- Towards a More Multidimensional Security Design -

Technische Universität Berlin
Zentrum Technik und Gesellschaft

SEVENTH FRAMEWORK PROGRAMME

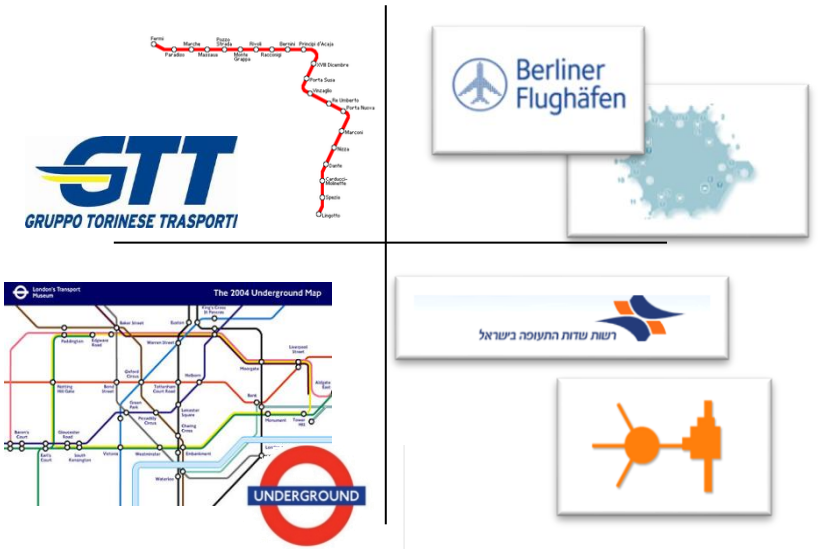
Research Project SIAM

Objective

Web-based assessment support system for decision makers at airports and public transport (federal police, airport operator, airlines etc.) consisting of:

- Data base,
- User based simulation of the decision making process,
- Multi-dimensional assessment heuristic

Case Studies



Partner

BBAA

CENTER FOR LAW, SCIENCE, TECHNOLOGY & SOCIETY STUDIES

UNIKASSEL VERSITÄT

Newcastle University

Istituto Superiore sui Sistemi Territoriali per l'Innovazione

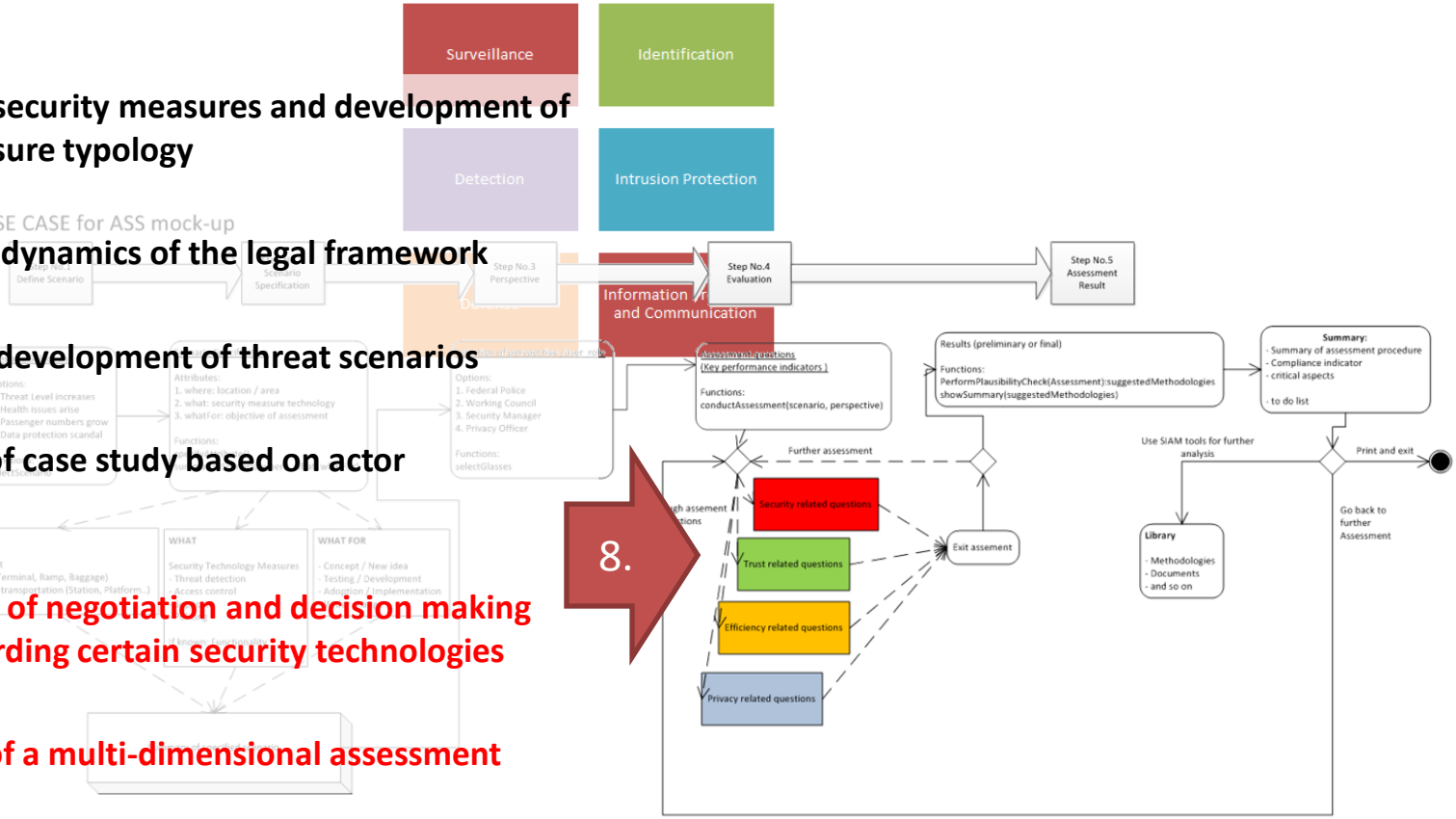
CTAF

Kingston University London

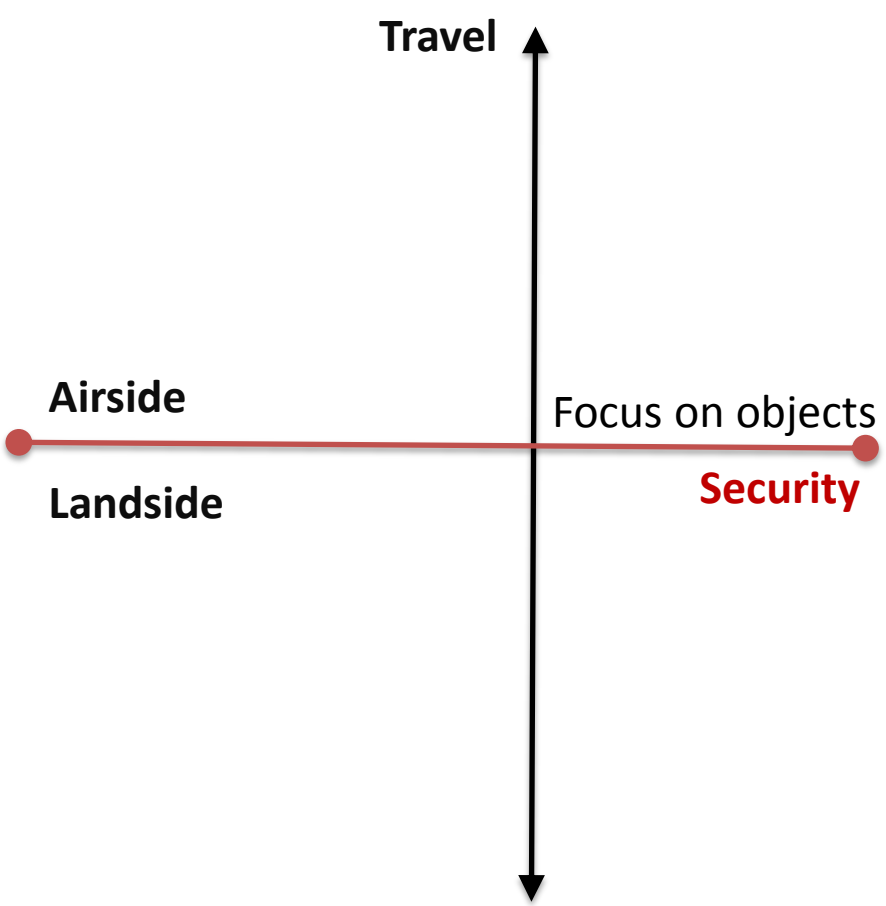
SEVENTH FRAMEWORK PROGRAMME

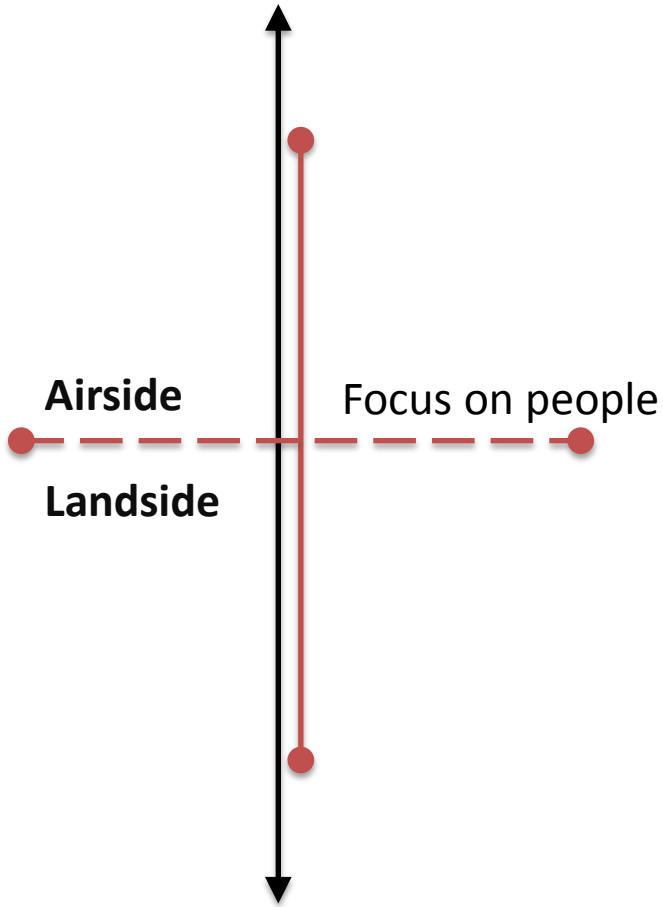
Procedure/ Current Status

1. **Description of security measures and development of a security measure typology**
2. **Analysis of the dynamics of the legal framework**
3. **Gathering and development of threat scenarios**
4. **Development of case study based on actor constellations**
5. **Reconstruction of negotiation and decision making processes regarding certain security technologies**
6. **Development of a multi-dimensional assessment heuristic**
7. **Development of methodologies in order to use the assessment**



Regime Change?





Reconstruction of Innovation Journeys

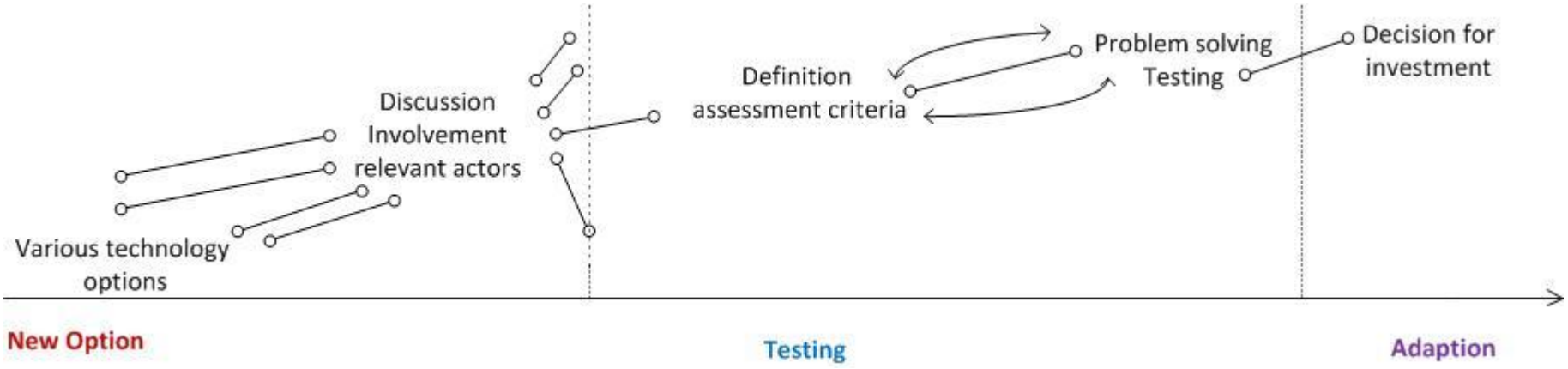
A technology is not given, but rather the result of many process assessment activities of different actors with changing goals, expectations and assessment criteria over the time.

The outcome of the evolution process is uncertain, even though actors try to influence and shape the technology development according to their objectives.

The innovation journey is a non-linear process taking place in recognizable phases. It is neither stable, predictable, stochastic nor random. It diverges into multiple, parallel and interdependent paths of activities…

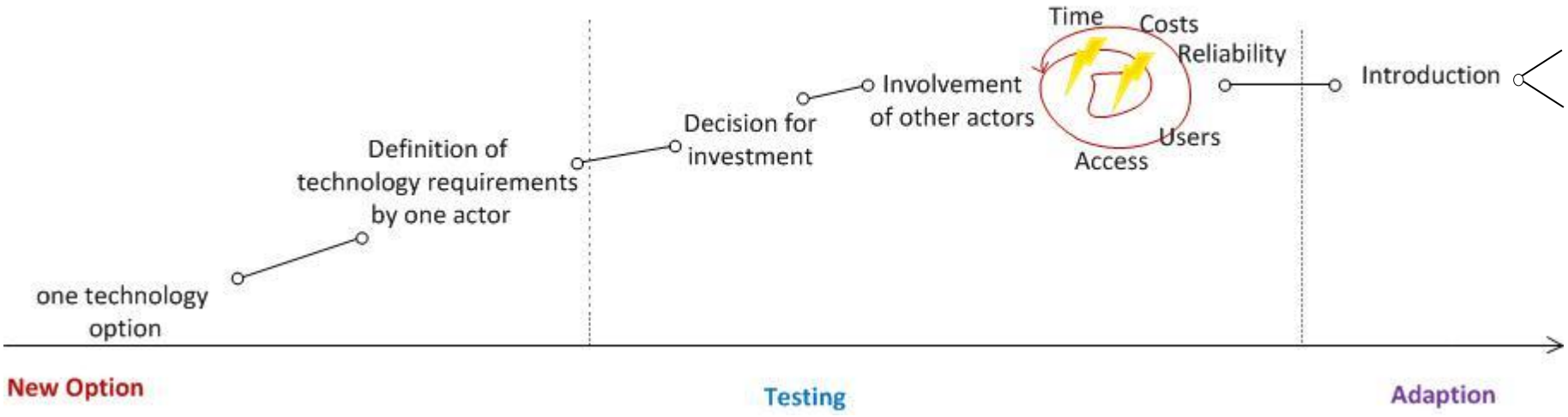
Ideal-typical decision making process

- successful introduction -



Ideal-typical decision making process

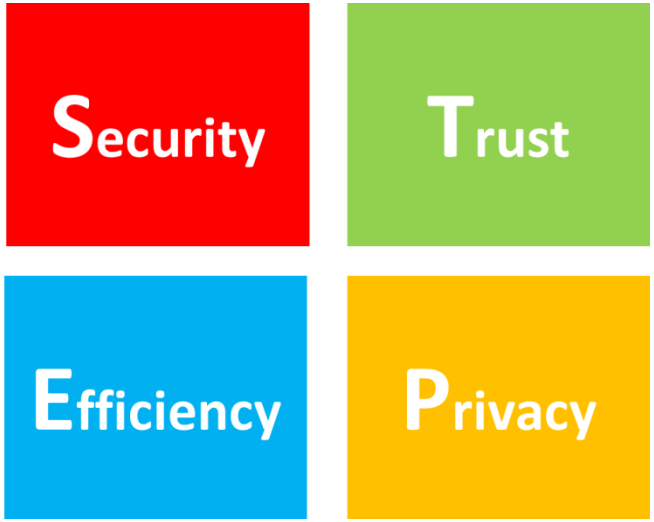
- introduction with negative consequences-

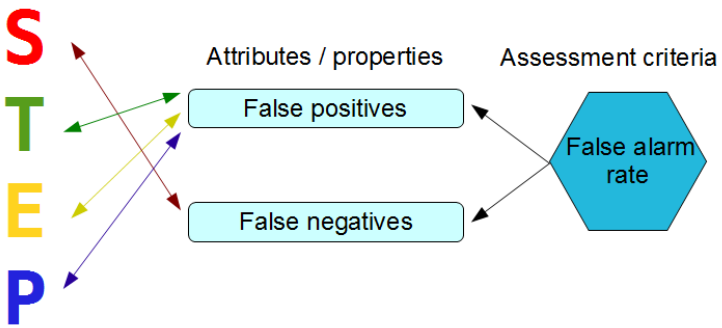


Problems and Derivations

- **Involvement of stakeholders**
  - Lacking knowledge about actor constellations
  - Overestimation of the own role
  - Time of involvement of other actors
  - Development of objectives, definitions, assessment criteria
  - Little or no understanding regarding other roles
- **Hopeful monstrosities**
  - High expectations
  - Unfulfilled promises
  - Wrong paths
- **Lacking knowledge regarding**
  - The technology
  - Applicability
  - Organizational processes
  - Management process
- **No standard procedures for decision making processes**
  - Time schedule
  - Irreversibility
  - Control

Multi-Dimensional Assessment Heuristic





Increasing reflexivity during the assessment process of security technologies by applying the **STEP** perspectives:

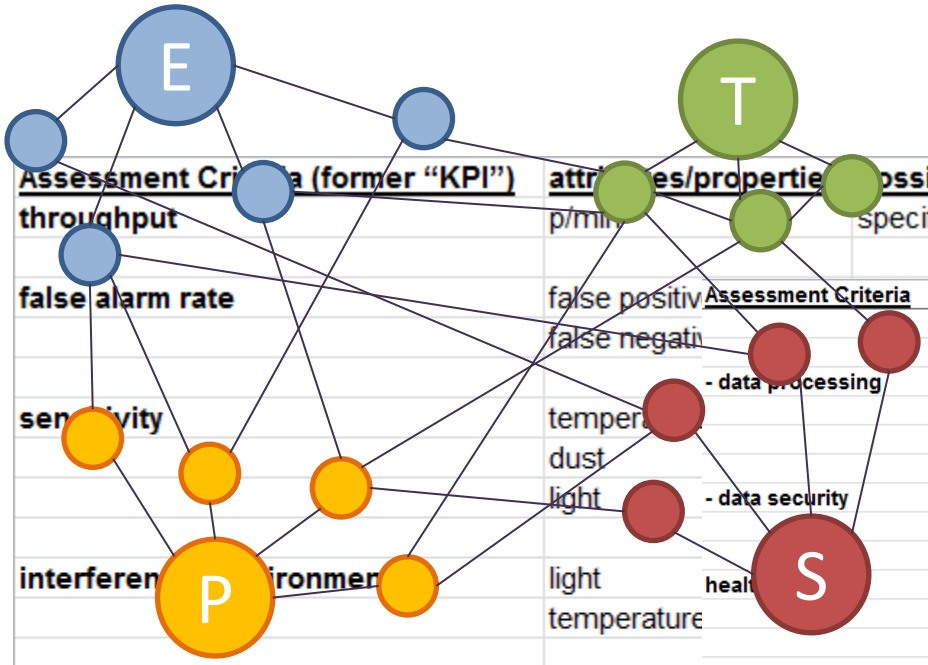
Security: technologies´ functionality in countering threats and reducing risks; robustness, secrecy,

Trust: experiences and subjective perceptions, technological normativity, visibility, understandability, usability …

Efficiency: organizational processes and economic factors; performance (capacity, throughput), interoperability …

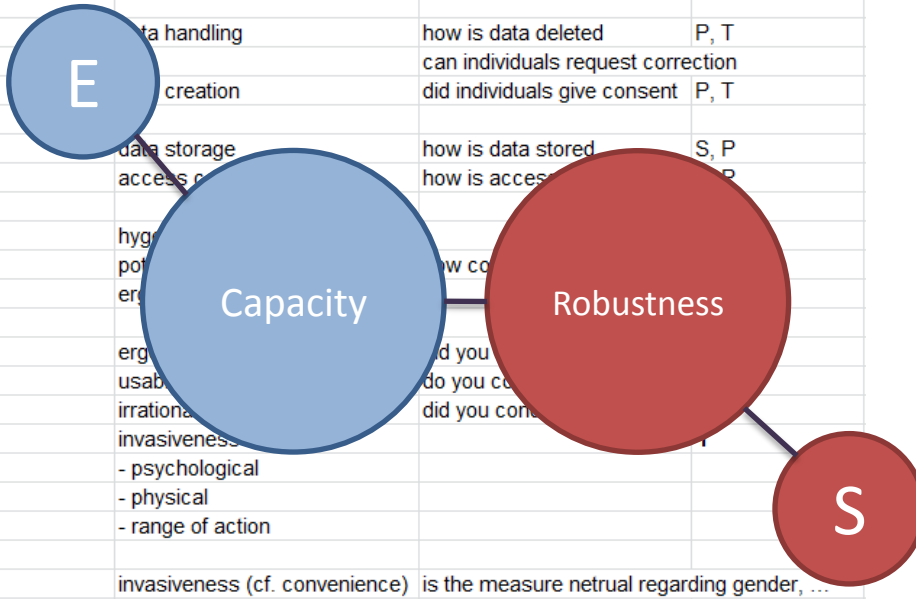
Privacy: impact of the technology on the freedom and rights of a person; intimacy and self determination; DP pronciples

Creating Ontologies



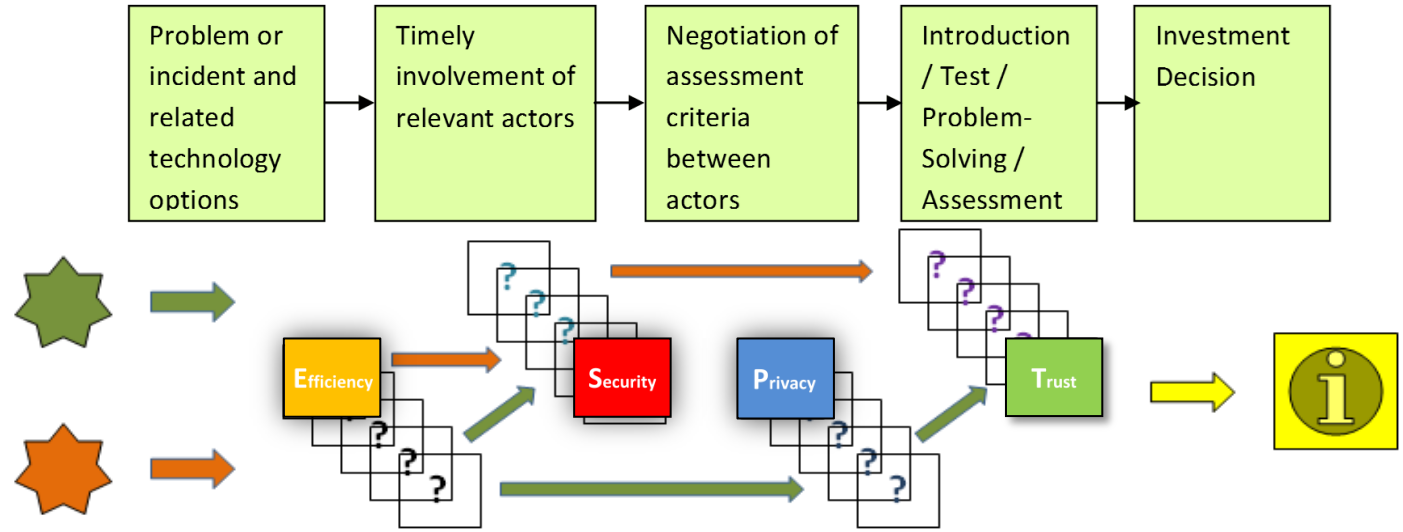
Assessment Cri a (former "KPI")	attri es/propertie	ossible questions	impact on STEP	impact on Assessment Criteria
throughput	p/mi	specify the criteria	E	
false alarm rate	false positiv			
	false negati			
sen ivity	temper			
	dust			
	light			
interferen ironmen	light			
	temperature			
interference (human)	(intended)			
dependency on infrastructure	e.g. location			
interoperability	compability			
	connectivity			

Assessment Criteria	Attributes/Properties	Questions	Impact
	transparency (visibility)		P, T
- data processing	ta handling	how is data deleted	P, T
		can individuals request correction	
	creation	did individuals give consent	P, T
- data security	data storage	how is data stored	S, P
	acces	how is acces	
healt	hyg		
	pot	w co	
	erg		
convenience	erg	d you	
	usab	do you c	
	irrationa	did you con	
	invasiveness		
	- psychological		
	- physical		
	- range of action		
discrimination	invasiveness (cf. convenience)	is the measure netrual regarding gender, …	
	comulsion		
	categorisation		
	- gender		
	- race		



S-T-E-P Procedure

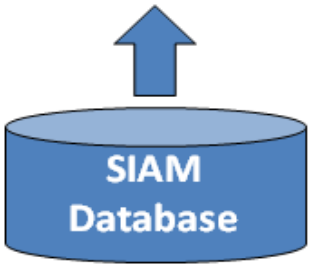
- simplified-



Users

Questions and Assessment Paths

Control Report & Assessment Results



Regulations and Policies
Best-Practices and Evaluations
Scenarios and further Methods

Security Impact Assessment Measures

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