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EUROPEAN INSTITUTE FOR RISK, SECURITY AND COMMUNICATION MANAGEMENT



*... for a safer world ahead ...*

# **City Security – Unconventional and Multidisciplinary Perspectives**

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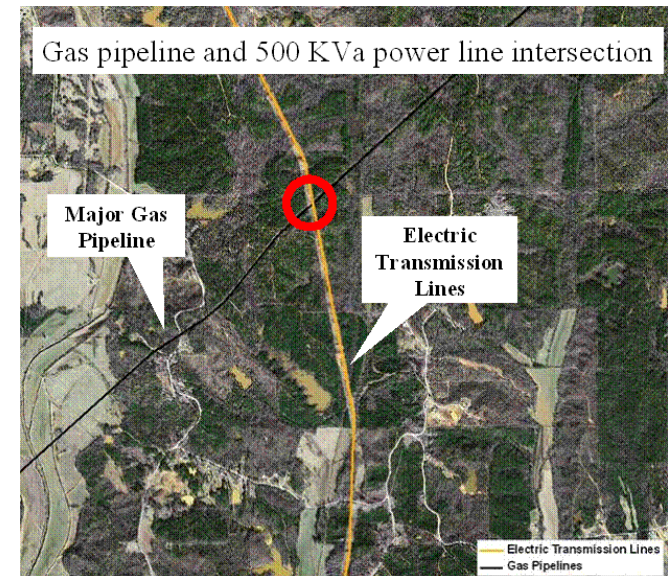
# **New Developments in the Security Environment**

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- ❑ 9/11 – a new chapter in terrorism
- ❑ 2007 - 2008 start of the financial-economic crisis, ascension of organized crime
- ❑ 2010 - beginning of major disruptions due to e.g. natural hazards and technological failures - earthquakes (Haiti), volcanoes (Iceland), earthquakes and tsunami (Japan), flooding (Pakistan, USA), nuclear power plant accident (Japan)
- ❑ 2011 – start of a massive immigration wave affecting EU-member states (Italy a case in point)
- ❑ 2012 – Arab Spring, disorderly political transitions or civil wars and trade disruption
- ❑ 2013 – Fukushima and political blow to nuclear energy
- ❑ 2014 – Crimea Crisis and energy security concerns
- ❑ 2015 – Refugee and Migrant Crisis in Europe

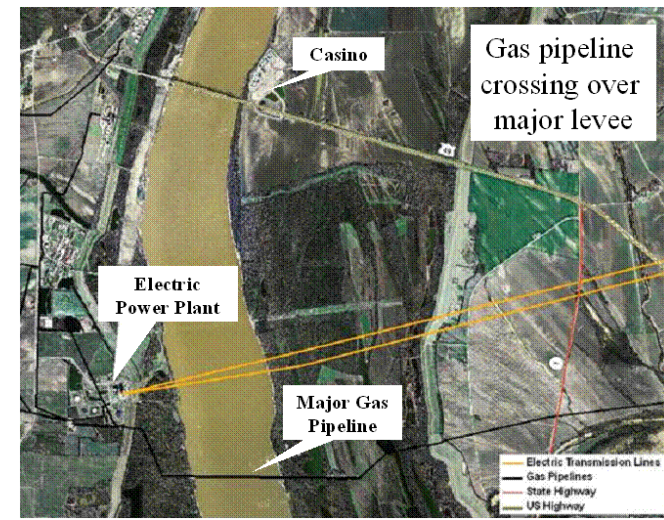
# Thinking the Unthinkable (1)

- ☐ New types of terrorist attacks on key critical infrastructures (energy incl. electricity, administration, water, food, health, banking...)
- ☐ Man-made disasters, collapse of technologies, 'enemy within';
- ☐ Major natural hazards with long-term consequences on business continuity and quality of life;
- ☐ Climate change with direct impact short and long-term effects (droughts with effect on food, water supply a.o.);
- ☐ Long-term challenges due to human migration



## Thinking the Unthinkable (2)

- ❑ Large-scale social unrests, long-term and in unexpected domains;
  - ❑ Limits of governance capacity at central and local level due various shortages in human, financial means, incl. lack of time with domino effect.
  - ❑ Cosmic weather forecast (sun storms and others).
  - ❑ Disruptive economic and technical
- Innovations – Tesla, SpaceX, Broad Group – the hazards of creative destruction;**
- ❑ “Black Swan”, “Antifragile”





# Cities: a new unit of analysis



- ❑ Cities as generators of wealth, products and innovation
- ❑ Cities concentrate increasing percentage of the population
- ❑ Cities support and focus national services and infrastructure
- ❑ Cities sustain rural and hinterlands areas
- ❑ Cities concentrate skills and education
- ❑ Cities foster national identity and sustain national morale and civic pride; also contain national monuments
- ❑ City administrations can rival national ones and can exhibit significant policy making capability
- ❑ Cities are increasingly relevant international actors

# Trends in urbanization – Top 600 Cities – Kinsey Report

**2007**

- 1.5 bln people living in top 600 cities – 22% of global population;
- \$30 trillion GDP or  $\frac{1}{2}$  of Global GDP
- Top 100 cities – 38% of Global GDP in 2007



**2025**

- 2 bln people living in cities – 25% of global population;
- \$64 trillion GDP or 60% of Global GDP

# Cities are facing new risks and waking up to old ones, given new urgency

- Emerging non-military risks – cyber-attacks, attrition, accidents, extreme weather, sabotage, black swans, worsening inefficiencies in city flow, propagation of health risks, system failures etc;
- A risk not just to the city, but to the region, the nation, and beyond, one so complicated it is hard to understand;
- Cities are becoming able and empowered security actors and sources of knowledge, innovation and policy;
- Greater inter-connections between the great cities of Europe are driving European wealth, but also insecurity
- Cities must achieve resilience in the face of a complex security environment, which involves understanding and governing risks, but also protecting critical infrastructures and services.

# The EU's complexity works against it

- Disparate progress in developing new instruments for the “toolbox” of decision makers
- vulnerabilities emerge from growing disparities between European nations, as well as regions and cities
- the rigors of achieving economic development and European integration goals will drive further exposure to new risks, many from beyond the jurisdiction of national authorities
- from mostly localism in security to regionalism and globalism, but with slower evolution in stakeholder-inclusive models
- There is a need for European support of these goals in the context of harmonizing and coordinating regional and national efforts, but also promoting new stakeholders, including the cities themselves.
- There is a developing model for cities as active agents in the regional and global spheres, pursuing local development goals within the national framework through their own outreach programs at diplomatic, cultural and especially economic levels



## The EU and the rise of Cities as active stakeholders

### Benefits

- Drive towards convergence
- Free flows of people, goods, capital etc benefit cities
- Pan-European projects, such as transport corridors, the Danube Macroregion Strategy, the unified electric grid etc
- Greater opportunities for contacts not mediated by central governments

### Threats

- New risks and vulnerabilities propagating faster
- Interconnections produce cascading disruptions
- Complexity breeds fragility
- New threats in the gaps between national security visions
- Problematic flows – criminality, terrorism, illegal immigration
- Information asymmetry



**Good Governance**  
**Smart Security**  
**Critical Infrastructure Protection**  
**Governance from Below**

# Critical Infrastructure Protection

- CIP provides a comprehensive framework for managing the key infrastructures, assets and resources on which countries depend at all levels.
- **A country is only as safe and as prosperous as its infrastructures will allow.**
- Resilience is a measure for success - the ability of society to withstand harmful events with the least amount of material damage and disruptions to business continuity and quality of life.
- CI, according to Directive 114/2008, include energy, ITC, transportation, as well as SPACE



# Critical Infrastructure Sectors

- Romanian Sectors

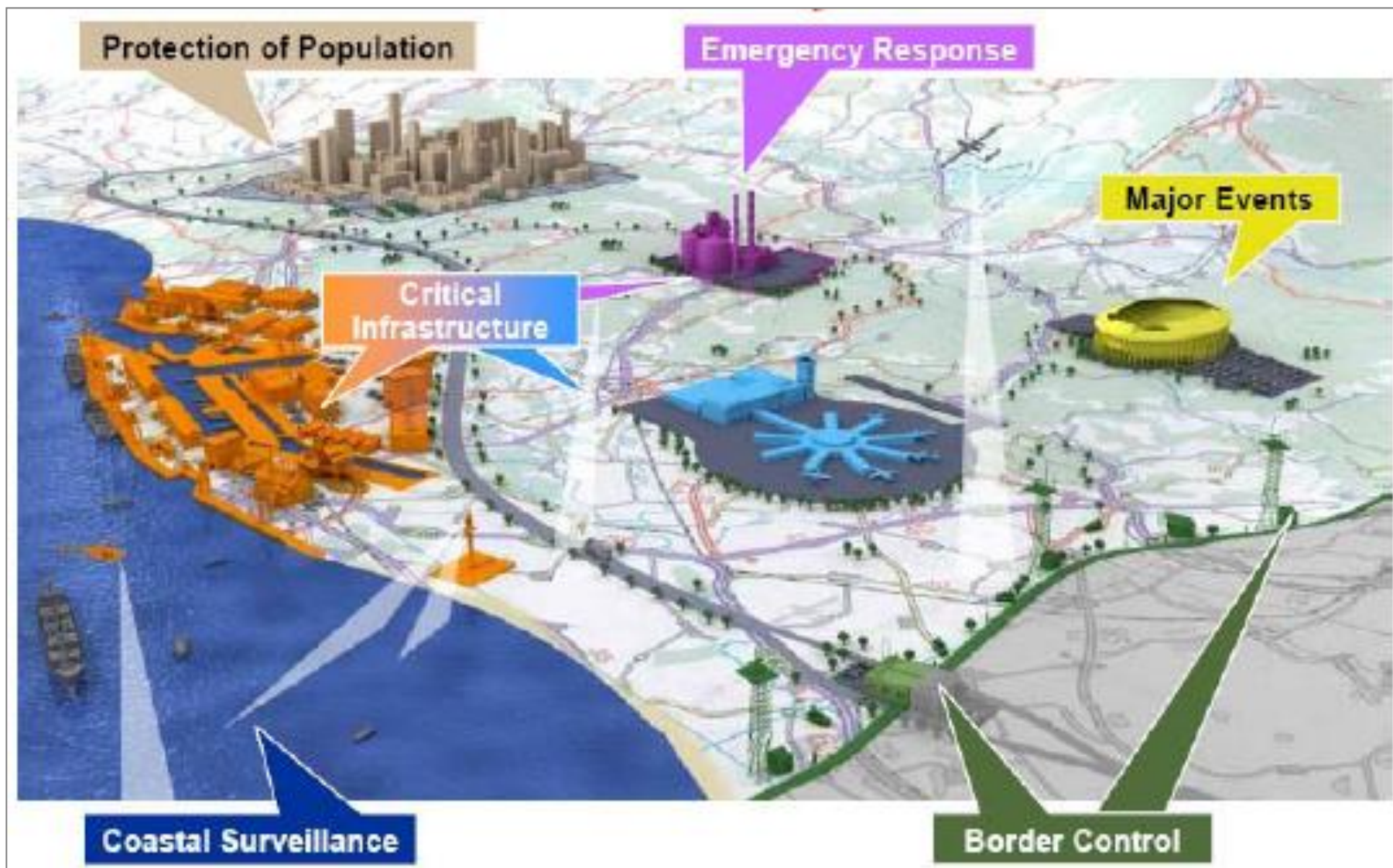
- Energy
- Transport
- ICT
- National Security
- Administration
- Food Supply
- Water Supply
- Health
- Chemical and Nuclear Industry
- Space and Research

- European Sectors (EC 2010)

- Energy
- ICT
- Water Supply
- Food Supply
- Health
- Finance
- Defence, Public Order, Natl Security
- Administration
- Transport
- Chemical and Nuclear Energy
- Space

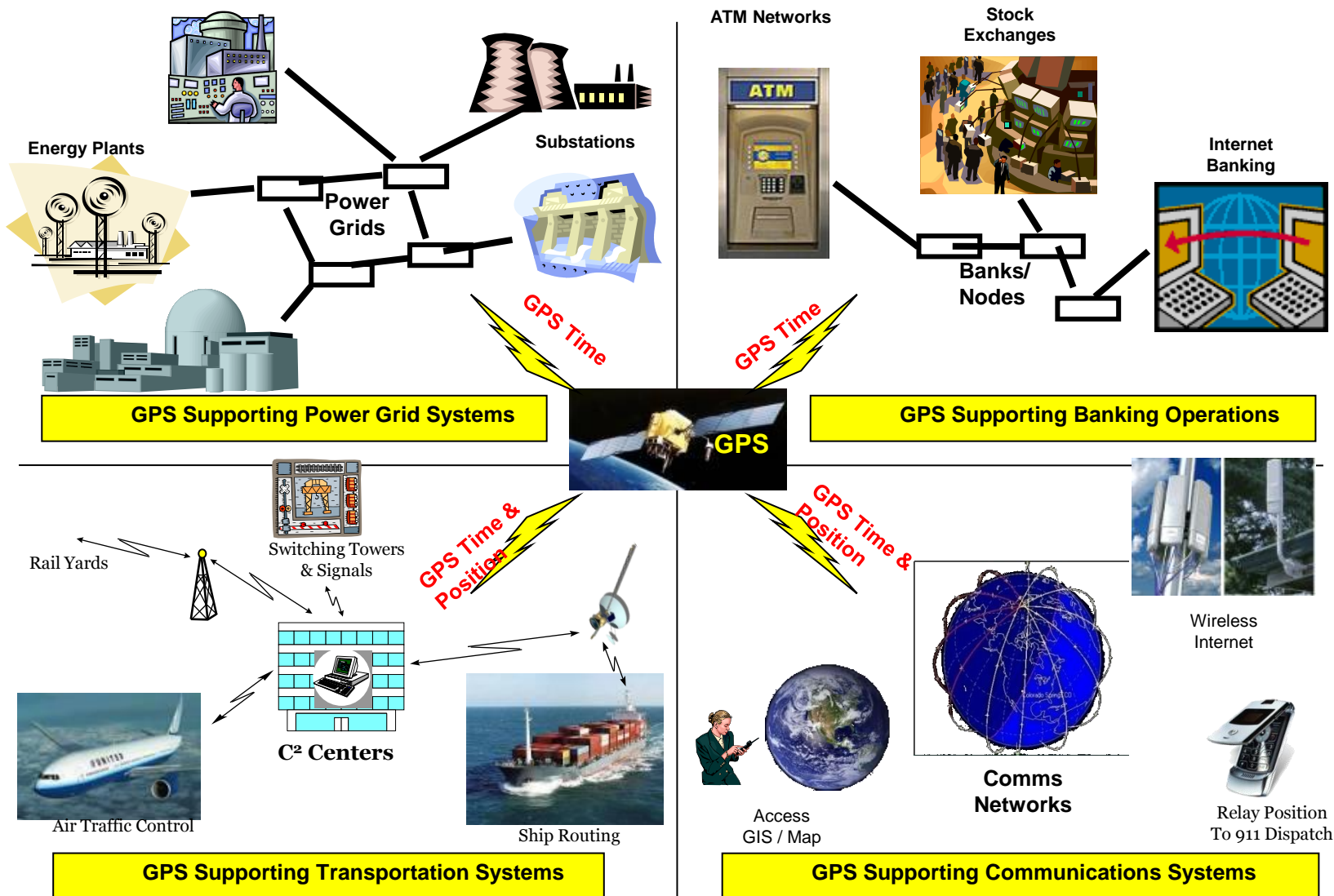


# Paradigm of CIP and Resilience





# Already, this is what just ONE space system means to us



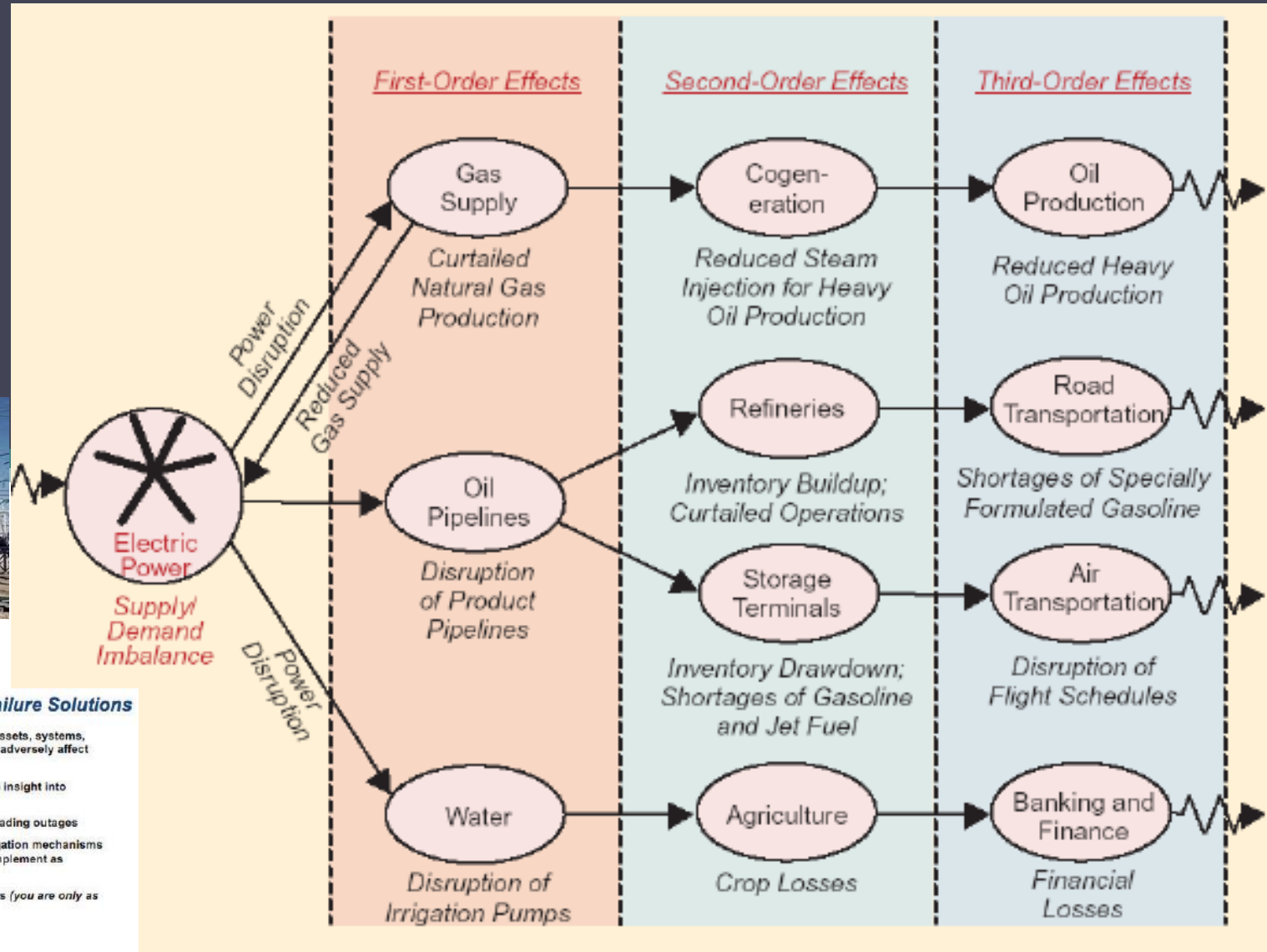
**In time, space assets will be the “upper” component of every infrastructure system**



# Cascading disruptions – earthquake, solar flare, cyber attack, sabotage etc etc etc

## Cascading effect following power transformers blowout

International Crises,  
Earthquakes,  
Cyber-attacks,  
Solar Storm,  
Terrorism,

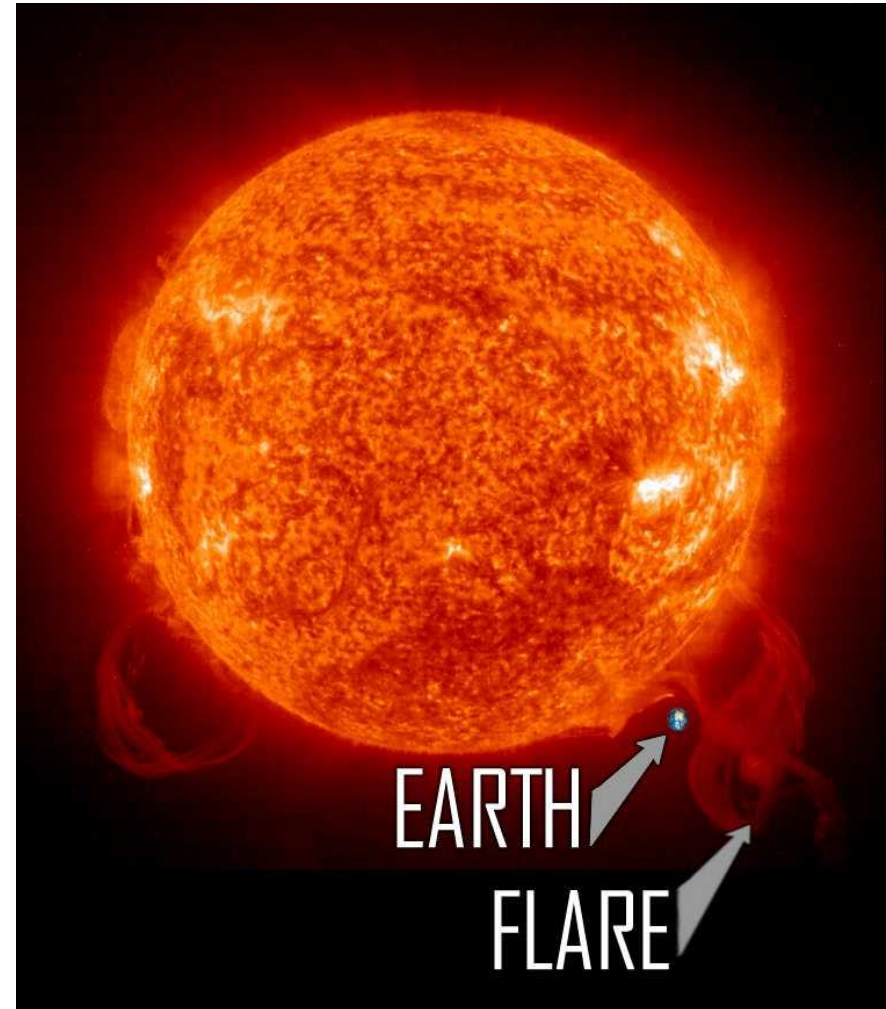


### Moving Toward Cascading Failure Solutions

- Identify internal and external infrastructure assets, systems, and networks that, if lost or degraded, could adversely affect performance
- Study natural disasters and incidents to gain insight into interdependencies problems and solutions
- Develop contingency plans to deal with cascading outages
- Identify how backup systems and other mitigation mechanisms can reduce interdependencies problems – implement as appropriate
- Address security in contractual arrangements (*you are only as secure as your suppliers and distributors*)
- Collaborate, cooperate, participate
- Avoid “failure of imagination”

# The greatest threat to the world economy comes from outer space

- Space weather, such as solar storms, disrupt satellites and infrastructures on the ground – communication, navigation, electricity grids
- If the 1859 storm, known as the “Carrington event”, were to recur today it could cause trillions of dollars in economic damage and take years to recover from, according to estimates.
- Hurricane Katrina caused roughly \$80 billion to \$125 billion in damage (NAS Report). A future geomagnetic storm like the 1859 event could cause 10 to 20 times as much and take up to a decade to fully recover from.
- The US National Research Council estimates losses from a big storm at 2 trillion dollars, with years of recovery required. Due to the state of the US electricity grid, the destruction of a hundred transformers could leave over 150 mil people in the dark for hours



Source: "Space Systems as Critical Infrastructure", EURISC/ROSA/Ministry of Defense Project

Source: Niraj Chokshi, The Biggest Threat to the Economy Could Come From Outer Space article in the National Journal, 12 June 2013

## **City Security and Resilience Room (SERES)**

- The potential end-users of this product could be ministries of defence, of interior, civil protection institutions, municipalities, companies of critical infrastructures
- The focus will be on the current city vulnerabilities with regard to hard infrastructure components, their protection and improvement, investment prioritisation and impact assessment.
- Factors such as traffic and transport management, natural hazards, major disruptions such as blackouts, water, food security, environmental security and waste management, terrorist and organized crime threats, population shift phenomena, large scale social unrest, essential supply services and emergency and response services are essential factors in streamlining the capacity building of the administration and offering the instruments required to project the improvement of life quality in the city in the perspective of long term development.

# **Increasing the response capacity of the local authorities**

- Security culture as a permanent objective of the authorities through information and education
- Public-private partnership for mitigation of material and human costs in case of disasters
- Improving the resilience capacity of the authorities
- Drafting local security strategies with the participation of public institutions, private sector, academia, civil society
- Using the simulation, training and crisis management capacities of the new CITY SECURITY WAR ROOM (from war games to serious gaming).



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**Thank You**

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