Smart Cities Resilience: Research and Best Practices

Bridging resilience perspectives

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Smart City Resilience

Collective potential capacity of societal actors

– formal and informal; digital and analogue; organized and unorganized –

to anticipate, adjust, adapt, change and thrive in everyday life and when facing adverse situations (prior to, during, and after)

Source: Ivonne Herrera & Hans Tilset

Three basic foundations for smart city resilience

Administrative & organizational

- Planning
- Emergency preparedness
- Coordination capacities

Technological & physical

- Green critical infrastructure

Social networks & tacit

- Trust
- Social capital
- Wellbeing

Source: Ivonne Herrera & Hans Tilset

Evaluation of urban resilience

- Prepare to be surprised
- Flexible, adaptable and gracefully extensible
- Understand distance between work as imagined and work as done
- Identify and understand (hidden) interdependencies and cascade effects
- Learn from everyday activities
- Coordinate collaboration and cooperation within and across formal & informal networks
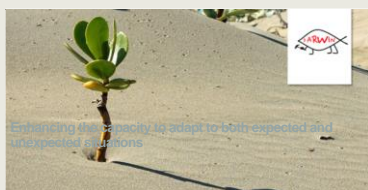

Source: Shutterstock

Tools and processes for security upgrades

- Guidance materials

- Methodologies

- Exercises

- Training

- Public engagement

LIMITED RESOURCES

Estimated timeline for key security related regulatory

EU Parliament Elections

2023 | 2024

NIS2 -directive → NIS2 – directive entry into force → National implementation period → NIS2 –directive applicable from 2024

CER -directive → CER – directive entry into force → National implementation period → CER –directive applicable from 2024

EU Artificial Intelligence Act → Inter-institutional negotiations → AI Act into force late 2023 - early 2024

https://www.tietoevry.com/en/blog/2023/06/strategic-foresight-how-will-eu-regulatory-impact-responsible-ai-data-and-cloud-strategies/

When facing crises, organisations need to be able to adapt in a timely manner to potentially unexpected situations. Roles, training, strategies, processes, etc., need to be in place to provide such capacity based on an all-hazards approach, assuming both known and unknown risks.
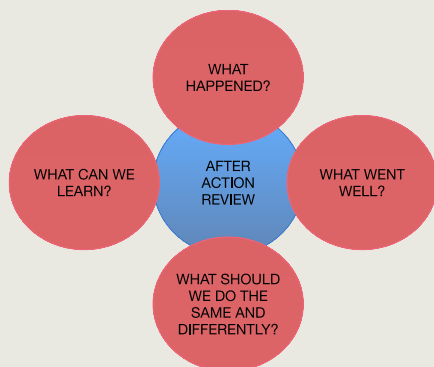
Actors targeted by the concept card

Actors directly concerned by this concept card are decision and policy makers, and crisis managers. The guideline is relevant at all administrative and management levels, since adaptive capability also concerns front line operators, and roles who (re-)design response plans.

What is needed

To enhance their capacity to adapt to all events, expected or unexpected, organisations need to:

- **Understand how they adapt** in their operational environment. Creating such understanding includes: understanding the nature of the disruptions they face; identifying how they regularly handle or experience challenges and disruptions in everyday operations; having clear and shared mission and goals; etc.
- **Build mechanisms** (strategies, processes, tools) so that, as much as possible, these are already in place when crises occur, i.e. when they are most needed. Such mechanisms need to be rehearsed, with the understanding that actual events will likely be different from anticipated situations.
- **Implement adaptive actions and strategies** in the challenging context of crises
- **Learn from both failures and successes**, and regularly review and revise the mechanisms that support adaptation to .

WHAT HAPPENED?

AFTER ACTION REVIEW

WHAT WENT WELL?

WHAT CAN WE LEARN?

WHAT SHOULD WE DO THE SAME AND DIFFERENTLY?

Knowledge transfer through training activities

One important part of the STOP-IT project are the training activities for the developed tools and solutions. STOP-IT builds on a Frontrunner (FR) and Follower (FL) approach, where the four FR water utilities, more advanced with regard to managing risks arising from physical and cyber threats, have been twinned with four ambitious water utilities, in terms of awareness and preparedness. By training the Followers, this concept stimulates mutual learning, transfer and uptake of solutions.

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Improved Efficiency of Security Forces and Emergency Services

" importance of using available resources and emergency preparedness across sectors and the need of new knowledge on better use of resources within a **whole-of-society approach**"
NoU 2023

" be a proactive and knowledgeable participant in the development of new technological tools for **coordination of public and voluntary sector resources** before, during and after unwanted incidents." TRC2023

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