU VAT: record template

Main site		**Existing security measures (natural or emplaced)** [1]
Main site name/address:		1. Alert:
Activity:		2. Surveillance:
Dates and times of the Activity:		3. Respond:
		4. Protect:
Site being assessed (main/surr.)		
Surrounding site name/address:		5. Detect:
Phase: [2]		6. Overcome:
Expected crowd density:		7. Improvise:
		8. Restrict:
Vulnerability assessment		
Team members:		9. Adapt:
Date of assessment:		10. Other:

Scenario per threat type [3] **Description**	**Consequence** [4] **Description**	**Lev.**	**Probability** [5] **Description**	**Lev.**	**Risk Lev** [6]
1. Fire arms attack:					
2. Sharp object attack:					
3. Vehicle attack:					
4. IED (explosives):					
5. PBIED (explosives):					
6. UAVIED (drone):					
7. VBIED (explosives):					
8. Chemical attack:					
9. Biological attack:					

Using the EU VAT : step 1

Characteristics of the site

Main site
Main site name/address:
Activity:
Dates and times of the Activity:
Site being assessed (main/surr.)
Surrounding site name/address:
Phase: [2)]
Expected crowd density:
Vulnerability assessment
Team members:
Date of assessment:

Using the EU VAT : step 1

Main site
Main site name / address: Aemstelhage Church Square
Activity: Living, working, travelling and entertainment
Dates and times of the activity: Weekends and evenings
Site being assessed:
Surrounding site name / address: Area around large shop
Phase: 5 – Venue security no access control
Expected crowd density: 3-4 / m2
Vulnerability assessment:
Team members: Klaas Vaak, Sjaak Stoep, Haagsche Harry, Sietse Hielkema, …
Date of assessment: 1/3/2019

Using the EU VAT: step 2

Existing measures

Existing security measures (natural or emplaced) [1)]
1. Alert:
2. Surveillance:
3. Respond:
4. Protect:
5. Detect:
6. Overcome:
7. Improvise:
8. Restrict:
9. Adapt:
10. Other:

Using the EU VAT: step 2

Existing security measures (natural or emplaced):
1. Alert: Warn of covert and overt surveillance
2. Surveillance: Place police with bodycams
3. Response: Place first responder teams nearby
4. Protect: Elevate movable barriers
5. Detect: Use trained spotters to look for deviant behavior and known persons of interest
6. Overcome: Extra surveillance capacity is put in place during busy times
7. Improvise: If people gather beyond movable barriers, block roads with heavy vehicles
8: Restrict: Close of roads that are only useful for supplies during office hours
9: Adapt:
10: Other:

Using the EU VAT: step 3

Scenario's per threat type

Scenario per threat type [3] Description
1. Fire arms attack:
2. Sharp object attack:
3. Vehicle attack:
4. IED (explosives):
5. PBIED (explosives):
6. UAVIED (drone):
7. VBIED (explosives):
8. Chemical attack:
9. Biological attack:
10. Radiological attack:

Using the EU VAT: step 3

Scenario per threat type:
1. Fire arms: There is an unknown shooter that arrives on foot and starts shooting into the crowd.
2. Sharp object attack: …
3.
4.
5.
6.
7.
8.
9.
10.

Using the EU VAT: step 4

Consequence and probability

Risk level

Probability \ Consequence	Low	Med	High
Low	Low	Med	Med
Med	Med	Med	High
High	Med	High	High

Figure 1 - Example of a risk matrix

Consequence [4] Description	Lev.	Probability [5] Description	Lev.	Risk Lev [6]

Using the EU VAT: step 4

Threat x Scenario	Consequence	Probability	Risk
1. Fire arms: There is an unknown shooter that arrives on foot and starts shooting into the crowd.	People killed and / or wounded despite (High)	Medium	High
2. Sharp object attack: …			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Using the EU VAT: step 5

Analysis and results

Table 3: Overview of vulnerabilities of each site regarding each terrorist threat[1]										
	Fire arms attack	Sharp object attack	Vehicle attack	IED attack	PBIED attack	UAVIED attack	VBIED attack	Chemical attack	Biological Attack	Radiological attack
Site 1										
Site 2										
Site 3										
Site 4										

VAT Manual Test

EFUS

Vulnerability Assessments of PSOI – VA Manual Test

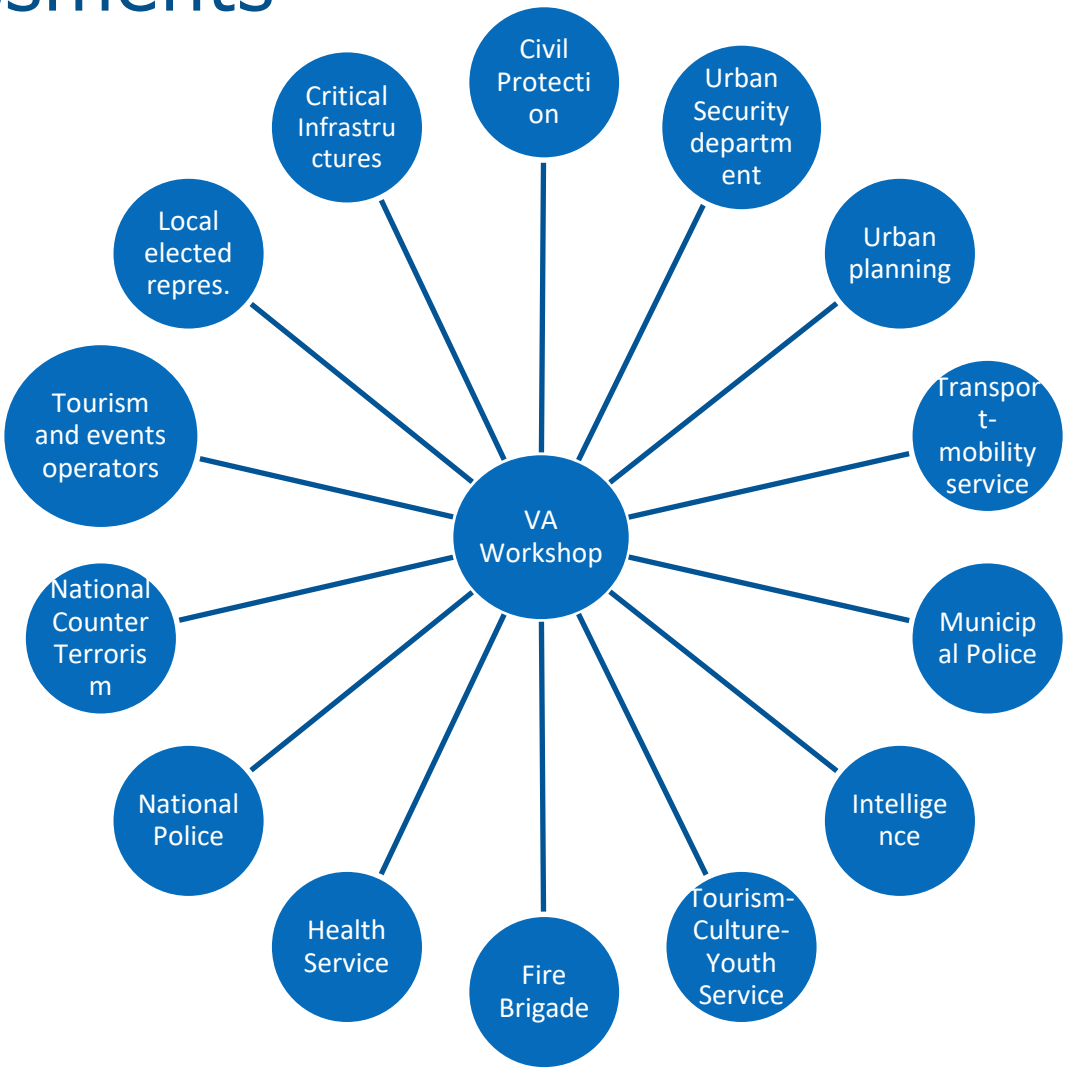
5 European cities:

- Vilnius
- Larissa
- Eindhoven
- Malaga
- Brasov

Categories of main sites	
18 Septemberplein-Main square (Eindhoven)	Surrounded by shops, bars and restaurants. Visited by many people, especially on weekends. Events: weekly market, while events and festivals occasionally take place.
City main market (Larissa)	Shopping area. Important characteristic → During this week more than 400 retailers are stationed with temporarily installed shops Events: The Pazari (Bazaar) of Larissa, one of the largest shopping festivals in Greece. High concentration of people.
Main city square (Vilnius)	Surrounded by many public buildings, Academy of Music, Theaters, Churches, Hospitals, etc.. gathering more than half a million of visitors over one weekend Events: more than 100 political and cultural events throughout the year.
Ferias and congress centre (Malaga)	Event: Summer Festival- Feria de Malaga, 10 days, free access
Main city square (Brasov)	Event: surrounded by museums, public buildings, bars, and restaurants

Vulnerability Assessments workshops

Managing body : members from the Municipality and members from the Ministry of the Interior/National Police or expert organisation



Participants from different fields of expertise cooperated throughout the assessment.

Main results and lessons learned

The VA helps municipalities to identify the vulnerabilities in the security strategy of a PSOI and to identify the risks that should be considered realistic threats. Also the VA process helps them to identify and design measures for future improvement of the security of such spaces.

The VA has also allowed the municipalities to…

- identify the gap of information between the municipal staff and the different practitioners regarding the security plan of the PSOI and the existing security measures.
- improve their communication culture and share technical and security information regarding the protection of soft targets. In many of the cases, it was the first time they had sat down together to assess the vulnerabilities and the impact of terrorism threats.
- involve actors who are not usually in charge of the security of public spaces but who can play a role in protection (retailers, tourisms operator, rentals operators…).
- realise the need to improve/create channels of communication and coordination with national-level LEAs and security agencies that provide them with counter-terrorism expertise.

Recommendations to the EU

- Consider relevant information/advice when assessing a PSOI of a terrorist threats.
- The tool in the state in which it was provided was not user-friendly enough for actors who have no experience in counter terrorism.
- The manual was key to help them understand the use and aim of the VAT. Without the manual, platform or app-driven approach would be needed.
- Support Local authorities in the adoption of the tool through training, and provide them with more detailed information in the manual, especially in determining the level of risk .
- Foster the operability of cooperation between the actors in charge of security at the local level, and national agencies with expertise in counter-terrorism and intelligence
- VA was successfully conducted in the 5 municipalities. All participants agreed that VAT and its manual are valuable and some of them will consider to use them to assess other PSOIs.

End of presentation

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