



SECONOMICS

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PROJECT OVERVIEW

Project Card

□ Partners

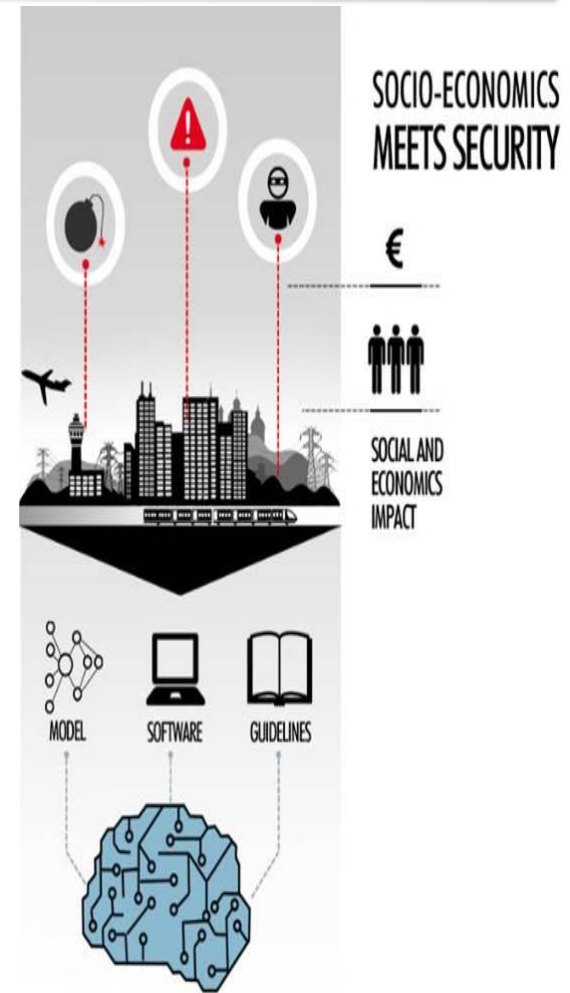
 <p>UNIVERSITY OF TRENTO - Italy</p>	 <p>DEEPBLUE consulting&research</p>	 <p>Fraunhofer ISST</p>	 <p>Universidad Rey Juan Carlos</p>
 <p>1 4 9 5 UNIVERSITY OF ABERDEEN</p>	 <p>TMB Transports Metropolitans de Barcelona</p>	 <p>Atos</p>	 <p>SECUREnOK</p>
 <p>SOI Institute of Sociology AS CR</p>	 <p>nationalgrid THE POWER OF ACTION</p>	 <p>ANADOLU ÜNİVERSİTESİ</p>	

□ Funding: Euros 3,451,096.14

□ Duration: 3 years (started in Feb. 2012)

Project Overall Goals

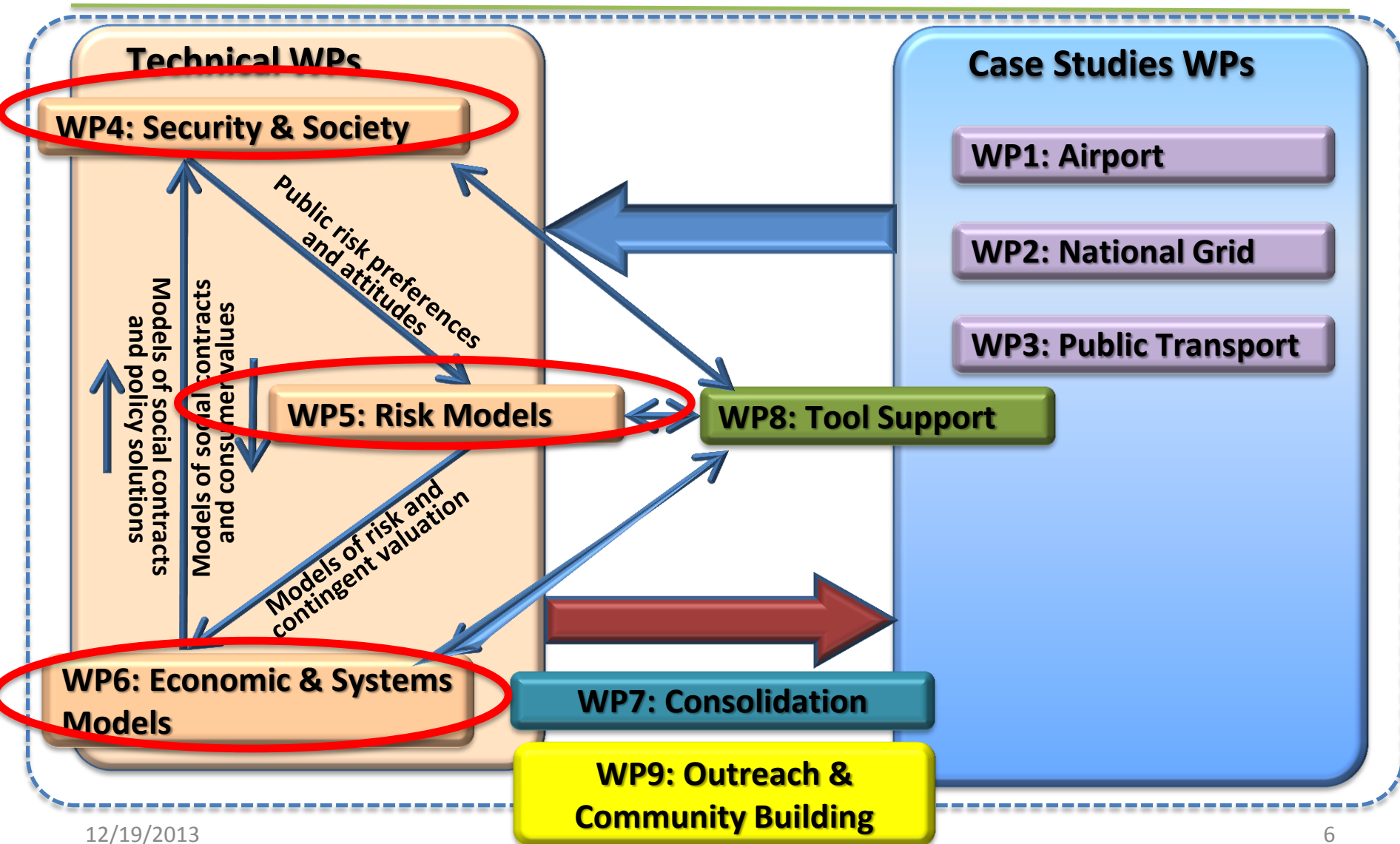
- ❑ **Synthesize**
 - ❑ **Sociological, economic & security science** into usable, concrete and actionable knowledge for policy makers and social planners responsible for citizen's security.
- ❑ **Explore**
 - ❑ Challenges of pan-European coordination in security outcomes.
- ❑ **Develop**
 - ❑ Models of security problems in a technological and socio-economic context.
- ❑ **Apply**
 - ❑ Risk assessments and analysis of the social context to develop optimal policies.





DETAILS OF SECONOMICS

Project Logical Structure



Technological Approach: Sociology

❑ Objectives

- ❑ To conceptualise security and risk as a social phenomenon and to analyze their mutual interplay in public opinion and attitudes.
- ❑ To identify policy interactions between policy makers, industry (stake holders) and citizens (consumers).

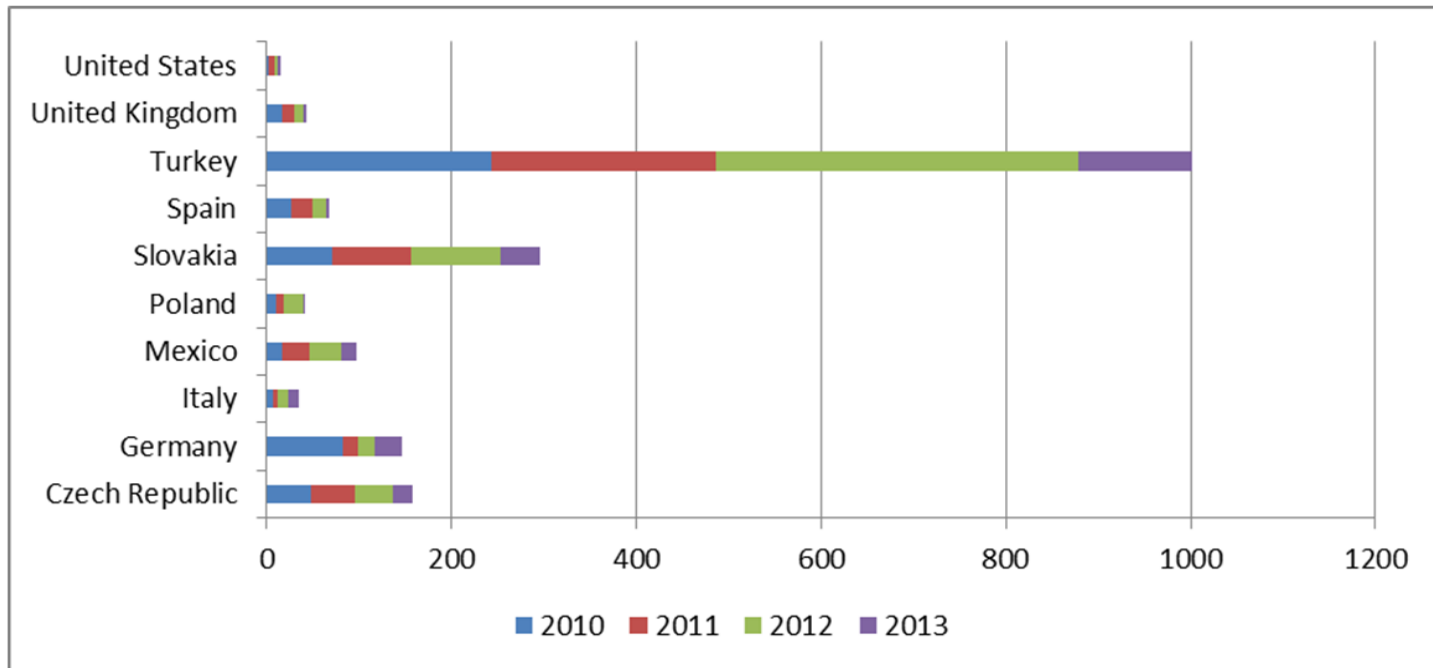
❑ Approaches

- ❑ Assess public perception and acceptability to risk and security rules using media study and comparative qualitative analysis.
 - ❑ For example, media salience as a proxy for potential refusal of security measures (e.g., 3D body scanner, stuxnet and CCTV)

Technological Approach: Sociology

□ Examples

The Salience of the CCTV camera issue in the media between 2010 and 2013
(in N= number of articles)



WP4: SECURITY and SOCIETY

Technological Approach: Risk Analysis

Objectives

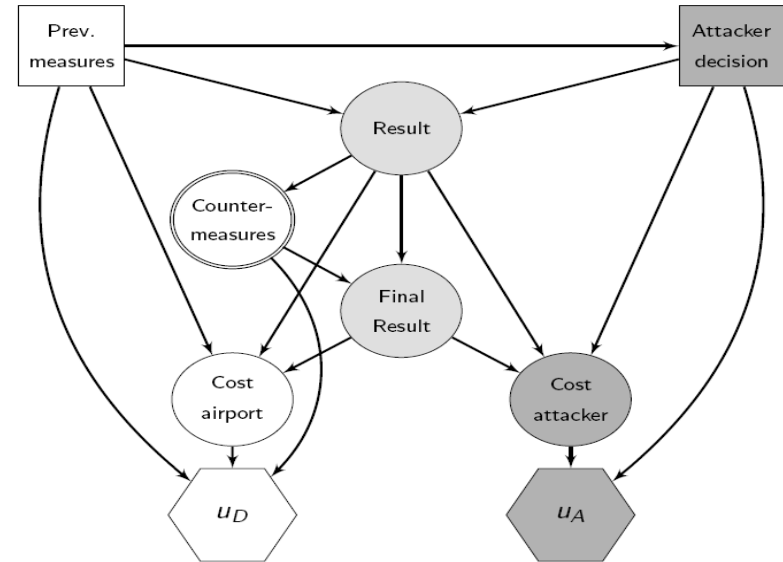
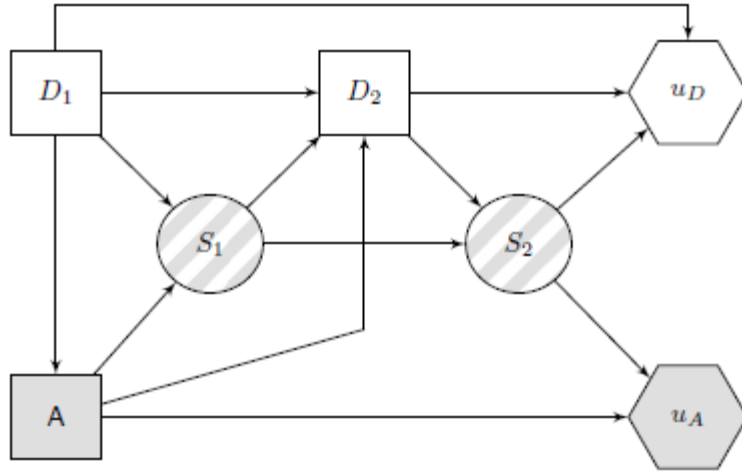
- To provide a set of template models for risk analysis, helping to assess the most effective countermeasures.
- To describe a general methodology for risk analysis for critical infrastructure protection.

Approaches

- Provide a set of models that looks at the **Adversarial Risk Analysis (ARA)**.
- Analyze the role of mathematical models in
 - Predicting behavior of attackers and defenders
 - Providing guidance on efficient security investment

Technological Approach: Risk Analysis

Example



- Optimal security resource allocation
- Optimal security countermeasure
- Optimal security portfolio
- Optimal defense strategy

WP5: SECURITY RISK MODELS

Technological Approach: Economics & Public Policy

❑ Objectives

- ❑ To integrate models of system architecture with macroeconomic models of policy maker preferences.
- ❑ To evaluate the economic incentives that might mitigate the effects of policy within a particular security context.

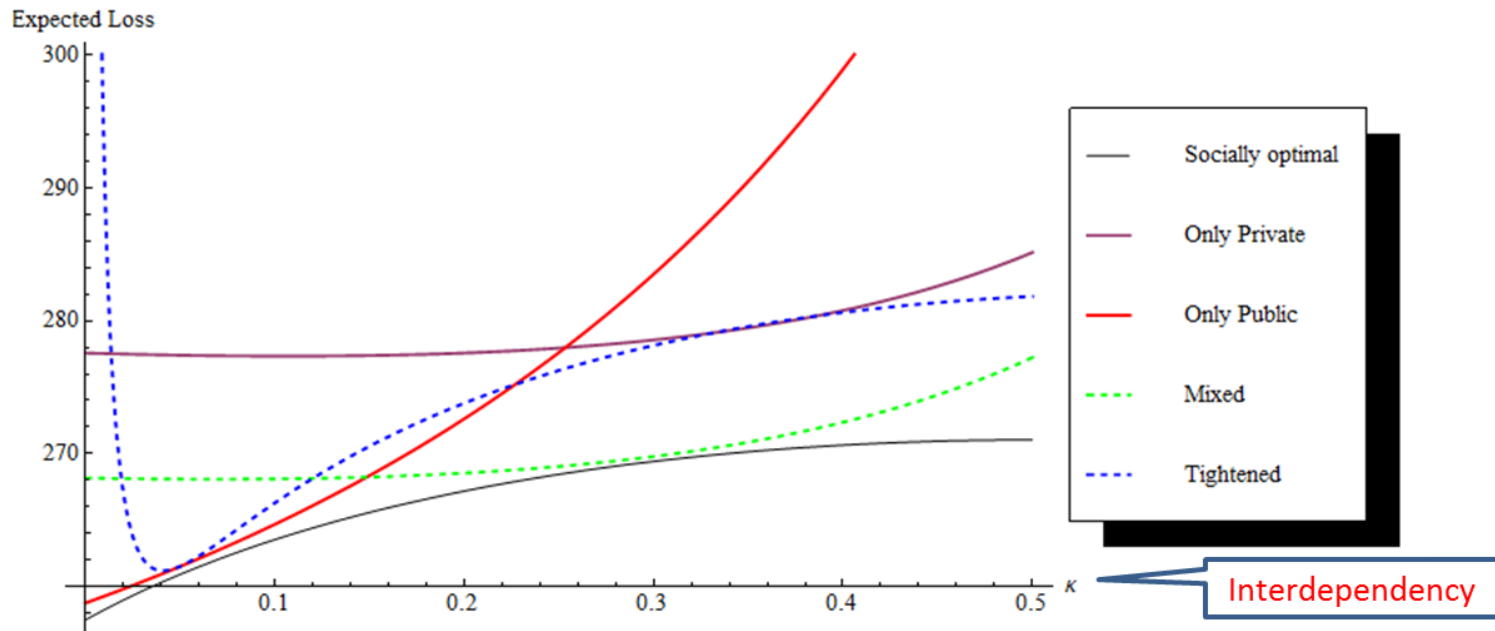
❑ Approaches

- ❑ Study models that can capture the agency, public good and externality issues involved in managing security.
 - ❑ Systems model that capture the architecture of the system
 - ❑ Game-theoretic model that capture choice and strategic decision making.
- ❑ Seek to integrate models of preferences and architecturally consistent models of the information environment.

Technological Approach: Economics & Public Policy

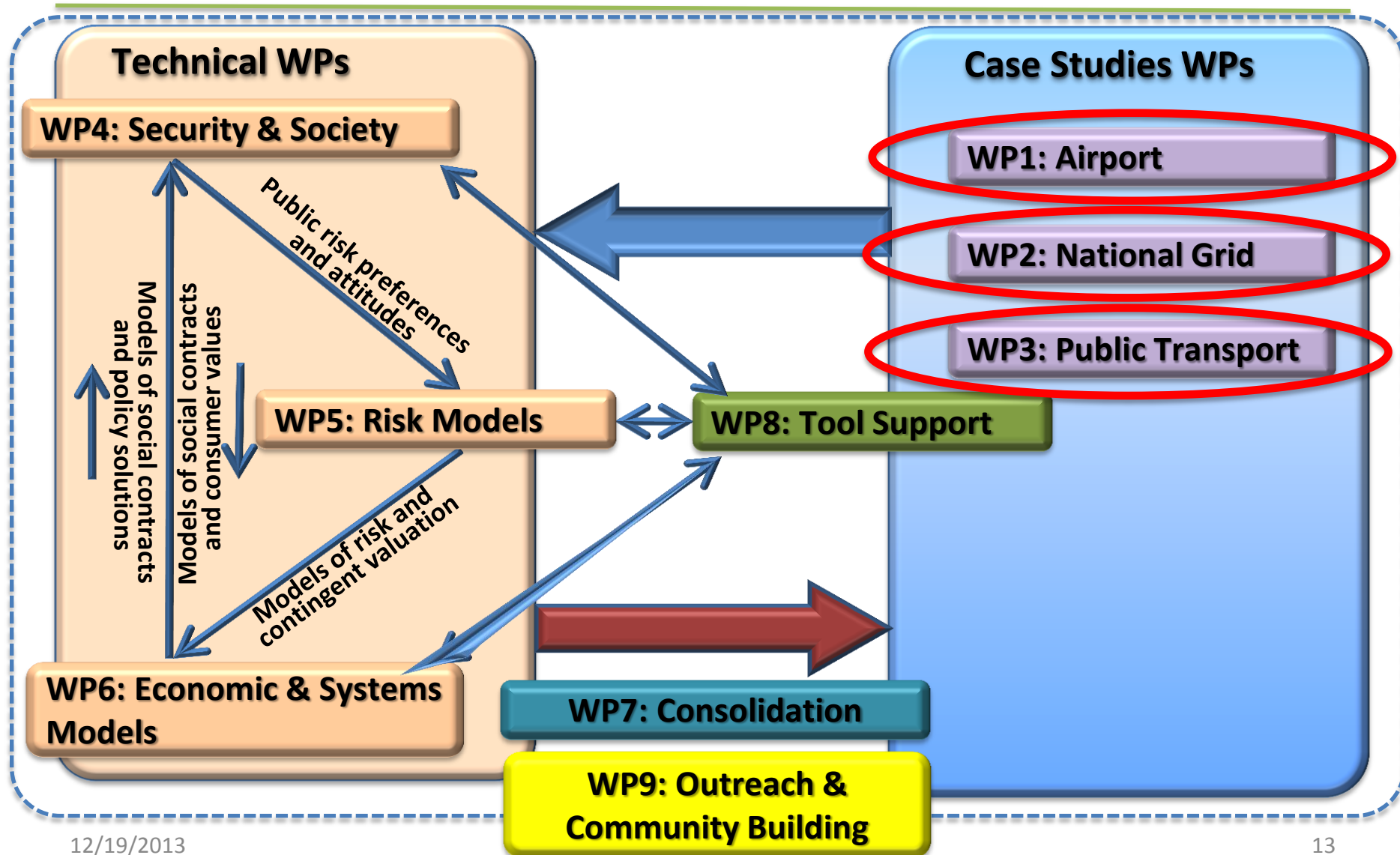
□ Example

Expected Loss with Different Settings



WP6: ECONOMICS and SYSTEMS MODELS

Project Logical Structure



Case Studies WPs

Workpackages

WP1: Airport

WP2: Critical Infrastructure (NGRID)

WP3: Public Transportation

Objectives of Case Studies WPs

- To identify and analyse current/emerging security issues.
- To assess the interactions of security policy on different stakeholders.
- To validate risk and economics models with respect to their efficacy and usability.
- To examine the impact of a security policy/regulation on society.
- To validate decision-making tools by means of live trials whenever feasible.

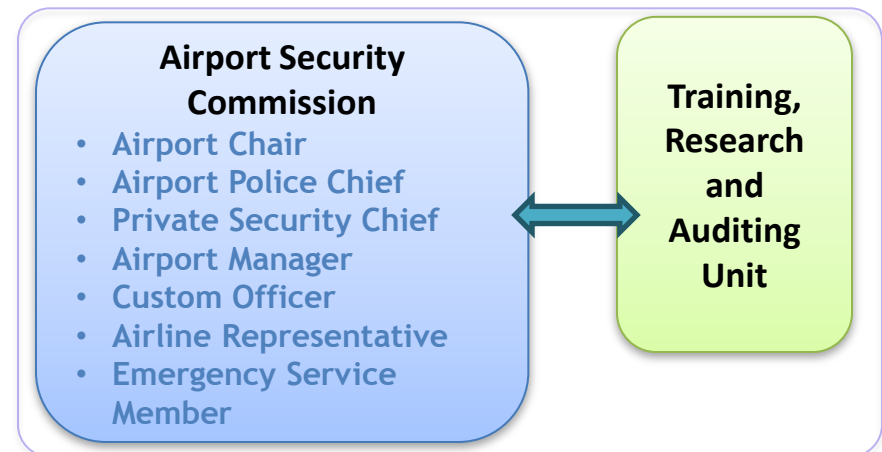
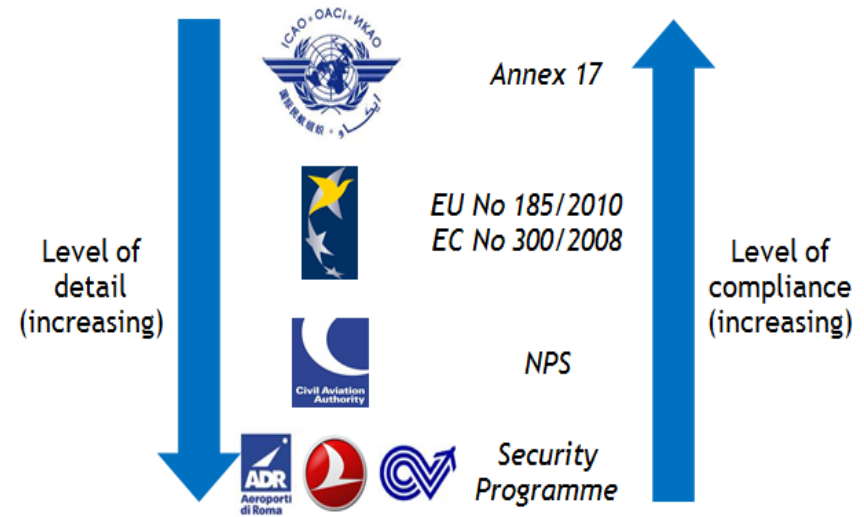


WP1 Airport

□ Security Scenarios

- High-level scenarios for regulators: Security policy/regulation selection
 - Use economic and sociological approaches to assess security policies/regulations.
 - Emerging issues including delay, health, privacy due to thorough screening (e.g., 3D body scanner).
- Operational-level scenarios for airport operators
 - Unlawful access to tower and cyber-attack.
 - An adversarial risk model is applied.

Worldwide, European and National Regulations.



WP2 Critical Infrastructure

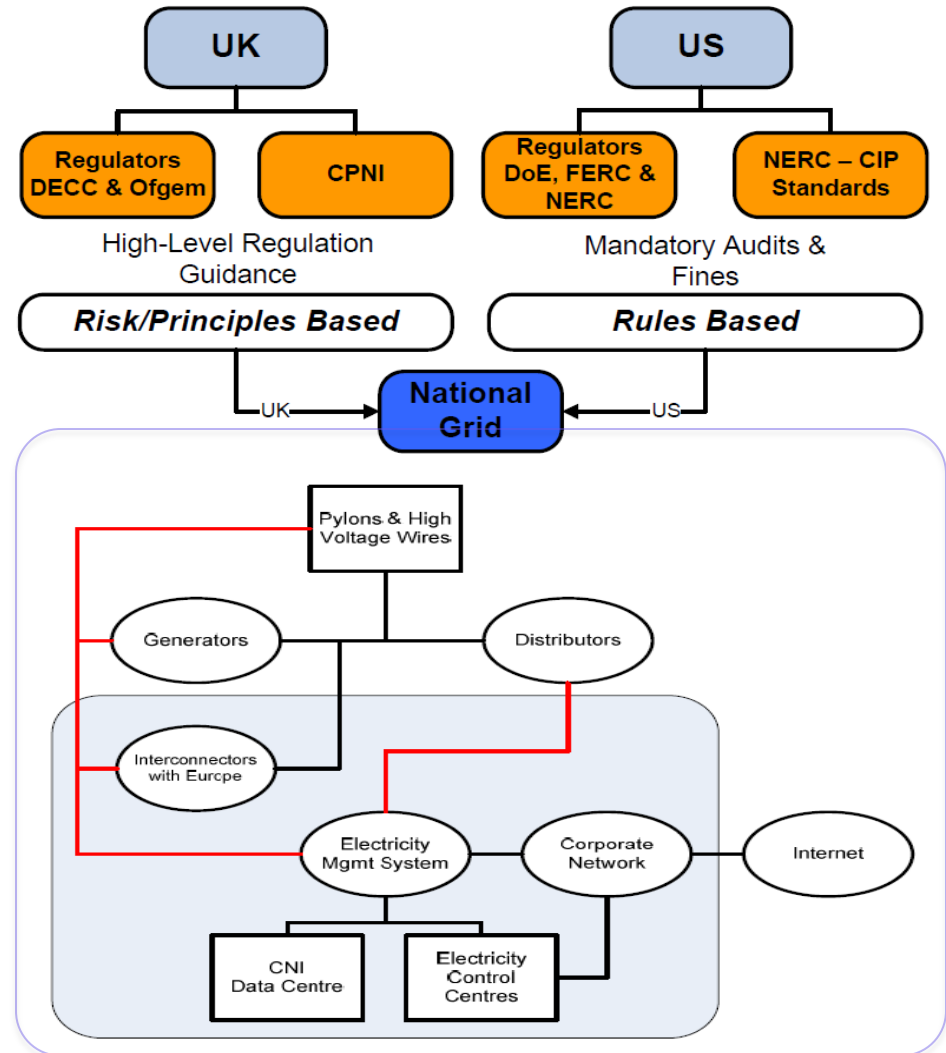
Security Scenarios

Risks of the current state

- Electricity interconnectors
- EMS and Data Links with generators, distributors and interconnectors
- Corporate network and IT infrastructure

Threats of the future state

- Attack on control systems and the increased dependency on information networks
- Threat source/actors and their motives
- Potential new means of attack
- Potential impact



WP3 Public Transportation

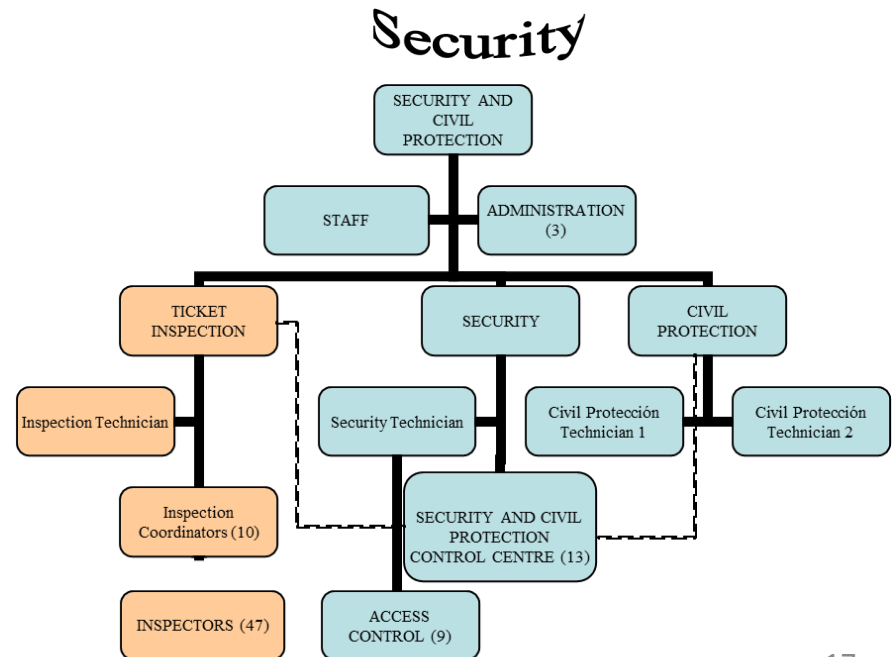
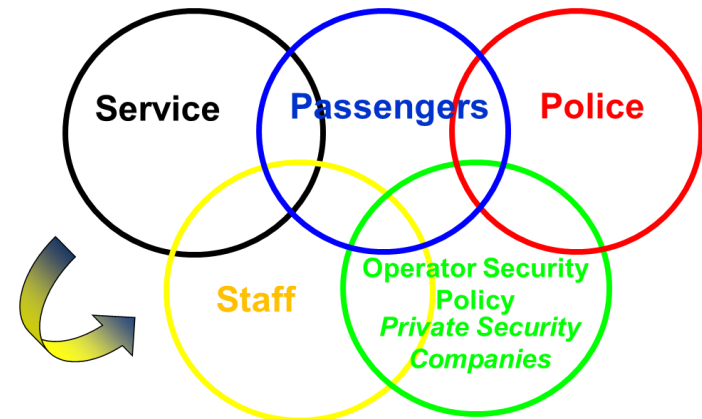
Security Scenarios

Indicators of social and/or economic crisis

- ❑ The social aspect of security and risk in the case of social/economic crisis.
- ❑ Analyze how the social/economic crisis affects the perception and acceptability of the public on risk and security.

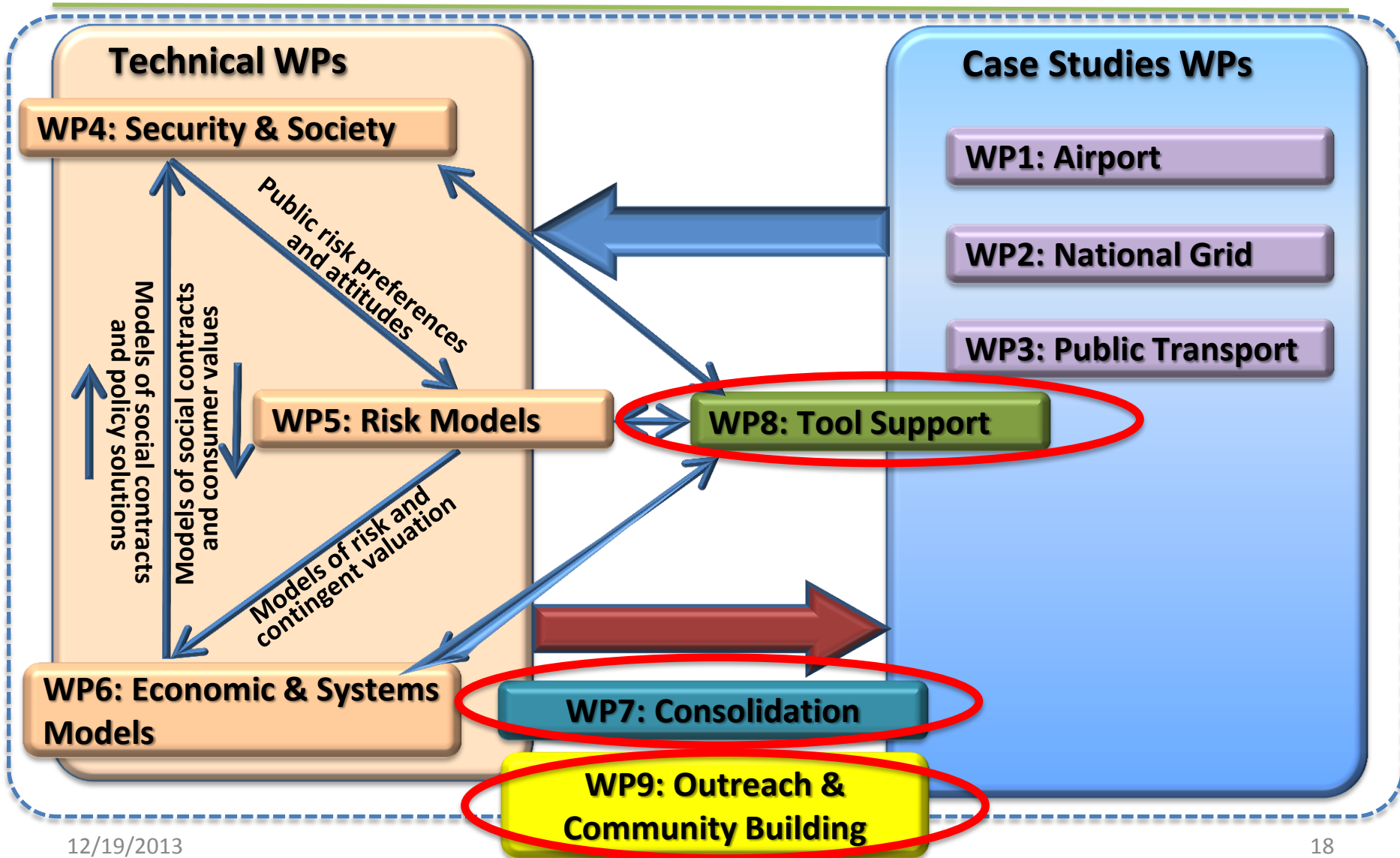
Fraud (e.g, fare evasion) / Pickpockets

- ❑ Social cost of crime and the need to coordinate security from highly heterogeneous risk sources.
- ❑ The social aspect of security in the case where the public interacts with security in both passive (e.g., CCTV) and active (e.g., security patrols) manners.
- ❑ Use an adversarial risk model and a qualitative study.



Organization chart of the Security and Civil Protection Unit (source TMB)

Project Logical Structure



Integration/Dissemination WPs

WP7 Cross Mission Consolidation

- To collate user requirements from case study WPs.
- To consolidate experience and results across the three case study domains.
- To consolidate and generalize the SECONOMICS framework based on the project's results.

WP8 Tool Development

- To develop the SECONOMICS tool framework based on all analyses in the WPs.
- To integrate seamlessly.
- To provide high usability with user guidance.

WP9 Outreach and Community Building

- To set up users' panels from the different scenarios (community building).
- To increase the awareness of the project's results.
- To explore and analyse the different business models.
- To assess the sensitivity of all deliverables and the execution of different ethical requirements.



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<http://www.seconomicsproject.eu>