IMPACT project
DeepBlue

Rome, 17 June 2015
The IMPACT project

- Title: Impact of Cultural aspects in the management of emergencies in public Transport
- Topic: DRS-21-2014 “Ethical/Societal Dimension topic 2: Better understanding the links between culture, risk perception and disaster management”
- Coordination and Support Action
- 8 partners from 6 Countries involved
- Budget: € 1.398.912,50
- Starting: 1 May 2015
- Duration: 30 months
The IMPACT Consortium

The IMPACT Consortium gathers a wide range of expertise, comprising 8 partners from 6 Countries:

- 2 SMEs (Deep Blue – IT and PROPRS – UK),
- 4 Universities (University of Leeds – UK, Free University Amsterdam – NL, International University College – BG, Anadolu University and Airport – TK),
- 1 Railway Undertaking (Nuovo Trasporto Viaggiatori – IT),
- 1 Maritime Administration (Maritime Office Gdynia – PL).
The IMPACT project

- **Transports hubs** are central parts of modern cities and the cornerstone of a future **completely multicultural** civic life.
- Transport hubs are very crowded environments in which many **safety** events may arise, from accidents to fire and disruptions.
- Due to their "open nature" and strategic relevance, public transport hubs are considered a major potential target for **terrorists** and **attackers**.
- **Culture** clearly plays a role in managing safety- and security-related **emergencies** in transport systems.
- IMPACT will contribute to “**better understanding the links between culture, risk perception, disaster prevention and management** in transport hubs”.
Objectives

- **Objective 1**: analyse the different cultural behaviours for the **prevention of emergencies** (preparedness) with particular emphasis on:
  - **Objective 1.1**: risk and situational awareness perception of the different cultural groups
  - **Objective 1.2**: preventive information to passengers provision
  - **Objective 1.3**: cooperation towards prevention of security threats
  - **Objective 1.4**: security checks, including physical inspections

- **Objective 2**: analyse the different cultural behaviours for the **management of emergency** events and the post-events with particular emphasis on:
  - **Objective 2.1**: enhanced crowd modelling and management
  - **Objective 2.2**: management of first responders to care for different cultural groups
  - **Objective 2.3**: provision of emergency information to passengers
Cultural Behaviour in Emergencies

Culture has an influence on some key factors related to personal and collective behaviour in emergency prevention and management.

## Cultural aspects influencing IMPACT’s objectives:

<table>
<thead>
<tr>
<th>Objective</th>
<th>Influencing Cultural Factors</th>
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<tbody>
<tr>
<td><strong>Objective 1.1:</strong> risk and situational awareness perception of the different cultural groups</td>
<td>Age, level of scholarship, religion, nationality</td>
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<tr>
<td><strong>Objective 1.2:</strong> preventive information to passengers provision</td>
<td>Language, proxemics, age, level of scholarship, disabilities</td>
</tr>
<tr>
<td><strong>Objective 1.3:</strong> cooperation towards prevention of security threats</td>
<td>Language, religion, level of scholarship and other cultural barriers</td>
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<td><strong>Objective 1.4:</strong> security checks, including physical inspections</td>
<td>Religion, level of scholarship and gender</td>
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<tr>
<td><strong>Objective 2.1:</strong> enhanced crowd modelling and management</td>
<td>Language, gestures, religion, nationality, age, level of scholarship, gender, contextual factors (such as travelling with family or friends, for business, etc.)</td>
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<td><strong>Objective 2.2:</strong> management of first responders to care for different cultural groups (focusing on religion and gender, religion and health care – e.g. blood transfusion and Jehovah’s Witnesses, social condition – e.g. triage areas and illegal immigrants)</td>
<td>Religion and gender, religion and healthcare, social condition – e.g. triage areas and illegal immigrants)</td>
</tr>
<tr>
<td><strong>Objective 2.3:</strong> emergency information to passengers provision</td>
<td>Language, gestures, age, level of scholarship, disabilities</td>
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IMPACT Expected Outcomes

- **Outcome 1**: to produce a cultural risk assessment methodology and the associated mitigation actions for the public transport hub sector.
- **Outcome 2**: to develop agent-based computational models to simulate and validate cultural behaviours models and cultural-specific communication solutions.
- **Outcome 3**: to identify innovative solutions that can support public transport operators in improving the communication with passengers through dedicated messages to the different cultural groups and other solutions to enhance the management of emergencies considering cultural aspects.
- **Outcome 4**: to develop dedicated multi-lingual Computer-Based Training (CBT) material and procedures for both public transport operators and first responders.
- **Outcome 5**: to develop and disseminate best practices and policy recommendations for policy makers, regulators, municipalities and public transport operators.
IMPACT Expected Outcomes

- Cultural risk assessment methodology and mitigation actions
- Agent-based modelling and simulation of cultural behaviours and emergency communication
- Culture-specific emergency communication solutions
- Multi-lingual training material and procedures for cultural emergency preparedness and management
- Best practices and policy recommendations
The IMPACT Framework

1. Theoretical framework for cross-cultural risk prevention and emergency management in the transport domain
   - Cross-cultural behavior theory
   - Psycho-social crowd behavior theory

2. Supporting measures
   - Cultural risk assessment
   - Cultural based emergency communication
   - Cultural based training for security operators and first responders
     - Methodologies
     - ICT tools
     - Guidelines
     - Training packages
     - Simulation environment

3. Coordination initiatives
   - Events with transport stakeholders
     - Workshops
   - Meetings with regulators and policy makers
   - Transfer of knowledge to other domains

ICT Validation model
Agent-based computational model, application to impact tools and methodologies
Agent-based computational model design and analysis
ICT simulation model
**IMPACT WPs**

- WP1 Cultural Crowd Characterization and Theoretical framework (UOL, M1-M18)
- WP2 Behavioural Modelling, Simulations and Results (VU, M9-M24)
- WP3 Cultural Risk Assessment (PRO, M7-M27)
- WP4 Emergency Communication (VU, M7-M27)
- WP5 Cultural-based Training Framework (DBL, M7-M27)
- WP6 Coordination Measures (AU, M13-M30)
- WP7 Dissemination, Communication and Exploitation (DBL, M1-M30)
- WP8 Project Management (DBL, M1-M30)
IMPACT WP Structure
**The IMPACT External Stakeholders Group**

- Steer and review project activities:
  - Support the identification of relevant issues and definition of emergency scenarios
  - Evaluate and assess IMPACT Supporting Measures
  - Support the dissemination and adoption of IMPACT outcomes in the domain

- 3 Workshops: M6 (7), M18, M30
- 2-3 Additional Meetings/Conference Calls
- Reimbursed for travel and subsistence expenses
Thank you for your attention