A pillar to develop an information space

Establish Pan-European Information Space to Enhance seCurity of Citizens

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The EPISECC project team

Organisation Name	Short	Country
AIT Austrian Institute of Technology GmbH	AIT	AT
Cassidian Finland OY	CasFI	FI
Cassidian SAS	CSD	FR
Sveuciliste u Splitu (University of Split)	UNIST	HR
Public Safety Communication Europe Forum AISBL	PSCE	BE
HITEC Luxembourg S.A.	HITEC	LU
Frequentis AG	FRQ	AT
Deutsches Zentrum für Luft- und Raumfahrt EV	DLR	DE
HW Communications Limited	HWC	UK
TETRA MoU Association Ltd	TCCA	UK
Katholieke Universiteit Leuven	KULeuven	BE
IES Solutions SRL	IES	IT
Technische Universität Graz	TUG	AT

FP7 SEC 2013.5.1-1: Analysis and identification of security systems and data set used by first responders and police authorities – Capability Project

Motivation

- Key requirements for services in crisis situations

  I. Efficient communication
  II. access to critical information
  III. interconnectedness of stakeholders

  However, services are often compromised and need to be re-established.

- First 72 hours after a catastrophe are crucial

  <u>Need to provide communication tools and information collection within this period</u>

Requirements & Vision

Availability of Resources

- shortest time
- highest relevance
- right location

Minimization of Damage

- information access
- communication
- resource co-ordination

The vision: to develop a concept of a common information space based on the analysis of …

- response to past events
- data and tools used
- organisational structure

Objectives

1. Develop a **pan-European inventory** of past critical events/disasters and their consequences focusing on the performance of processes, data exchange and organisational boundaries

2. Develop a concept of a common information space including appropriate semantic **definitions by taxonomies** and/or ontologies.

3. Analysing existing interoperability concepts and derive **concept of a common information space**

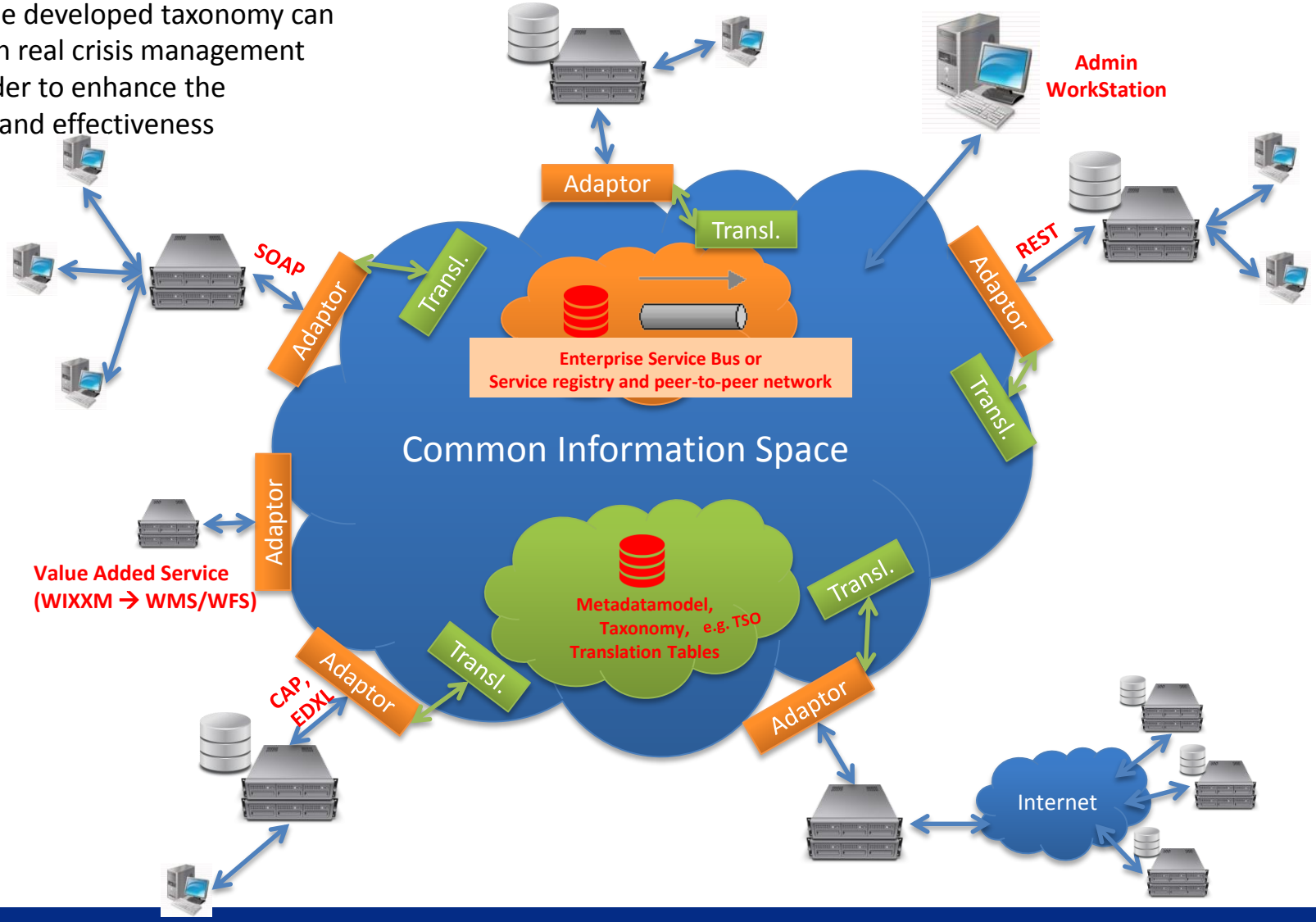
4. Validation of the architecture and suggestion of **novel Emergency and Crisis Management Models**

Workpackages

Nr.	Title	Lead
WP1	Coordination and Management	AIT
WP2	Analysis of past crisis management approaches	TUG
WP3	Pan European Inventory of events/disasters	DLR
WP4	Taxonomy building	UNIST
WP5	Architecture of Common Information space	FRQ
WP6	Proof of Concept & Validation	AIT
WP7	Legal & Ethic aspects	KULeuven
WP8	Dissemination	PSCE
WP9	Exploitation & Standardisation	IES

Architecture of Common Information space

Shows how the developed taxonomy can be used within real crisis management systems in order to enhance the collaboration and effectiveness



Areas of the Inventory

Crisis Management

(emergency management, recovery management, strategies, etc.)

Critical Infrastructures

(energy, information and communication, mobility and logistics, etc.)

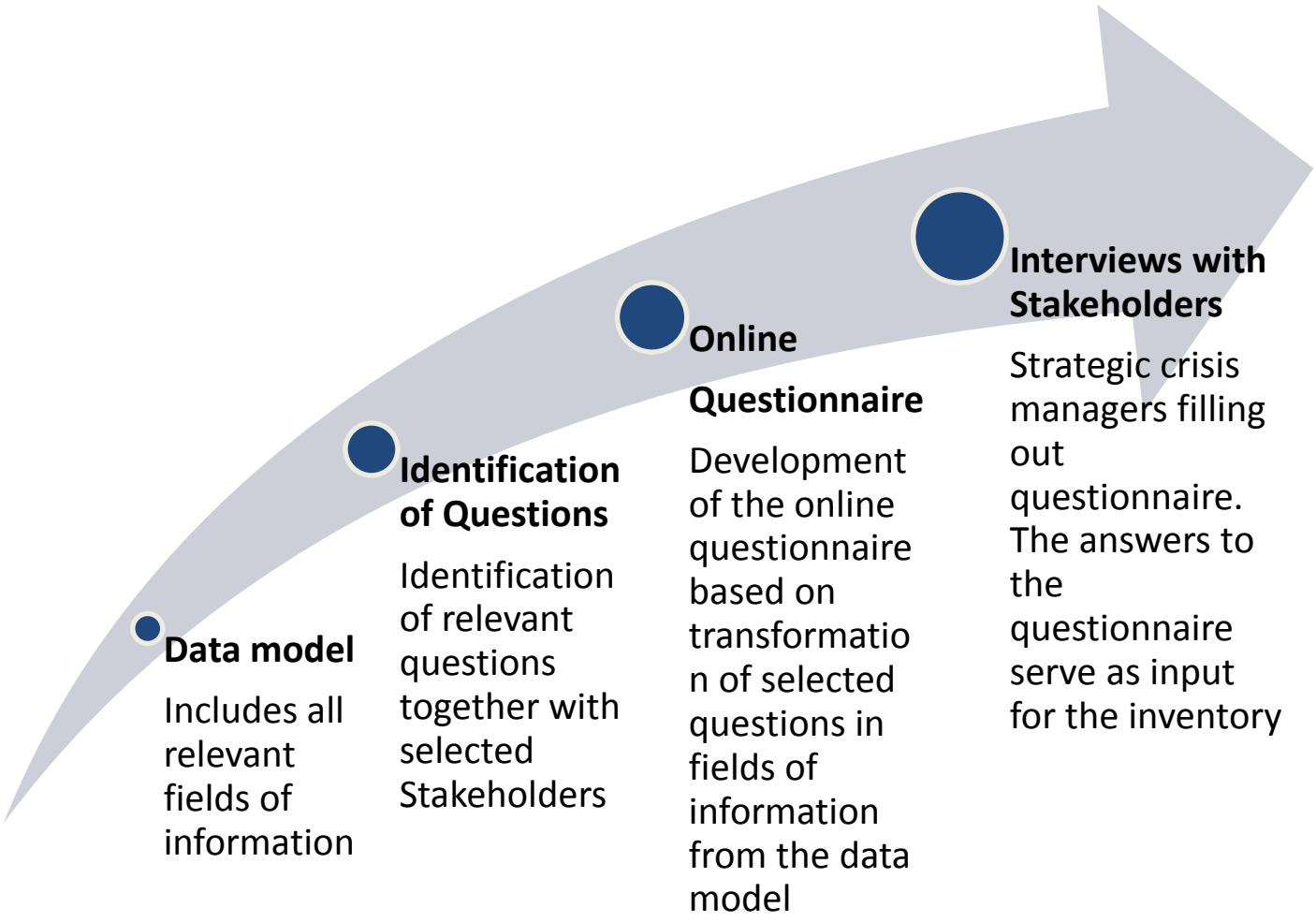
Disaster Types & Context Data

(threats, dangers, scale, duration, affected people, etc.)

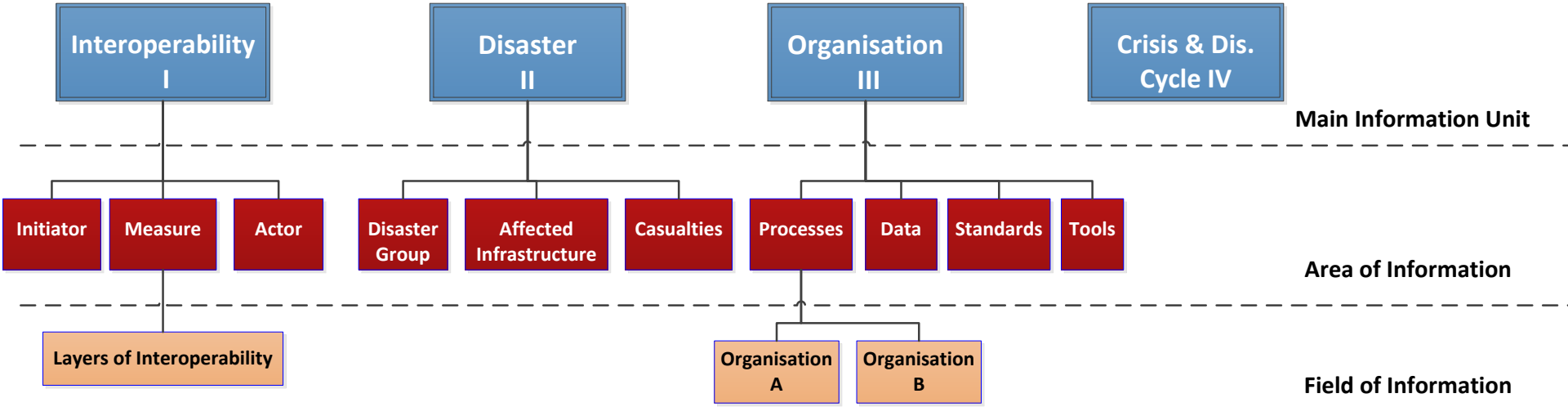
Science

(social science, engineering, natural science, etc.)

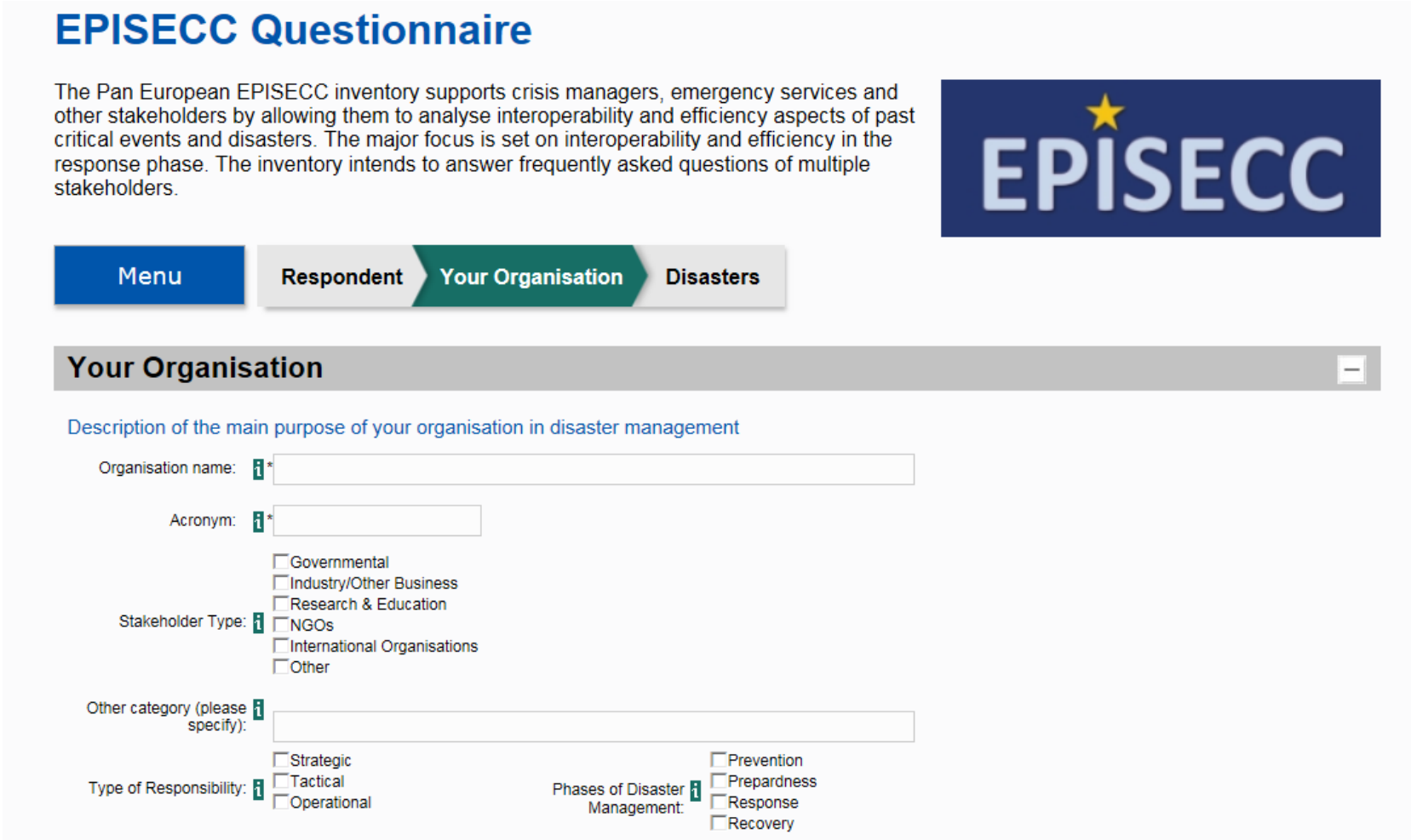
The development of the Inventory



The data model



The Questionnaire

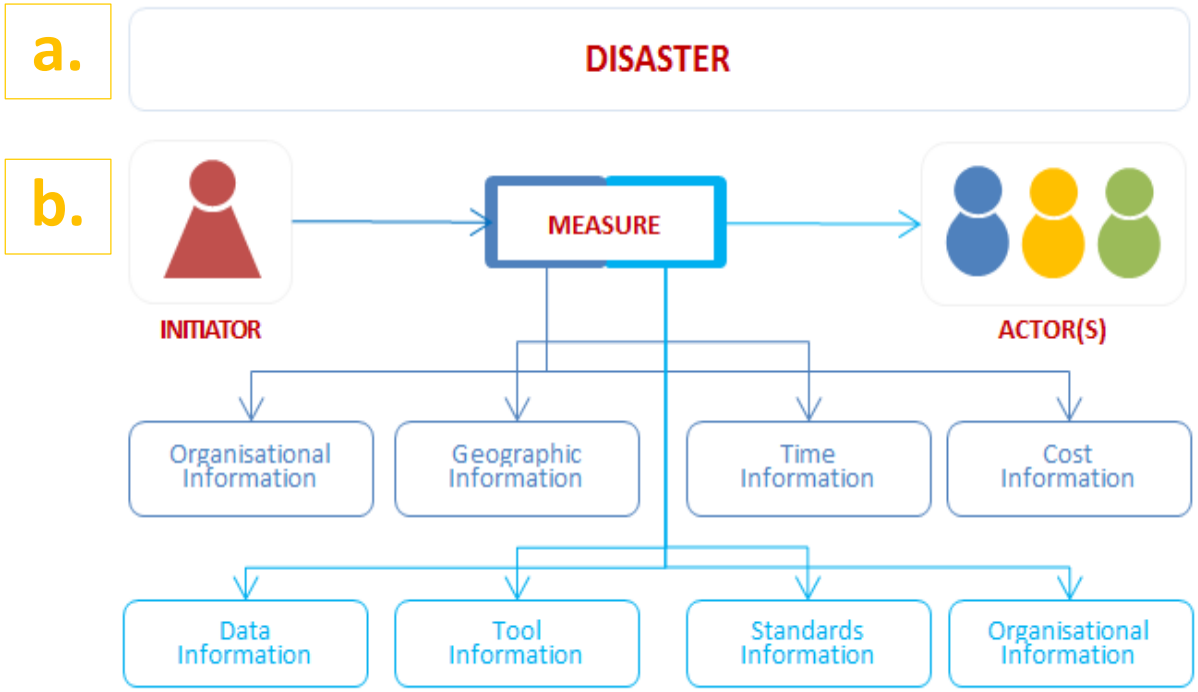


Concept: Analyzing the response to questions from stakeholders

Questions are related to:

a. Selected disasters

b. Processes/measures of responding to the specific disaster



Approach

1. Clustering questions to the groups “Efficiency”, “Interoperability” and “Others”
2. Evaluating the meaningfulness (for the project focus) of each single question
3. Tagging of questions based on their core statement
4. Applying indicators
5. Description of each question including its diagnostic value, its linkage within the questionnaire and the appropriate form of representation for this question

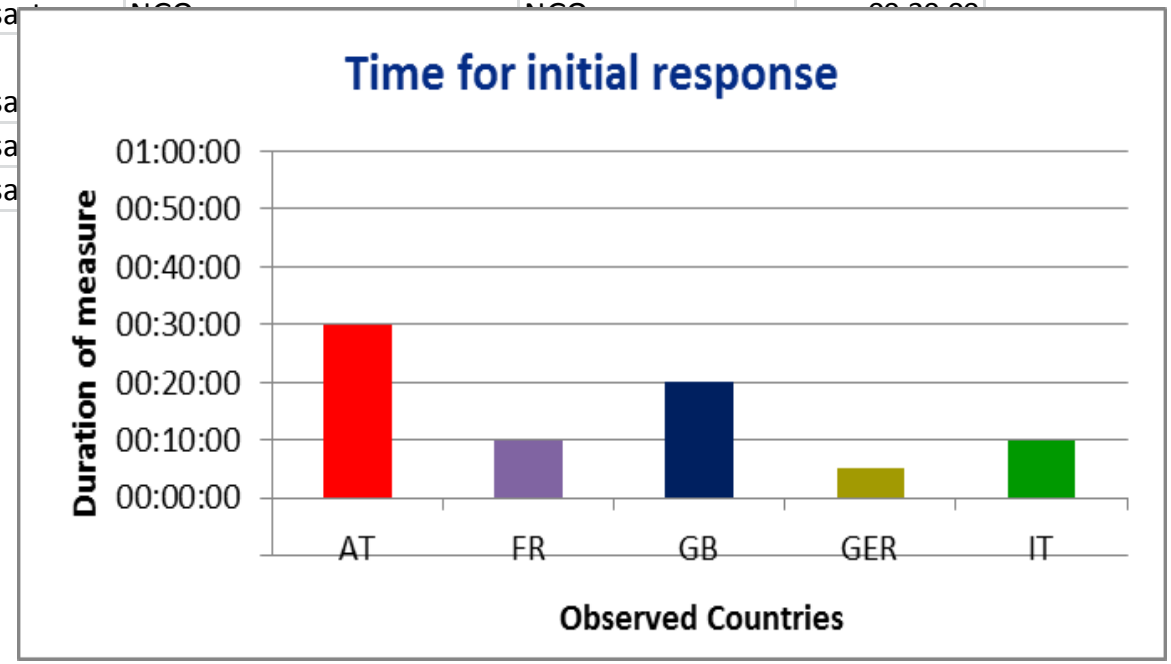
Exemplary Evaluation of an EFFICIENCY-question

“What are initial response times in other countries? How quick comparable rescue forces can be expected to be at the disaster area?”

Question_Tag: »Mobilising emergency operation services«

Presentation of evaluation results by a table: "Initial response"

Country	Disaster Name	Disaster/Crisis Main Type	Initiator (Stakeholder Type)	Actor (Stakeholder Type)	Start-up time
AT	Avalanche	Natural Disaster	Governmental	NGO	00:20:00
FR	Hurricane	Natural Disa			
GB	Flooding	Natural Disa			
GER	Hurricane	Natural Disa			
IT	Earthquake	Natural Disa			



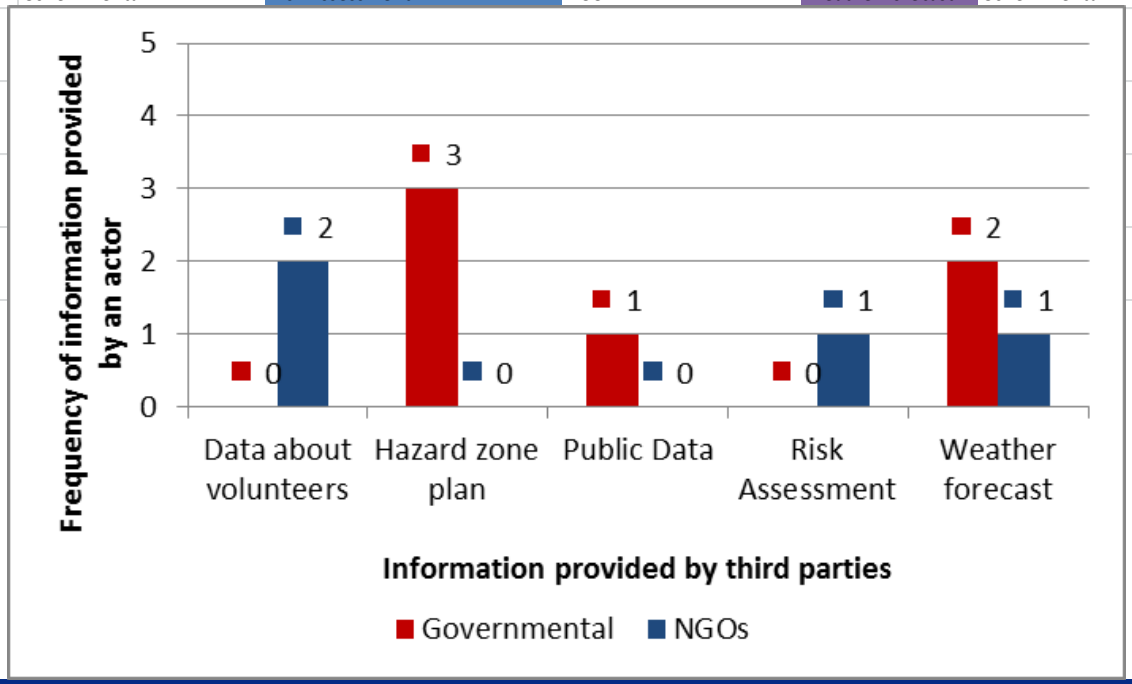
Exemplary Evaluation of an INTEROPERABILITY-question

Cooperation: “What kind of information was provided by your institutions or third parties? What kind of third parties?”

Question_Tag: »Information Exchange«

Presentation of evaluation results by table: "Information for improving cooperation"

Country	Disaster Name	Disaster/Crisis Main Type	Initiator (Stakeholder Type)	Data resource used 1	Actor 2 (Stakeholder Type)	Data resource used 2	Actor 3 (Stakeholder Type)	Data resource used 3
AT	Storm	Natural Disaster	Governmental	Risk Assessment	NGO	Weather forecast	Governmental	Hazard zone plan
BE	Flooding	Natural Disaster						Data about volunteers
FR	Flooding	Natural Disaster						Public Data
GER	Flooding	Natural Disaster						Data about volunteers
LUX	Storm	Natural Disaster						Hazard zone plan



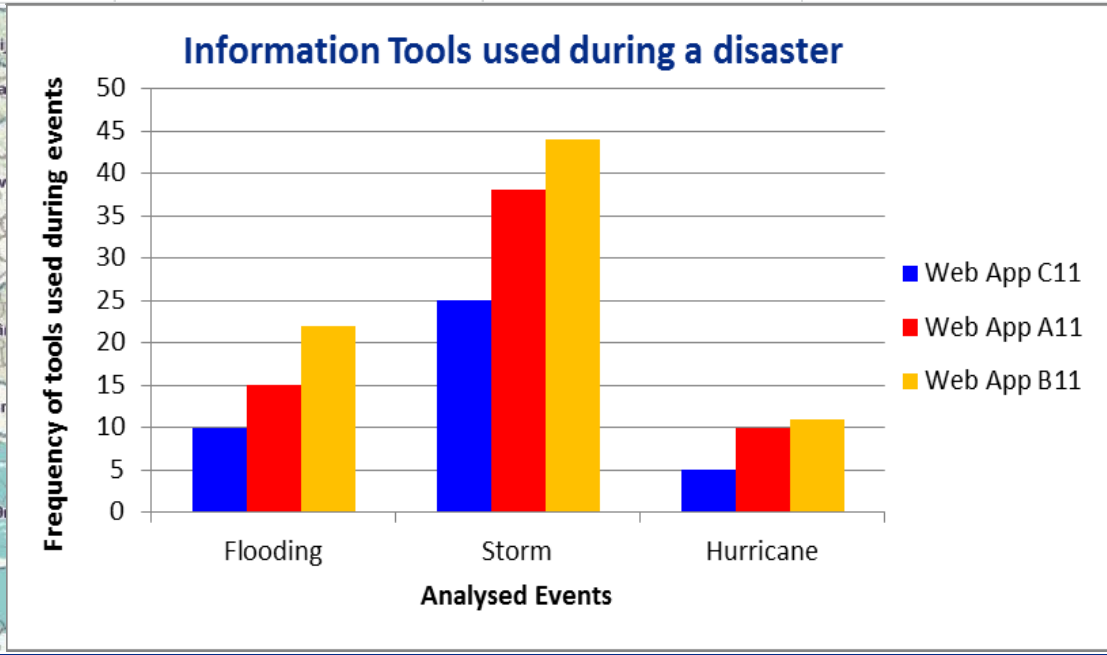
Exemplary Evaluation of an OTHER-question

“What information tools were used in a specific country/during a specific type of disaster and what are the costs of these tools?”

Question_Tag: »Information Exchange«

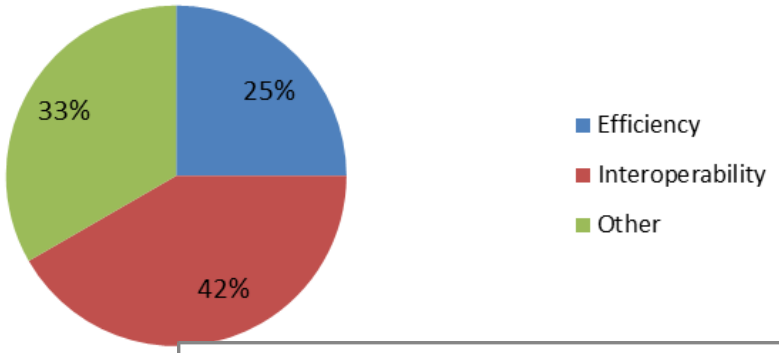
Presentation of evaluation results by a table: "Costs of information exchange during a certain event"

Country	Disaster Name	Disaster/Crisis Main Type	Initiator (Stakeholder Type)	Tools used	Costs (in €)
AT	Flooding	Natural Disaster	Governmental	Web application: AA	€ 3.000,00
HR	Earthquake	Natural Disaster	Governmental	Web application: BB	€ 2.100,00
BE	Storm	Natural Disaster	NGO	Web application: CC	€ 1.800,00

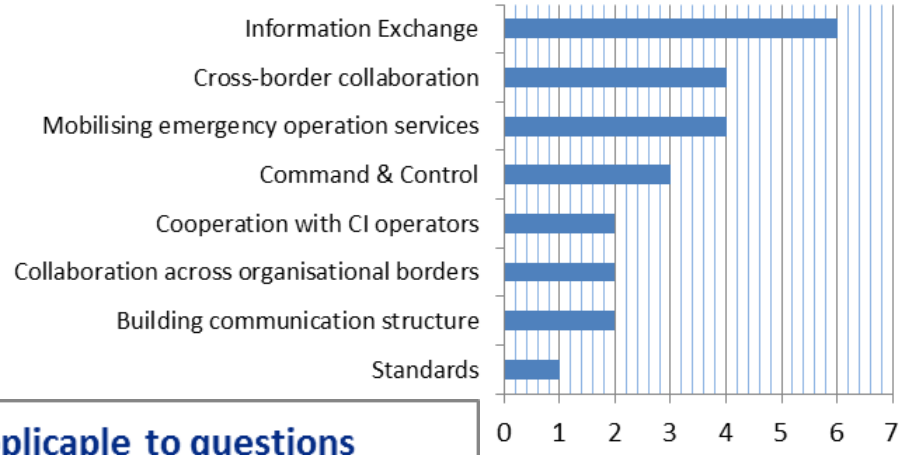


Statistical Evaluation of questions-characteristics

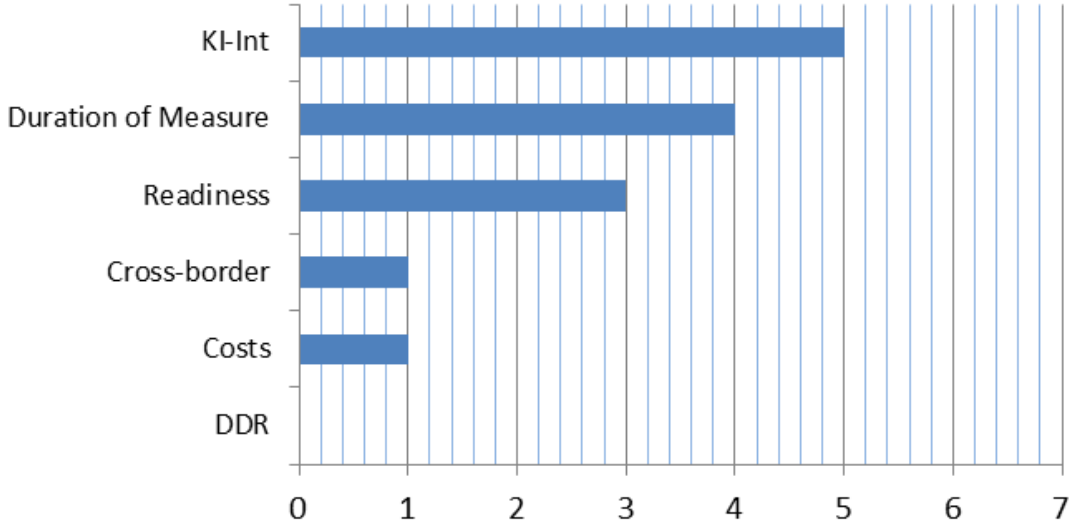
Frequency of thematic cluster assigned



Frequency of tags assigned to questions



Frequency of indicators applicaple to questions



Outlook

EPISECC will provide a concept of a common information space. To ensure that the required information will be provided

- Best practices and shortcomings of the management of past disasters need to be analysed
- Such analyses need to be performed in a way allowing comparable and quantifiable comparisons (taking data protection requirements into account)
- Questions of stakeholders on the management of past disasters will be answered

That is what the EPISECC inventory ensures

PSCEurope
Public Safety Communication Europe

TU Graz
Graz University of Technology

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY

FREQUENTIS

AIRBUS DEFENCE & SPACE

icri iMinds KU LEUVEN

TCCA

IES Solutions

UNIVERSITY OF SPLIT

DLR Deutsches Zentrum für Luft- und Raumfahrt
German Aerospace Center

HTEC LUXEMBOURG

HWCommunications
Cyber Security and Resilience

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