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- European Union Security Research Programmes
- European Union Aviation Security Research
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- The way forward (next steps)
Re-enforcement of Aviation Security
‘9/11’ mapped onto some cross border States
Countries/states responsible for National Security...

ECAC (42)

JAA (39)
* candidates

Armenia *

Bosnia H.
Albania *
Bulgaria
Croatia
FYROM *

Moldova *
Romania

Norway
Switzerland
Iceland

Estonia
Latvia
Lithuania

Belgium
Denmark
Finland
Germany
Ireland
Italy

Austria
France
Greece
Spain

Malta
Netherlands
Poland
Slovak Rep.
Slovenia
Sweden
U.K.

Hungary
Luxembourg
Portugal
Cyprus
Czech Rep.

Azerbaijan
Georgia

GASR (21)

EUROCONTROL (35)

EASA (28)
The mission of the GoP is to help establish a vision on a secure Europe, and to enhance the European industrial potential in the field of security research for the protection of the European citizen.

The report outlined 12 recommendations, including:

- Coordinate national, governmental, and community RTD efforts
- Bridge the gap between civil and defence security research
- European Security Research Program (ESRP) of 250 M€ per year
EU Aeronautics: Improving Aircraft Safety and Security

Research objectives

- Reduce accident rate by 50% (80%) in the short (long) term
- Reach 100% capability to avoid or recover from human error
- Mitigate results of survivable accidents
- Reduce to zero hazards of on board hostile actions (in-flight)

Safety and Security have been clustered, into a Specific Research Area for improving aircraft safety and security.
European Security Research

- Preparatory Action Security Research, 65 MEuro (3 years)
- European Security Research Programme, 250 MEuro per year
- DG- TREN: Network for Security of Transport and Energy
- DG – RTD Aeronautics : Improving Aircraft Safety & Security
- NATO/Eurocontrol ATM Security Strategy and activities
EU PASR: Preparatory Action for Security Research

A Commission immediate response to requests from the European Council, the European Parliament and the European Industry

A Commission contribution to the wider EU agenda to address challenges & threats set out in the European Security Strategy

An initiative outside the 6th EU RTD Framework Programme

Broad comprehensive security concept going beyond military aspects and security of States with focus on the security of EU citizens

Multidisciplinary and multi-sectoral with a European dimension and Community added value and a mission-oriented approach
EU PASR: Preparatory Action for Security Research

Proposed projects should be mission-oriented and should lead to tangible results. 5 Priority areas have been defined:

- Improving situation awareness
- Optimising security and protection of networked systems
- Protection against terrorism
- Enhancing crisis management
- Achieving interoperability and integrated systems for information and communication

Total EU funding of 65 MEuro from 2004 - 2006
PASR 2004: 7 Projects (and supporting activities)

TERASEC: detection of hidden weapons and explosives
IMPACT: integrated European CBRN technological capabilities
CRIMSON: crisis management system
SUPHICE: on-demand secure communications provision
ASTRO+: integration of earth and space observation to support security operations
ISCAPS: surveillance of crowded areas exposed to terrorist attacks
VITA: protection of critical infrastructures – methods and scenario demonstration on energy
**EU PASR**

**PASR 2005: 8 Projects (and supporting activities)**

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
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<tbody>
<tr>
<td>TRIPS</td>
<td>improvement of the protection of rail passengers</td>
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<tr>
<td>SOBCAH</td>
<td>safer European borders through surveillance across Europe</td>
</tr>
<tr>
<td>ROBIN</td>
<td>securing computers linked to networks</td>
</tr>
<tr>
<td>PROBANT</td>
<td>people real-time observation inside buildings</td>
</tr>
<tr>
<td>HiTS/ISAC</td>
<td>highway to secured interoperability of intelligence services</td>
</tr>
<tr>
<td>MARIUS</td>
<td>more rapid and efficient crisis management</td>
</tr>
<tr>
<td>PALMA</td>
<td>protection of airliners against MANPADS attacks</td>
</tr>
<tr>
<td>PATIN</td>
<td>protection of air transportation and infrastructure</td>
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</table>
European Aviation Security Context

- The EU Common Foreign & Security Policy (CSFP), in which the European Security and Defence Policy (ESDP) is being developed

- ICAO Aviation Security recommendations & requirements
  - Annex 17, Doc 9873 (*restricted*), Doc 9811 (*restricted*)
  - Supplemented by national security legislation and procedures
  - Supplemented by airlines security manuals

- ECAC Security regulations (focusing on airport environment)
  - ECAC Doc 30 (to be incorporated in EU security regulation)

- Single European Sky security regulation initiates development Security Management Systems, to be implemented by ANSPs

- NATO/Eurocontrol ATM Security Coordination Group (NEASCOG) provides the European ATM Security Strategy
PATIN: Protection of Air Transportation and Infrastructure

THREAT ANALYSIS & SECURITY CASE

PROTECTION TECHNOLOGY ASSESSMENT

NETCENTRIC PROTECTION CONCEPT

PATIN PROTECTION EXERCISES

MISSILE ATTACK

CBRN ATTACK

MISUSED A/C

PATIN SECURITY ROADMAP
BSUAV: Border Surveillance using UAVs

BSUAV is a Supporting Activity for the potential contribution of UAVs to peacetime security on European borders

**BSUAV PERIMETER**
- Terrorist attack from a speedboat in a EU harbour
- Surveillance of sea transports fairways in Baltic seas
- Drug smuggling in Adriatic
- Night arrival of immigrants on Mediterranean shores
- Illegal border crossing in Eastern forests

**UAV AREAS OF USE**
- Sea Pollution control
- Forest fire surveillance
Roles and responsibility (JAR-OPS 1.085)

- **Role:** “The Pilot has the authority to give all commands deemed necessary for securing the safety of the aeroplane and all persons carried therein.”
- **Responsibility:** “The Pilot is responsible for the safe operation of the aircraft and for the safety of the aircraft and its occupants during the flight.”
The aim of SAFEE is to ensure a fully secure flight from departure to arrival destination, whatever threats and/or terrorist actions might occur. SAFEE has 5 key activities:

- On-board Threat Detection System (Airbus)
- Threat Assessment and Response Management System (BAE S)
- Flight protection and automatic safe landing (Thales)
- Data protection (SAGEM)
- Security evaluation (threat assessment, operational concept, validation approach, economic analysis, training) (NLR)
MATISSE: Maximizing Traffic Awareness for Airport Safety & Security

To reduce the risk of hostile or accidental collision of aircraft by non cooperative small aircraft (in the airport environment)
COUNTERACT creates a common security platform to stimulate networking between user organisations. The 3 clusters are:

- Public passenger transport
- Inter-modal Freight Transport
- Energy
Strategic Objectives focus on the following actions:

- Civil-military radar data sharing
- ATM Security systems for crisis management
- Communications for encryption and transmission of aircraft voice and video information
- ATM Security Training and procedures
EUROCONTROL: ATM Security Strategy

- States that recent terrorist activities have led to ATM related security issues assuming greater importance

- Identifies the NEASCOG’ Four Strategic Initiatives

- States that while security remains a State responsibility, ATM must be able to assist the appropriate authorities where possible

- States that the ATM network shall satisfy national security as well as national and international Defence requirements

- *Specific objective:* “Determination of effective mechanisms and procedures to enhance the response of ATM to security threats affecting flights (aircraft and passengers) or the ATM system”
Objectives ERRIDS:
European Regional Renegade Information Distribution

Info to all organizations involved in response to unlawful acts

Support civil/military authorities in decision making

Interoperable with/complementary to existing (inter) national systems

Release of info on a need to know basis (source /owner decides)

Low cost basis (secure internet connection, off the shell systems)
ERRIDS: European Regional Renegade Information Distribution

- NATO NC3A RAP (Validation Phase)
- NATO SITCEN & SHAPE (Network Mngt, Certificates)
- Air Defence Centres
- National Governmental Authorities
- Civ/Mil ATC Centres
- Airline Operations Centres
- Airports
- CFMU (Air Situation, Flight Plans, Network Mngt)
- Secure IP-V6 Network & Common Encrypted Data
- US Homeland Defence (TBD)
- EUROPOL
- Military chain of command
Basic functions ERRIDS actors

- National Governmental authority
  - Decision maker, threat assessment

- Air Defense / NATO
  - Renegade action, QRA

- Air Traffic Control (Civil / Military)
  - Initial alert, maximum (Nav) support

- Airline Operations Center
  - Flight info, support to captain

- Intelligence services (nat / internat)
  - Pre flight, in-flight, alert phase

- Airport security management/police forces
  - Negotiations, intervention, bomb alarm
ERRIDS Trials (with airlines) in 2005

23 August: simulated terrorist action (cross border NL / Germany)
15 September: Life trial (also Belgium MoD, with Learjets and QRA)
Early December: considering full scale exercise (Germany / BE / NL)
ERRIDS International basis

Recommendation of the ICAO Ministerial conference (2002)

- ICAO security program
- Need for regional coordination/info exchange

Resolution in the ICAO Assembly (2004)

- Commitment by Member States

Eurocontrol/NATO Mutual Strategy (via NEASCOG)

- ERRIDS consistent with the NEASCOG strategy
- Response to new ATM security needs in Europe
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<th>Organisation</th>
<th>Co-ordination</th>
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<td>International Civil Aviation Organisation</td>
<td>ICAO AVSEC Panel</td>
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<tr>
<td>European Aviation Civil Conference</td>
<td>ECAC Security Working Group</td>
</tr>
<tr>
<td>Airlines and Pilots Associations</td>
<td>IFALPA Security Committee</td>
</tr>
<tr>
<td>Stakeholders and industrials</td>
<td>IATA, ESRAB, SMIG, ASD, ESDAG</td>
</tr>
<tr>
<td>United States organisations</td>
<td>TSA, HSD, FAA</td>
</tr>
<tr>
<td>Research establishments</td>
<td>EREA Security Group (ESG)</td>
</tr>
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</table>
The way forward with Aviation Security: Strengthen cooperation between EU/Eurocontrol

SAFEE: The EU Post ‘9-11’ Aircraft/In-flight Security Project

ERRIDS: The European NGA/ATM/Airport Security Project
Next steps and future developments

- Continuation Preparatory Action for Security Research (PASR)
- Consultation European Security Research Advisory Board (ESRAB)
- Potential integration of SAFEE (in-flight) and ERRIDS Programmes
- Strengthening of cooperation between civil & military organisations
- New roles and responsibilities for Air Navigation Service providers, in response to new Single European Sky ATM Security regulations
EU PASR

GEOCREW: Geodata and Crisis Early Warning Situation Awareness

Early detection of potential security breaches, to solve crises before they would evolve to critical or military dimensions

**CREW**: architecture for integrating different information sources (using Remote Sensing Ground Stations and Earth Observation Infrastructures)

**GEODATA**: utilization of geospatial data for improving situation awareness
SAFEE: Security of Aircraft in the Future European Environment

The EU Post ‘9/11’ In-flight Security Project