

Towards a Safe, Secure Society

- Resilience and IT Risks in Social Infrastructures -

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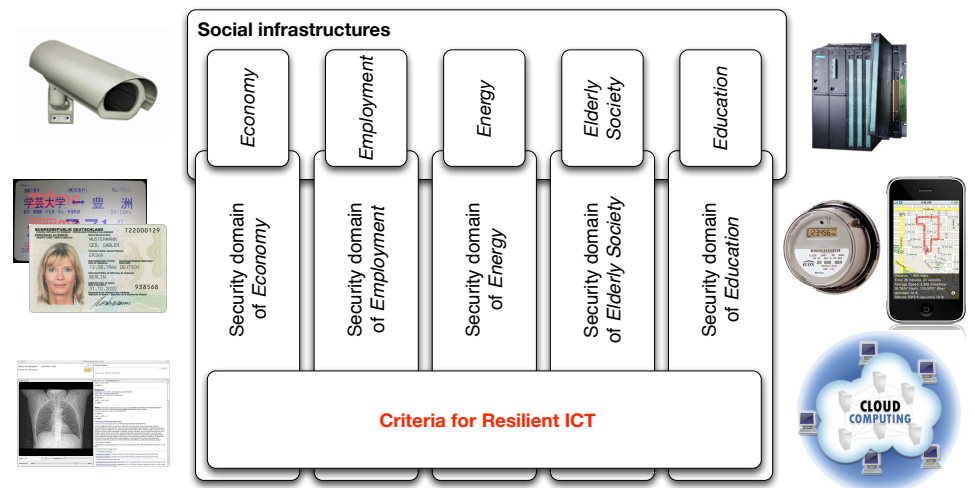
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Social Infrastructures and ICT

ICT as a Basic Infrastructure of Social Infrastructures

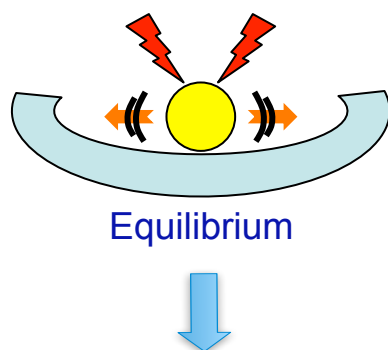
- In 2050, 70% of the world population will live in cities (UN)
- Cities face major challenges like logistic bottlenecks, pollution, employment, elderly society, education, public security, ...
- ICT supports cities' social infrastructures by making service processes, security measures, and coordination activities more efficient: observe, evaluate, coordinate, and optimize status and flows of a city (e.g. resources and people)
- Social infrastructures are protected against **expected threats** from crime, terrorism, and natural disasters



But: What about risks from unexpected, inevitable threats?

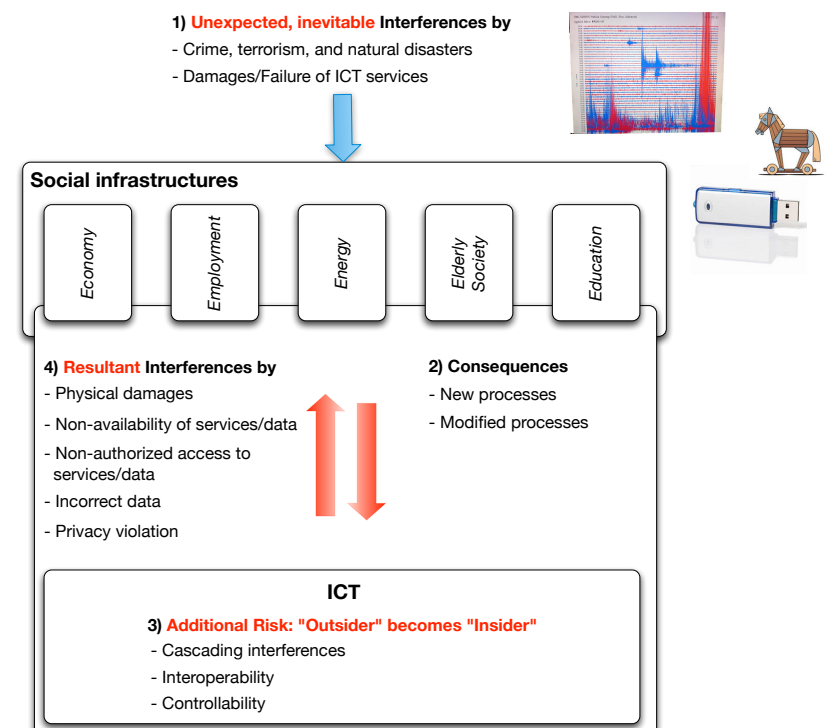
Resilience and IT Risks in Social Infrastructures

Resilience: Resistance against attacks + Mitigate attacks
(prevent & protect + respond & recover)



- ICT still has to provide its services and data according to the protection goals of IT-Security (confidentiality, integrity, availability)
- Availability: Replace failed ICT services on-demand by similar ICT services

But: On-demand flexibility of ICT raises new risks due granting access to "outsider" of a security domain

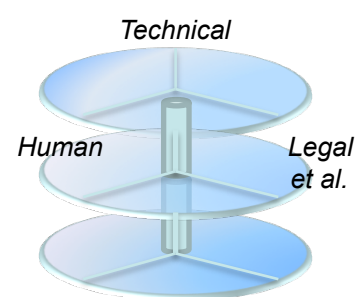


Resilient ICT: Transparency by Evidences

Transparency by Evidences

- Possibility to understand and restore all ICT states at anytime
- Enable to monitor ICT systems and to identify indirect relationships between ICT services
- No central point of control/coordination
- Evidences indicates an ICT system's state transition differing from target states

Research Areas

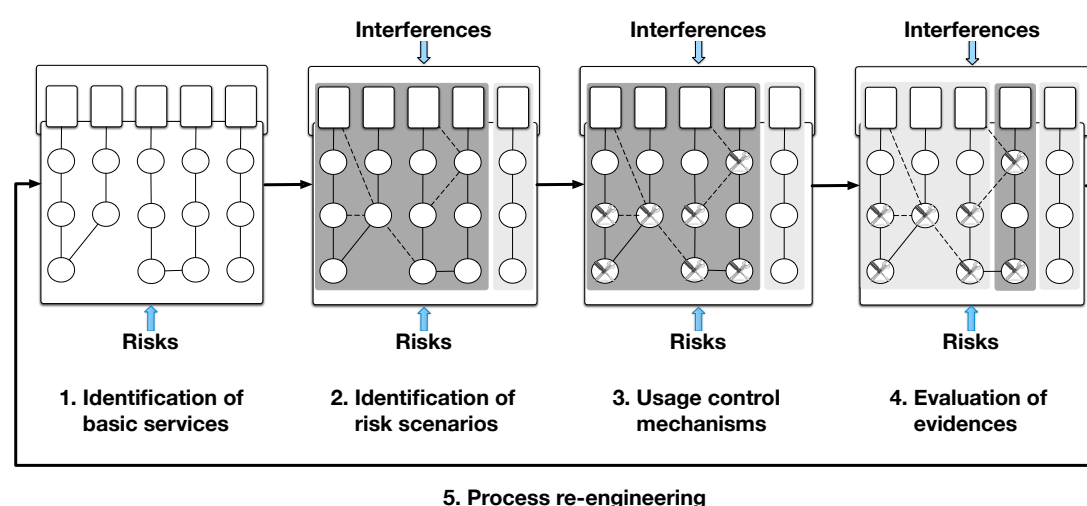


Resilient Risk Assessment (RA1)

Resilient ICT Services (RA2)

Resilient ICT Infrastructure (RA3)

Approach



5. Process re-engineering