



EURISC FOUNDATION SINCE 1995
EUROPEAN INSTITUTE FOR RISK, SECURITY AND COMMUNICATION MANAGEMENT



... for a safer world ahead ...

Integrating Critical Infrastructure Protection Aspects in Danube Strategy

Dr. Liviu Muresan
EURISC Foundation, Romania

The Danube – A Main Artery of EU's Beating Heart



- A Strategy for Coherent Danube Development is Long Overdue
- The Danube River covers 110 million people and a fifth of the EU Surface
- 14 countries – 8 EU states, 6 non EU states
- The EU Strategy for the Danube is dedicated to improving the life of European citizens in areas such as mobility, connectivity, environmental protection, energy efficiency, economic and social development etc.

EU STRATEGY AND ACTION PLAN FOR DANUBE REGION



The main pillars :

A) Connecting the Danube Region

- 1) *To improve mobility and multimodality*
- 2) *To encourage more sustainable energy*
- 3) *To promote culture and tourism, people to people contacts*
- 4) *To promote awareness of the key issues affecting all countries in the Danube Region*

B) Protecting the Environment in the Danube Region

- 1) *To restore and maintain the quality of waters*
- 2) *To manage environmental risks*
- 3) *To preserve biodiversity, landscapes and the quality of air and soils*

C) Building Prosperity in the Danube Region

- 1) *To develop the Knowledge Society through research, education and information technologies*
- 2) *To support the competitiveness of enterprises, including cluster development*
- 3) *To invest in people and skills*
- 4) *To develop proper infrastructure for navigation and transport of goods*
- 5) *To counteract the economic, human and environmental effects of natural or man-made disasters*

D) Strengthening the Danube Region

- 1) *To step up institutional capacity and cooperation*
- 2) *To work together to promote security and tackle organised and serious crime*



All these issues could be approached in different ways.



Transportation is Central to Danube Synergies



Transport infrastructure is fundamental for the smooth operation of the internal market, for the mobility of persons and goods and for the economic, social and territorial cohesion of the European Union.

Most of the transport infrastructures have been developed under national policy premises. The Trans-European Transport Network (TEN-T) provides a vision for a unified European multi-modal transport system:

- Filling in missing links
- Removing bottlenecks
- Sustainable and efficient from an energy and climate perspective
- Integrating land, water, air modes – full multimodality

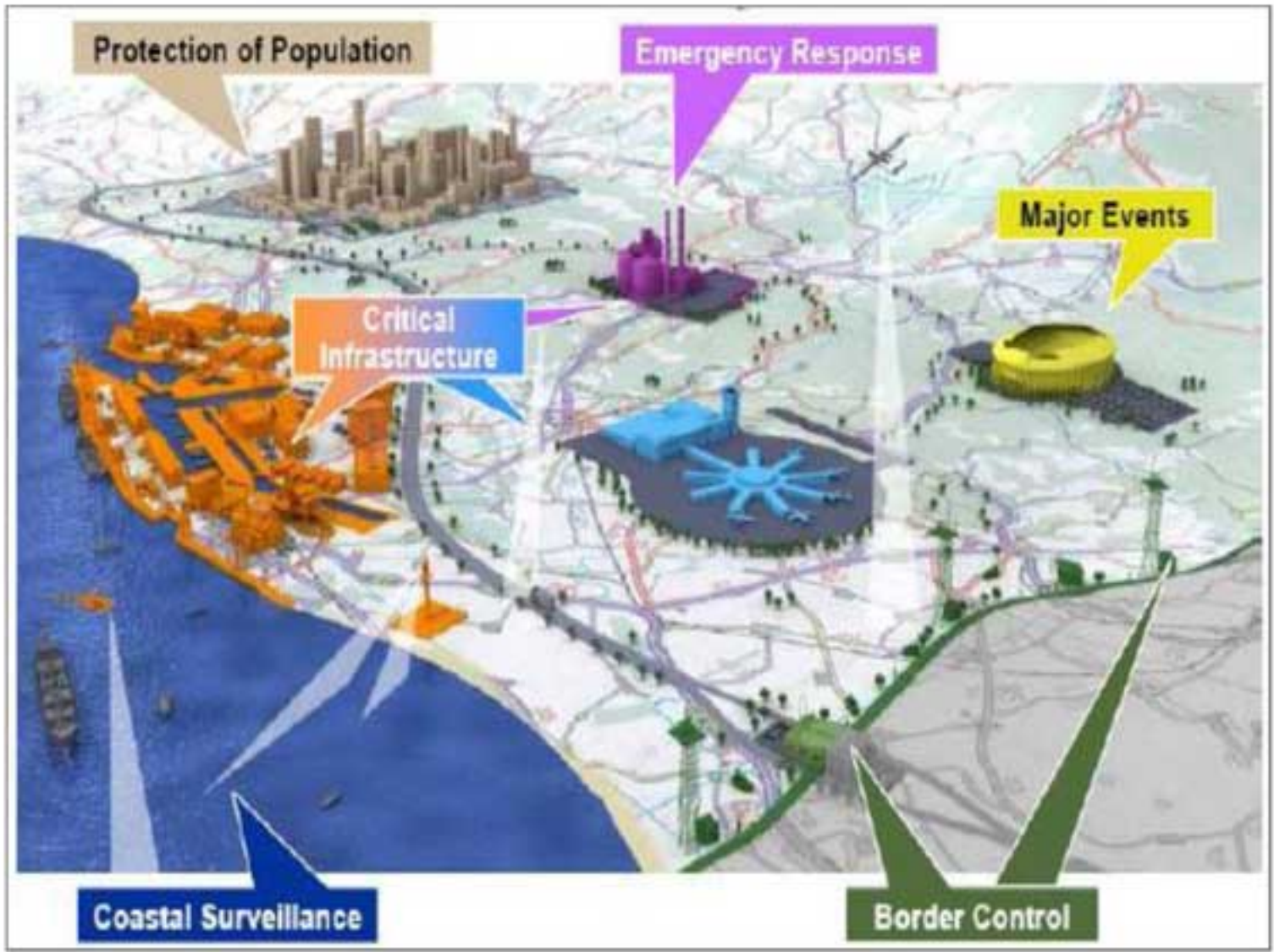
All within the context of a doubling of expected interstate EU traffic by 2020. Beyond that, integration with Black Sea systems, including the planned ring of highways will connect Central Europe to the Near East and beyond.

The DANUBE is a key part of the TEN-T, and the success of the Danube Strategy makes or breaks the TEN-T network.

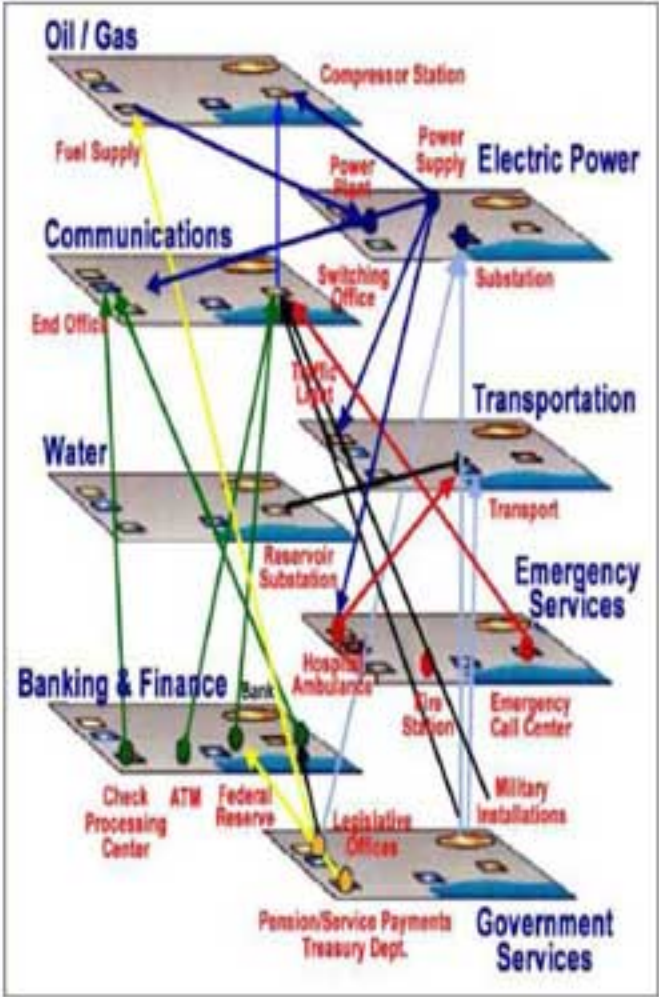
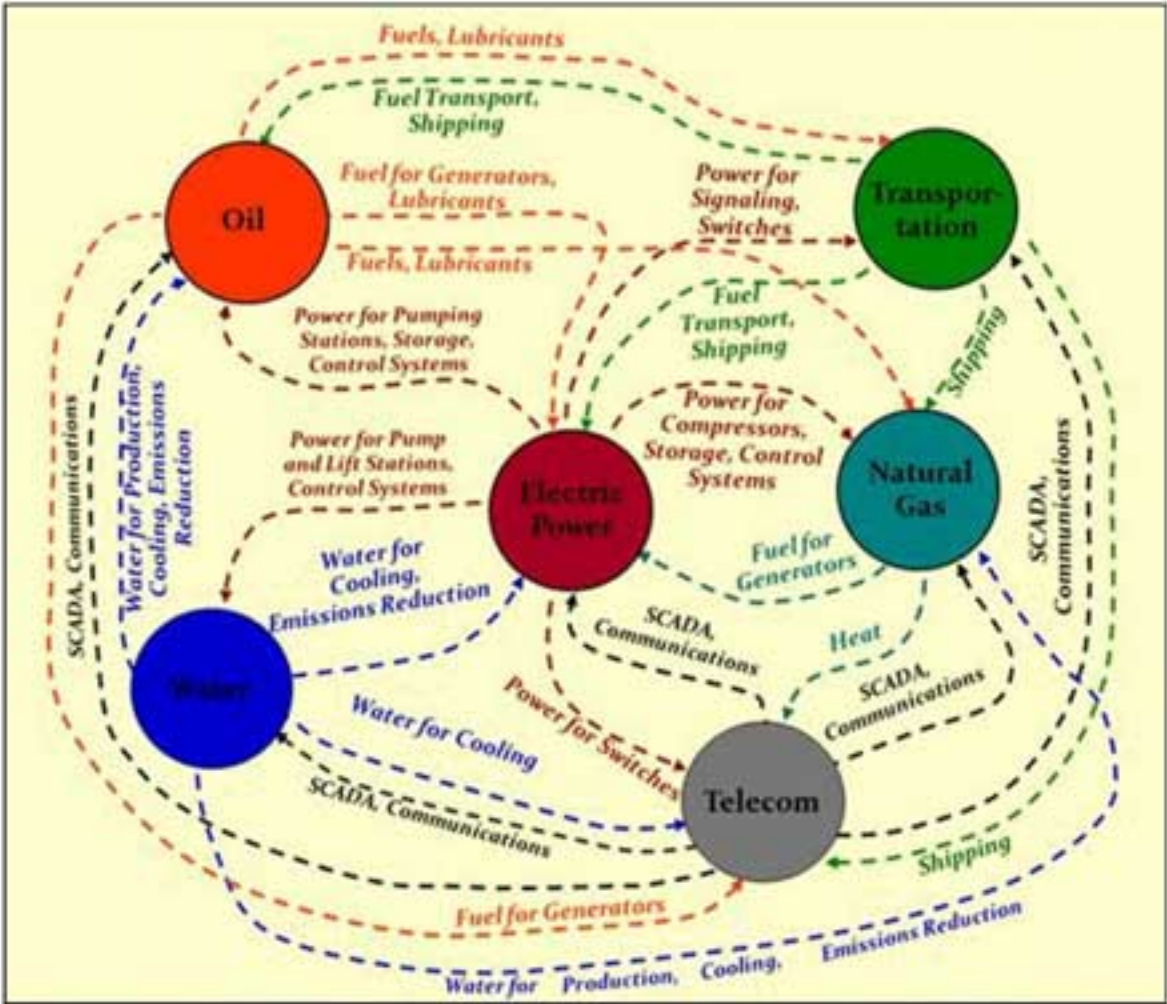
Highly Connected and Essential Infrastructure and Asset Types – all found in Danube vicinity

Highly Connected & Interdependent Infrastructures	Essential & Dependent Infrastructure	Public & Private Sectors	Asset Types
<ul style="list-style-type: none"> ▪ Communications ▪ Energy ▪ Transportation ▪ Banking and Finance 	<ul style="list-style-type: none"> ▪ Water ▪ Sewer ▪ Health Care ▪ Government ▪ Agriculture/ Food 	<ul style="list-style-type: none"> ▪ Residential ▪ Commercial ▪ Industrial ▪ Medical ▪ Military 	<ul style="list-style-type: none"> ▪ Water storage ▪ Power plants and lines ▪ Gas lines ▪ Buildings ▪ Bridges ▪ Etc.
<p>National, regional, and local economic security depends on these infrastructures</p>	<p>Human health and safety (fire, police, EMS) depend on these infrastructures</p>	<p>Source of economic demand for infrastructures</p>	<p>Natural and unintentional disaster locations and terrorist targets</p>

The Danube Paradigm

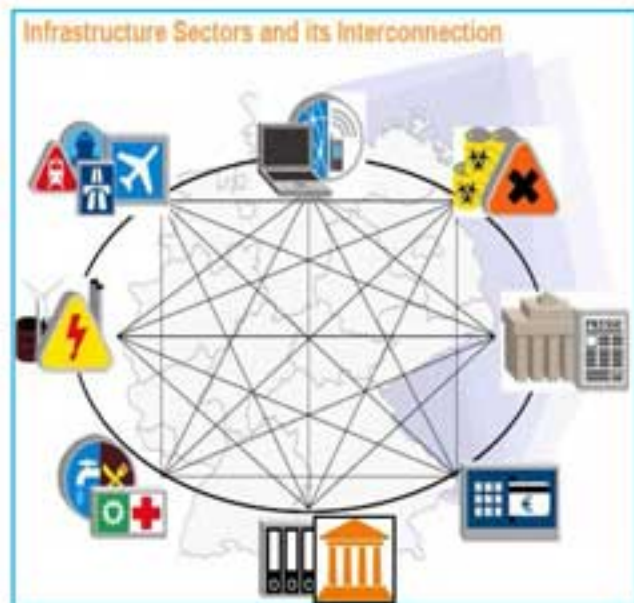


Critical Infrastructure Interdependencies Danube – river of complexities



Source: Heller, M (2001). Interdependencies of Civil Infrastructure Systems. *The Bridge*, a publication of the Nation Academy of Engineering. V. 5, #31, 2001

Priorities for EU, State and Companies



Legal authorities and CI management structures;

All hazard approach - a risk analysis based on major threat scenarios, vulnerability of each asset, and potential impact shall be conducted;

Operator's Security Plans and Security Liaison Officers for each designated Critical Infrastructure (from companies, to authorities at local and national level);

Interdependencies and Resilience studies;

EU and National Strategies, as well as Legislation;

CI sector's representatives to define cross-cutting criteria for evaluation and negotiations on the basis of the severity of the disruption or destruction of the CI:

- a) Public effect (number of population affected);
- b) Economic effect (significance of economic loss and/or degradation of products or services);
- c) Environmental effect;
- d) Political effects;
- e) Psychological effects

Functional information sharing system;

From Physical Security to Cyber security measures (CIIP);

Research, training and experience sharing – training the trainers and developing a CIP professional community.



'Swiss Knives' for state and companies

Energy Security War Room (ENSEWARO)

– From 'war gaming' to 'serious gaming' –

- ◆ Potential end-users of this product: companies, state authorities or international organizations, having to take rapid decisions, based on alternative scenarios, needing long term vision, in an increasingly complex and challenging security environment.
- ◆ The “stabilisation of instability” is possible based on the approaches of system of systems and *infranomics* for a sustainable development of the end-user with business continuity and quality of life incorporated.

'Swiss Knives' (2)

ENSEWARO (continued)

- What does it offer? A unique platform for Training, simulation and command, integrating hard & soft components.
- What is it using? Visualisation techniques for numerous participants, incl. iPhone and iPad users, integrating information & images (also from UAVs).
- As a smart energy security and critical infrastructure protection system of systems, **ENSEWARO provides eventually, to the leadership of the end user alternative scenarios** for decision taking 24/7 based on the “to do more with less” concept.

'Swiss Knives' (3):

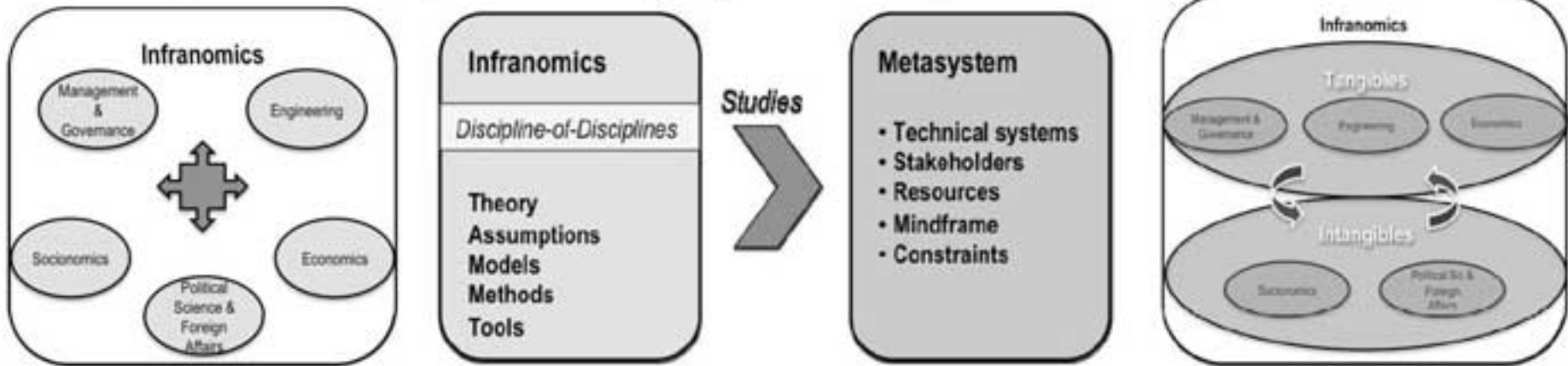
'City Security War Room' (CISEWARO)

- 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.

Infranomics: A Discipline of Disciplines for the 21st Century

- **Infranomics** (by Prof. Adrian Gheorghe and Dr. Marcelo Masera) will be the discipline of disciplines, grouping all needed knowledge

Infranomics, after ***infrastructure*** (supporting vital societal technical functions) and ***nomics*** (after Gr. νόμος *nomos*, set of rules), the ***discipline-of-disciplines studying the metasystem.***



- **Next generation infrastructure concept** (NL)

"The new generation of infrastructures will be constructed upon the existing ones, however the services, architecture, business models and attributes of those newly developed systems will signify a qualitative leap forward, and not just more of the same."

Developing the Security Culture of the Danube Region

- developing and organizing educational programs, training, consultancy, security research and development, in the field of safety, the security of citizens and local communities, civil emergency, national and European critical infrastructure protection;

- training for experts, managers and security liaison officers as well as for consolidating a security culture for preparing the population for emergency situations, industrial accidents, environmental catastrophes, man made or natural disasters and other crisis situations, risk and vulnerabilities, mentioned by EU and national legal documents in force;

- promoting logistics resources necessary for training / educational processes, as well as for specific exercises and in response to the above mentioned situations, as required by EU legislation and according to national and international standards;

Danube Security Forum

Goals:

- ☑ Promoting interest in security culture and education among private and public organization through the use of media and events;
- ☑ Integrating security education in learning centers, for primary, secondary and tertiary levels, as well as for adults in public institutions, through trainings, seminars, conferences, roundtable events a.o.;
- ☑ Establishing and maintaining permanent collaboration with scientific organizations in the Danube region and with renowned experts in the field of security, as well as with governmental and non-governmental bodies interested in security culture or related fields;
- ☑ Developing security skills and competences among interested partners, either physical persons or organizations;
- ☑ Participation in conferences, projects and communication sessions in the field of security, organized by institutes of higher learning in the Danube region, local and central public authorities, or institutions with responsibilities in the area of security



Romanian Association for Critical Infrastructures and Services Protection



Romanian Special Register of Association
Registration Number: 64 / 2011
Tax Identification Number: 29012550 / 2011



PROTECTIA INFRASTRUCTURILOR CRITICE

CRITICAL INFRASTRUCTURE PROTECTION
Cooperation between the government,
business sector and civil society

The aim of the Romanian Association for the Protection of Critical Infrastructures and Related Services – ARPIC, is to bring together specialists from different fields, so as to contribute to the understanding and harmonization of specific norms and operating procedures for the protection of critical infrastructures and related services, in Romania, as well as at regional, European and international levels.



EURISC FOUNDATION SINCE 1995
EUROPEAN INSTITUTE FOR RISK, SECURITY AND COMMUNICATION MANAGEMENT



... for a safer world ahead ...

Dr. Liviu Muresan
Executive President
EURISC Foundation & ARPIC

PO BOX 2 – 101 Bucuresti 2, Romania
Tel.: 0040 21 212 21 02;
E-mail: eurisc@eurisc.org
Web: www.eurisc.org