



International Association of Public Transport
Union Internationale des Transports Publics
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Unión Internacional de Transporte Público



CUTA
ACTU

CANADIAN URBAN TRANSIT ASSOCIATION
ASSOCIATION CANADIENNE DU TRANSPORT URBAIN

*Awareness Raising &
Competence Building
of PT Staff in Countering
Terrorism & Serious Crime*

Joint UITP-
CUTA
International
Security
Conference

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Connecting the world of public transport

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V-SICMA within the National Security Research Programme

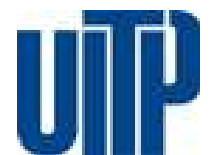
Awareness Raising and Competence Building of Public Transport Staff

in Countering Terrorism and Serious Crime
by Creating Virtual Realities in Interactive,
Serious, 3D-Gaming

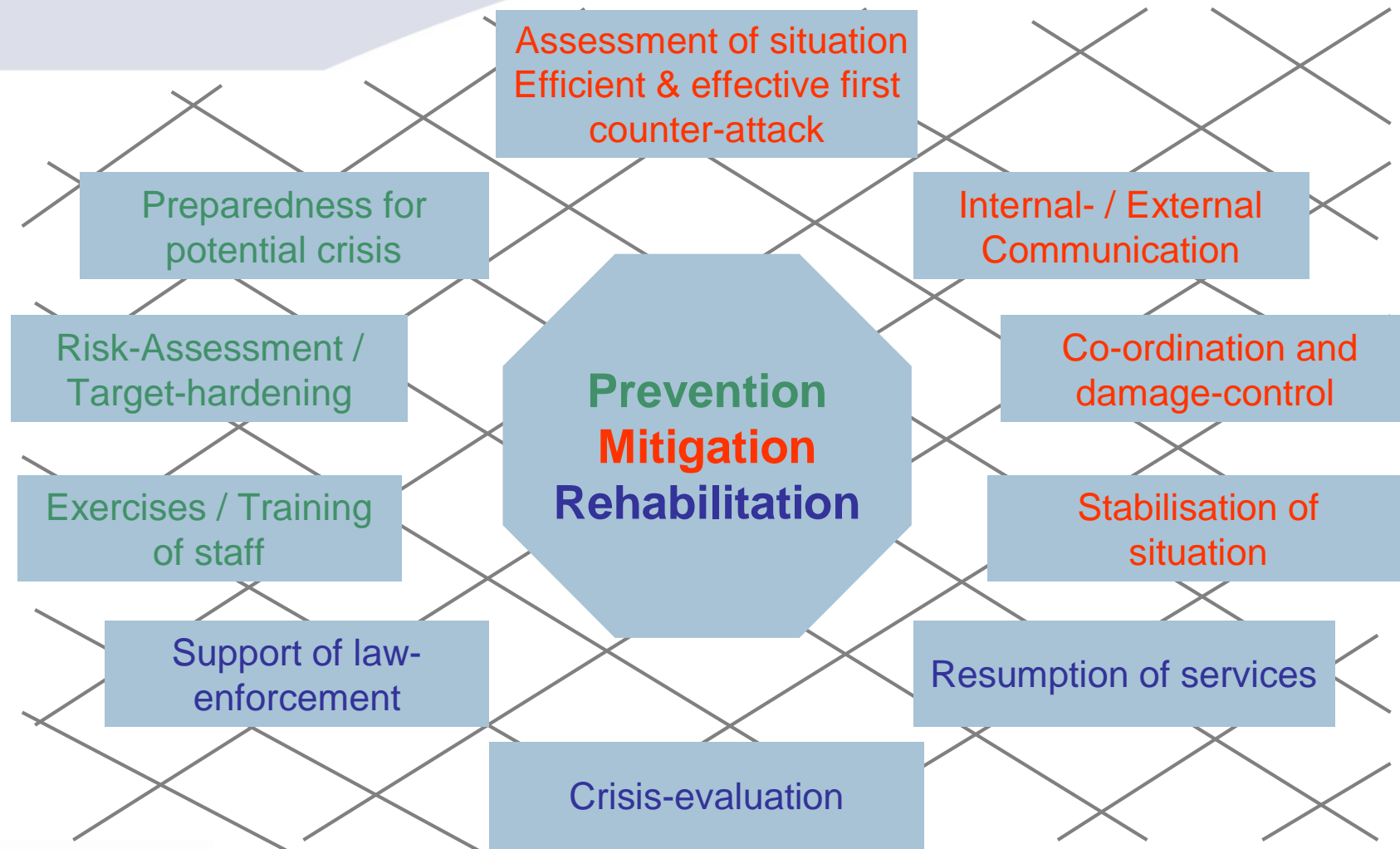
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and Research



PT-operations do carry extensive responsibilities in all phases: prevention – mitigation - rehabilitation



Findings of the Transit Cooperative Research Program (1/2)

TCRP Synthesis 80; Transit Cooperative Research Program sponsored by the US Federal Transit Administration, 2009

Survey findings:

- Among the **five most effective measures** for counter-terrorism is **Security Training for Transit Employees...**
- **Greatest obstacle** reported in survey: “...by far the lack of resources...”

Findings of the Transit Cooperative Research Program (2/2)

Identified research needs:

- **Training**

“...the lack of ample security training sources and materials (...) is a concern...”

- **Simulation**

“This alternative training (...) tool provides a realistic but safe three-dimensional virtual reality setting in which employees may be trained and assessed...”



Obvious needs and determining framework

- PT operations employ high numbers of staff. They have to train their staff in many topics with increasingly restricted resources and time
- Especially for small and medium-sized PT-operators the main focus of staff training is safety, not security
- Only few recommendations / standards regarding security training exist

Desired Security Training

- Due to increasing threats (violent crime, terrorist attacks) many German operators enhance their security-related training
- Topics include:
 - Perception of threats
 - Reaction to critical situations
 - Crisis management (internal, external)
 - Juridical and behavioural background information

Target Audiences

- Security Training
 - Drivers + Supervisors
 - Control Centre Staff + Station Attendants
 - Security Staff
 - Ticket Inspectors
 - Crisis Teams

- Awareness raising
 - Cleaning Staff
 - Technicians
 - Shop Owners

Important Issues for Security Training

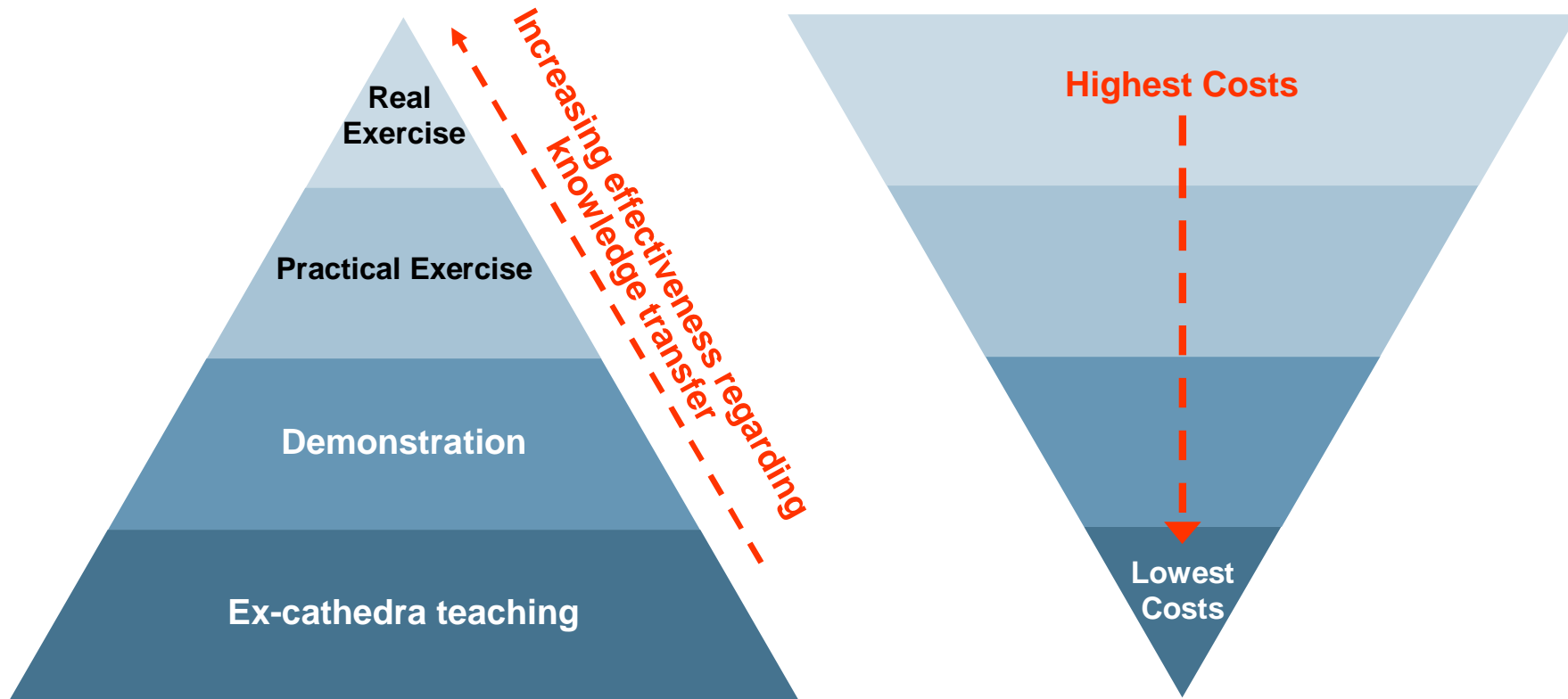
- Realistic scenarios (in typical environment)
- Practical experience
- Interactive training
- Joint action of different departments (operations, security, technical department)
- Joint action with police, fire department, first responders etc.

Learning methods

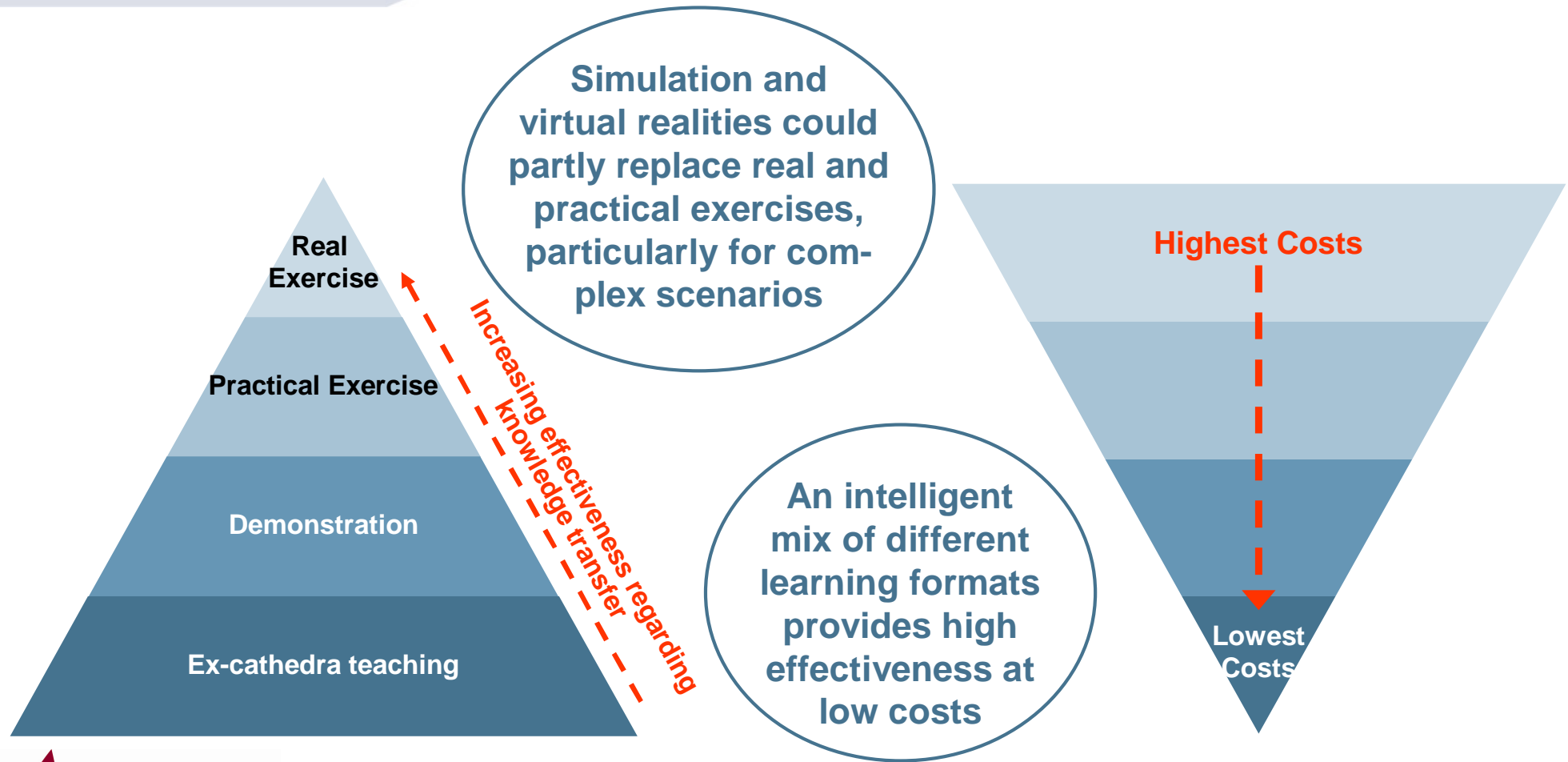
Typical trainings consist of conventional teaching-formats due to budget restraints



Effectiveness and costs of learning methods



Virtual realities increase learning-effectiveness at minimised costs



IABG simulations for training of military personnel and other sectors



IABG simulations for training of military personnel and other sectors



IABG

- Behaviour models
- 3D modelling
- Simulation technology

Hamburger Hochbahn Wache

- Security expertise in PT
- Training

Checklist

-
-
-
-

DB Sicherheit

Kölner
Verkehrsbetriebe

Münchner
Verkehrsgesellschaft

Rhein-Neckar Verkehr
GmbH

Hamburger Hochbahn AG

PT Operators

- Requirements of PT-operators
- Training
- Evaluation

Hamburg-Consult

- Current State Analysis
- Training contents & methods
- Evaluation

Verein für
Sozialwissenschaftliche
Forschung & Beratung
Sociological analysis

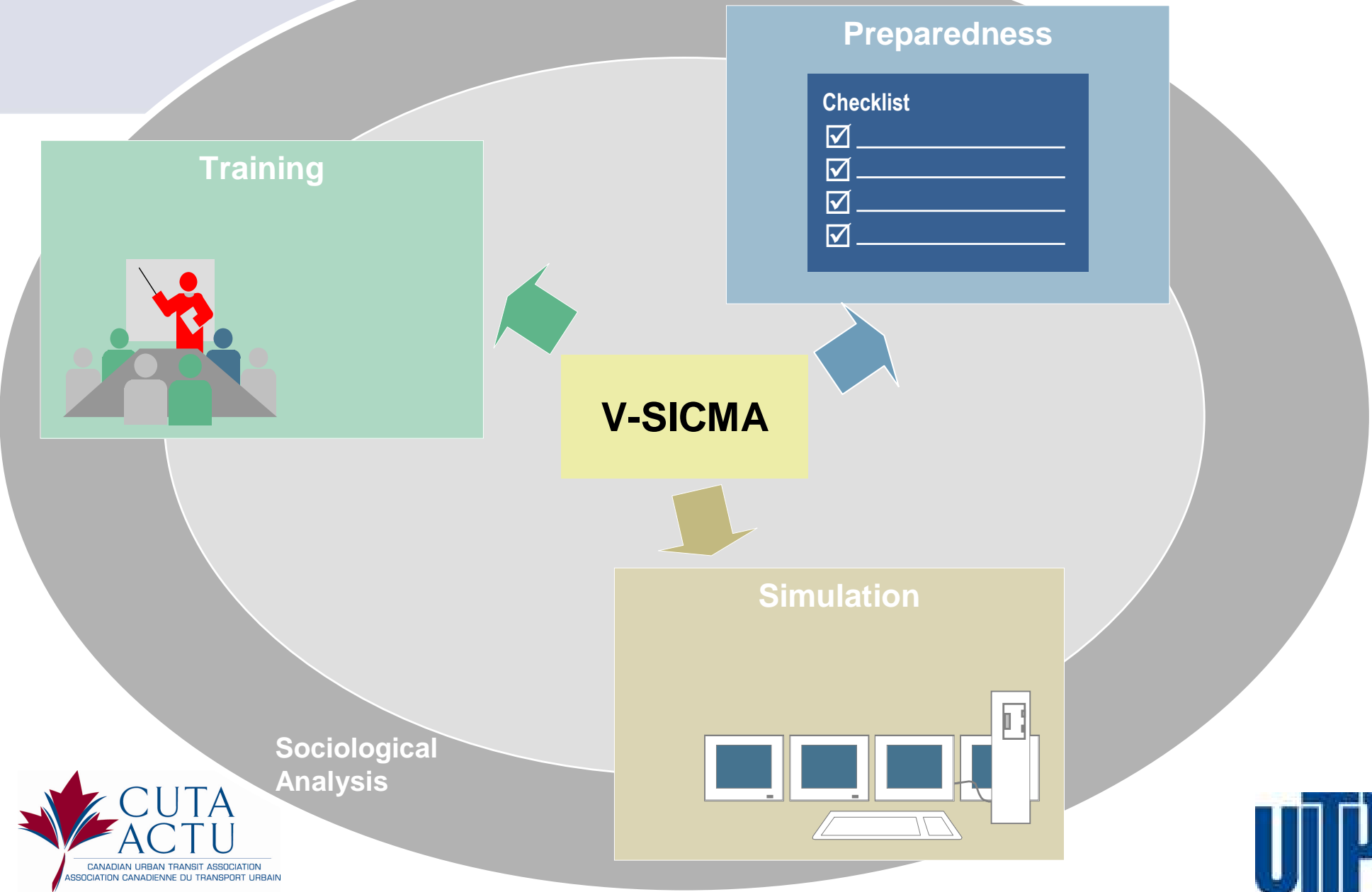
Law Enforcement

- Police expertise & requirements
- Crisis management

Dimensions of the research project

- Psychology and behavioural science
- Information technology and educational science
- Security research
- Public transportation
- Social science

Outcome



Conclusions

PT is among the most vulnerable critical infrastructures

PT staff carry comprehensive responsibilities in all phases

Security training for PT employees is urgently needed

Prohibitive costs for most effective security-trainings are a major obstacle for many PT operators

Virtual realities / simulation can solve this dilemma

V-SICMA produces a demonstration for such an innovative technological solution

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