

Creating Resilience Capability against Critical Infrastructure Disruptions: Foundations, Practices and Challenges

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WELCOME TO INTERNATIONAL CONFERENCE!

Creating Resilience Capability against Critical Infrastructure Disruptions: Foundations, Practices and Challenges IDA Conference Center, Copenhagen, Denmark

13 April, 2015









Organizers

DTU/Technical University of Denmark

in collaboration with

- the Danish Risk Society, IDA Risk,
- EU project 'Resilience Capacities Assessment for Critical Infrastructure Disruptions' (READ)
- Copenhagen University's Disaster Programme, and
- Danish Emergency Management Agency









Programme

09:00 – 10:00 10:00 – 10:30	Registration and breakfast <i>Henning Boje Andersen; Igor Kozine</i> (DTU Management Engineering): Welcome and introduction to conference theme. Outline of EU READ project
10:30 – 11:00	Mads Ecklon (Head of Division of the Centre for Preparedness Planning and Crisis Manage- ment, Danish Emergency Management Agency - DEMA): Resilience in a crisis management context
11:00 - 11:30	Hans Kleintjens (Senior Programme Coordinator at the regional fire service in Twente Region, Netherlands): Resilience Capacities: How to Cope with Major Disruptions in Electrical Power Supply
11:30 – 12:00	Paul Scobbie (Critical Infrastructure Resilience Unit of the Scottish Government - CIRU): Critical Infrastructure Resilience – the Scottish Experience
12:00 - 13:00	Lunch/Buffet









Programme

13:00 – 13:40	Arjen Boin (Professor of Public Institutions and Governance Department of Political Science, Leiden University, Netherlands): Trans-boundary Crises and the Coordination Challenge: A Search for New Institutions
13:40 – 14:20	Kurt Petersen (Professor in Safety Analysis and Risk Management; Director of LUCRAM, Lund University Centre for Risk Assessment and Management, Sweden): New Challenges in Resilience Assessment
14:20 - 14:40	Coffee, cake and refreshments
14:40 – 15:20	Linda Janet Bellamy (Director, White Queen Safety Strategies, Hoofddorp, Netherlands): The Human Contribution to Resilience
15:20 – 15:50	Kathleen Tierney (Director of the Natural Hazards Center, professor in Dept. Sociology and the Institute of Behavioral Science, University of Colorado, Boulder, USA): Community Impacts of Critical Infrastructure Disruption: The Argument for Enhanced Resilience
15:50 - 16:30	Panel discussion. Summing up







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OUTLINE OF THE READ PROJECT

READ: Resilience Capacities Assessment for Critical Infrastructure Disruptions

 $f(x+\Delta x) = \sum_{i=0}^{\infty} \frac{(\Delta x)^i}{i!} f^{(i)}(x)$

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The READ project



- EU Programme: The Prevention, Preparedness and Consequence Management of Terrorism and other Security-related Risks (CIPS). European Commission – Directorate-General Home Affairs
- Start and completion date: October 2014 to September 2016
- Coordinator:



• Collaborating partners:









READ: Objectives



- Develop a framework to identify, build and assess specific resilience capabilities required to prepare, cope and recover from cross-border CI disruptions;
- Develop a set of tools (the READ Preparedness & Response tool and the READ Recovery Tool) aiming at supporting the stakeholders involved in emergency management activities, including the CI operators, to assess their own resilience capacities with respect to cross border CI disruptions and thus identify the main areas where progress is needed;
- Test the READ Preparedness & Response Tool during the preparation activities of a real live civil protection exercise regarding a potential disastrous scenario involving the Øresund bridge-tunnel between Denmark and Sweden;
- Test the READ Recovery Tool during a table-top exercise involving some selected EU stakeholders (emergency managers, civil protection authorities, first responders and CI operators).





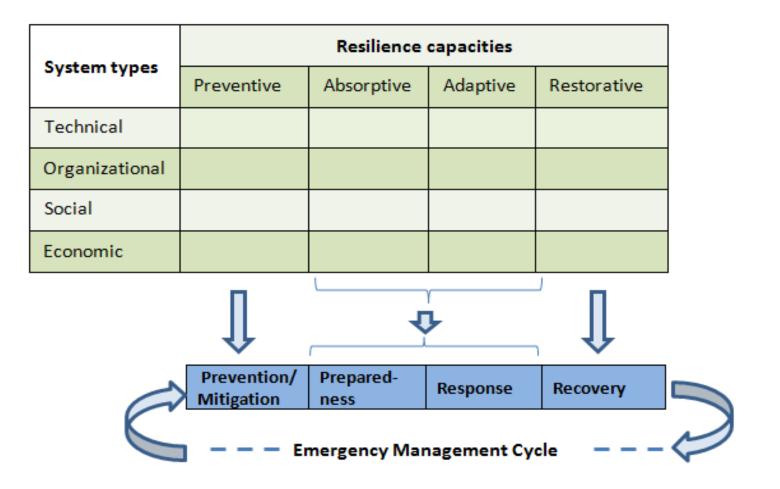


OUTLINE OF THE FRAMEWORK FOR BUILDING RESILIENCE AGAINST CI DISRUPTIONS





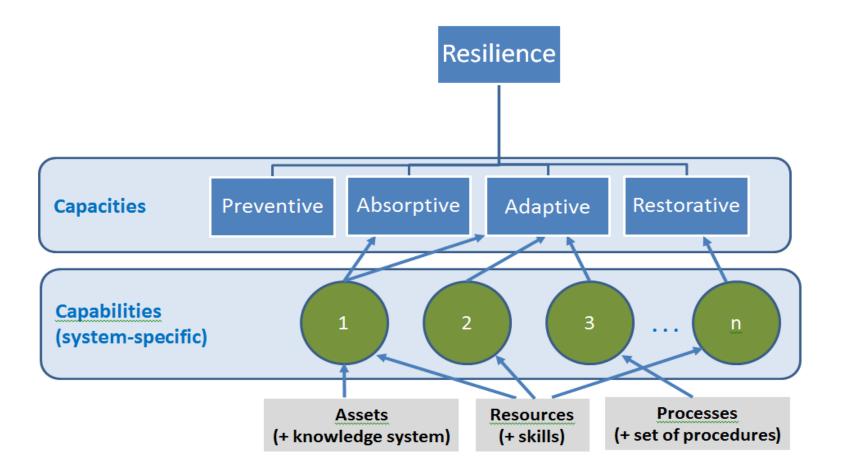
Resilience capabilities' space coupled to the EM cycle







Building system resilience





Example



Capability: Provision of access to required information

- Asset: Information (can be paper medium, e-repository, audio records, etc.)
- **Resource:** Examples may be tools such as communication links, computer terminals, competencies to operate and make use of these.
- Processes/routines (procedures, prescriptions or tacit background knowledge and know-how): Examples may be instructions for getting access to the target information which may include authorization, credentials for e-access, etc.





Resilience capabilities' space extended by the intra-/inter-organisational dimension

	Intra-/inter- organisational dimension	Resilience capacities			
System types		Preventive	Absorptive	Adaptive	Restorative
Technical	Intra				
	Inter				
Organizational	Intra				
	Inter				
Social	Intra				
	Inter				
Economic	Intra				
	Inter				





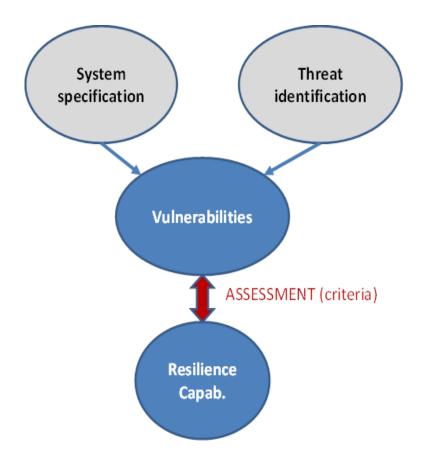
Inter-organisational model

	INTER-ORGANISATIONAL MODEL (National and cross-border)				
Capabilities	Independent	Coordinate	Cooperate	Collaborate	Meta- organisation
+ To share Authority					
+ To share Power					
+ To share Activities and Resources					
+ To share Information					
Intra- Organisational Resilience					





Coupling resilience capability solutions to specific CIs







Ranking resilience solutions for implementation/enhancement

Vulnerabilities	Preventive	Absorptive	Adaptive	Restorative
	✓		1	✓
*		✓		
N.		√	✓	
.Nº			1	
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QUI			1	1
	√	√		

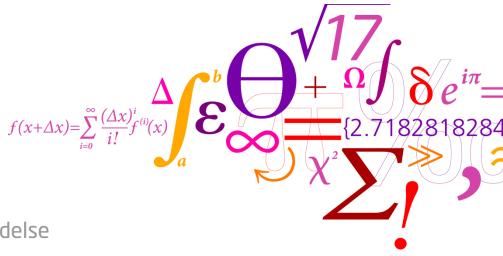








THANK YOU



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