PROJECT

BEMOSA

Behavioral Modeling for Security in Airports

**Funding:** European (7th RTD Framework Programme)
**Duration:** Sep 2009 - Nov 2012
**Status:** Complete with results
**Total project cost:** €4,235,967
**EU contribution:** €3,399,934

**Call for proposal:** FP7-AAT-2008-RTD-1
**CORDIS RCN:** 92888

**Background & policy context:**
Eliminating and mitigating threats to air traffic is one of the main objectives of the global air transport system. Ever since '9/11', huge investments have been made in order to increase airport security, by both the public and private sectors. These expenses put the profit margin of the airports under pressure and increase the cost of air traffic. The additional security measures have led to an increased time at checkpoints. This puts a strain on the overall efficiency.

The combined security and economic pressures make it imperative to leverage any investment in airport security as efficient as possible. BEMOSA will contribute significantly to this objective by focusing on the human factors involved in the security process.

**Objectives:**
The aim is to improve security in airports. This is done by enhancing the capability of airport authority personnel to correctly detect potential security hazards, and to provide them with:

- Increased security;
- Reduced false alarms;
- Improved profitability.

The BEMOSA project improves the way in which airports learn from experience, revising and updating their safety and security skills and procedures. Its end-product will be a tailored training programme for airports' staff, based upon a behaviour model, reflecting the complex reality in airports.

**Methodology:**
BEMOSA will contribute significantly to the objective of eliminating hazards of hostile action in the air transport system. To do so it will develop a dynamic and realistic model of social behaviour and security decision making during security threats in airports. These objectives will be accompanied by advancing the state-of-the art in behavioural modelling by direct, multi-faceted observations of group behaviour and creating a dynamic and realistic model of social behaviour during airport security threats.

By examining airports throughout Europe and focusing on key decision making groups such as control tower operators, security employees, service vendors and passengers, BEMOSA will deliver the basis for a comprehensive and practical training program that considers all the airport security stakeholders. Advanced software simulations that will help to capture and predict social behaviour under stressful emergencies, will provide the platform for the training modules and training packages that can be readily and at minimum cost applied to airports across Europe. This collaborative project involves a consortium of academic, SME and airport end users with extensive expertise in social and behaviour sciences, aviation and security.

All are dedicated to modelling airport security decisions whose impact on the maintenance of airport operational continuity is vital. Advancing the of state-of-the art research will lead to increased efficiency
of air transportation by decreasing false alarms, increased safety through training and increased coordination for all stakeholders in cases of emergency and security threat. These objectives will be accomplished in a series of coordinated work packages designed so that all partners will participate in a balanced way thereby assuring BEMOSA objectives are achieved.

**Parent Programmes:**
FP7-TRANSPORT - Transport (Including Aeronautics) - Horizontal activities for implementation of the transport programme (TPT)

**Institute type:** Public institution

**Institute name:** The European Commission

**Funding type:** Public (EU)

**Lead Organisation:**

**Technion - Israel Institute Of Technology**

**Address:**
Senate Building Technion City
Haifa 32000
Israel

**EU Contribution:** €541,128

**Partner Organisations:**

**Deep Blue Srl**

**Address:**
Via Ennio Quirino Visconti 8
193 Roma
Italy

**EU Contribution:** €343,600

**Helios**

**Address:**
Hercules Way, Aerospace Boulevard, Aeropark 29
Farnborough
-GU14 6UU
United Kingdom

**Organisation Website:**
http://www.askhelios.com

**EU Contribution:** €191,138

**B&m Internets, S.r.o.**

**Address:**
Vinohrady 45
63900 Brno
Czech Republic

**EU Contribution:** €423,340

**Letiste Brno A.s.**

**Address:**
Letiste Brno-Turany
62700 Brno
Czech Republic
<table>
<thead>
<tr>
<th>Organisation</th>
<th>EU Contribution</th>
<th>Address</th>
<th>Organisation Website</th>
</tr>
</thead>
</table>
| Use2Aces Bv  | €120,796  | Houtsnip 2  
1902 KK Castricum  
Netherlands |  |
| Zilinska Univerzita V Zilina | €255,694  | Univerzitha 821  
1026 Zilina  
Slovakia | [http://www.uniza.sk](http://www.uniza.sk) |
| Fundacion Cartif | €63,300 | PQ TECNOLOGICO BOECILLO 205  
47151 BOECILLO  
Spain | [http://www.cartif.es](http://www.cartif.es) |
| Universita Degli Studi Di Modena E Reggio Emilia | €311,158  | VIA UNIVERSITA 4  
41121 MODENA  
Italy | [http://www.unimore.it](http://www.unimore.it) |
| Avitronics Research | €319,601 | Rizountos 53  
16777 Hellinikon  
Greece |  |
| Technische Universiteit Delft | €616,580  | STEVINWEG 1  
2628 CN DELFT  
Netherlands |  |
Organisation Website: http://www.tudelft.nl
EU Contribution: €213,599

Technologies:
Unclassified
Non-technology

Key Results:
Preliminary Results:
- Protocols and procedures can be bypassed, adapted or broken if required by the specific situation.
- Security related decisions are group based.
- Security decisions in non-routine are likely to occur outside the administrative protocols.
- A dense network based on friendships and cooperation exists outside the airport administrative framework.
- Three quarters of the responders have never faced a real security threat.

Transport mode: Air transport
Transport sectors: Passenger transport
Transport policies: Safety/Security
Geo-spatial type: Infrastructure Node