NATIONAL INSTITUTE FOR RESEARCH AND DEVELOPMENT
IN INFORMATICS - ICI BUCHAREST

CYBER DIPLOMACY CENTER
ICI Bucharest

Energy Cyber Diplomacy as tool for energy transition

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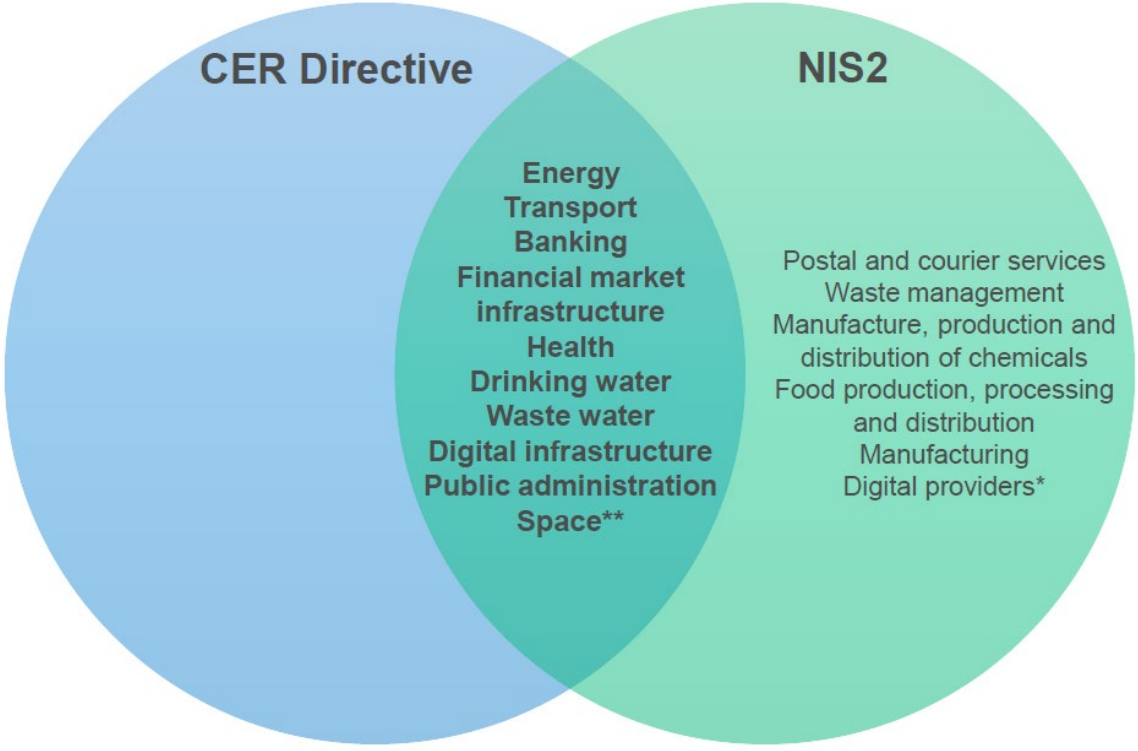
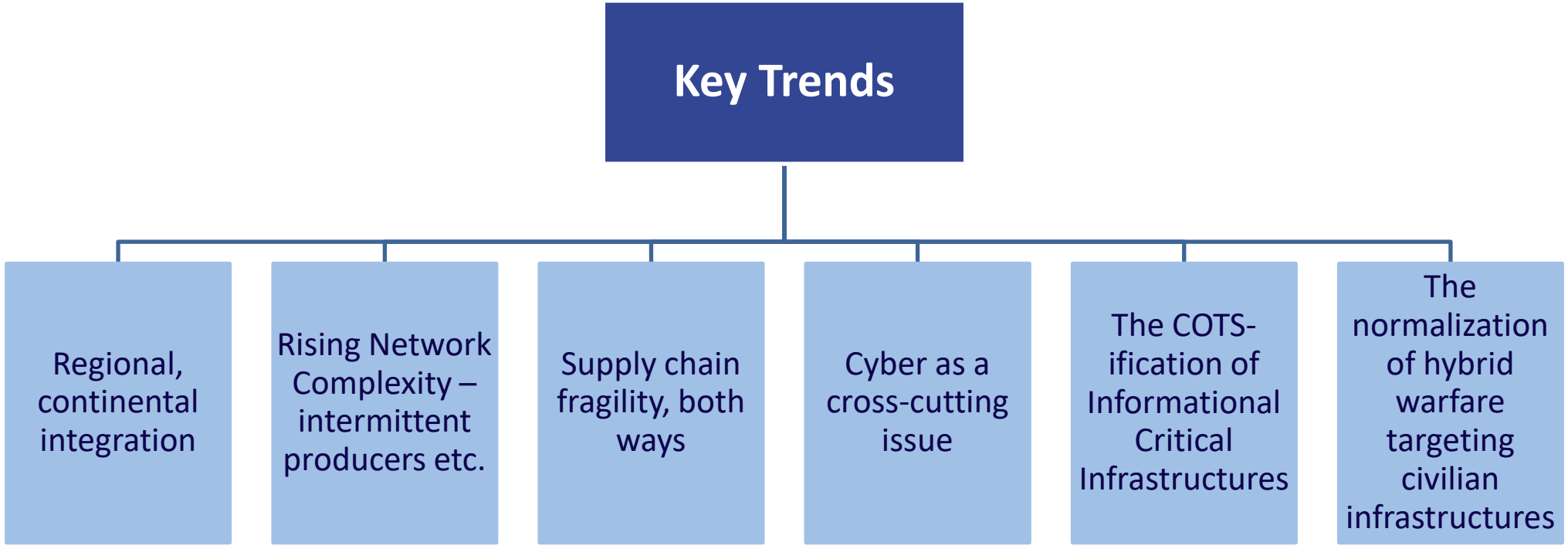
Recent Critical Infrastructure Governance Evolutions in Europe

- The new Critical Entities Resilience Directive and the NIS 2 Directive share a list of critical entity sectors, with energy at the very top
- Critical infrastructures and cyber are inseparable, since cyber is the upper layer of command, control and coordination for all CI



* 'Important entities' under NIS2
** 'Essential entities' under NIS2 and 'critical entities' upon identification under the CER Directive

Critical Energy Infrastructure Trends



The current cybersecurity environment – trends

- Cyber as a permeating and penetrating factor in **every** critical infrastructure system
- Rise of hybrid warfare and advantages of cyber attacks
- Effects of transborder organized crime
- Commodification of malware
- Blurring of the lines between physical and virtual infrastructure
- Threats outpacing improvements in security culture
- “Proliferation” of cyber weapons and the competence of non-state actors
- **Initial application of new technologies – blockchain and AI – creating new advantages but also risks**
- The mismatch between territorialized state agencies and institutions and cyberspace

What trends can we see for the foreseeable future?

- Systemic effects – more decentralization, less transparency
- Fragmentation of global networks
- Actors deciding to take dramatic steps – going offline, air-gaped systems, the *paperful* office
- AI and cyber are becoming a larger share of the value added of new products and services
- New domains that are underprepared for digitalization – Construction 4.0 etc.
- IoT as a transformative phenomenon on cybersecurity
- New efforts to create a security architecture (norms, agreements etc.) in order to govern the use of cyberattacks between states

What are the possible solutions?

Security Supply

- More investment in cybersecurity tools & research
- Better regulation and homogeneous transborder outcomes
- More coordination and trust building to share info on attacks (including automatically)
- Technical assist. for countries to improve cybersecurity of energy CI

Security Demand

- Investment in cybersecurity culture at organizational level
- Emphasis on cybersecurity in supply chains and interrelated organizations
- Strategic thinking in cyber planning
- Cybersecurity as a mark of competitiveness (market dynamics to reward positive behaviour and punish negligence)

Good Governance
Smart Security
Critical Infrastructure Protection

Cyber Diplomacy, a possible solution

What are the problems addressed by cyber diplomacy?

- Administration of transborder issues arising from the digitization of life, society, the economy and politics
- Cyberattacks are a new weapon of war
- Hybrid warfare and asymmetric warfare
- Targeting civilian infrastructure
- Coordonation on transborder (dis)organized crime
- Administration of global networks, technologies, infrastructure, standards, regulations, conduct etc.
- Collective issue recently discovered – blockchain
- Collective issues not discovered yet

The EU response

An EU "coherent international cyberspace policy"

The vision for the EU's cyber diplomacy was based on the identification of five key priorities:

- the promotion and protection of human rights in cyberspace
- norms of behavior and application of existing international law in the field of international security
- internet governance
- enhancing competitiveness and prosperity
- capacity-building and development

A sixth priority - "strategic engagement with key partners and international organizations" due to the "global cross-cutting nature, scope and reach" of cyber issues

An innovative example - CF SEDSS
European Defence Agency

- Consultation Forum on Sustainable Energy in Defence and Security Sectors

- 4 working groups – energy efficiency, energy transition, **protection of defence-related critical energy infrastructures, transversal working group**

What has CF SEDSS learned?

- There is an important Energy and Defence dimension, where militaries are dependent on civilian energy infrastructures which they do not own, operate or even protect (responsibility of MoI usually)

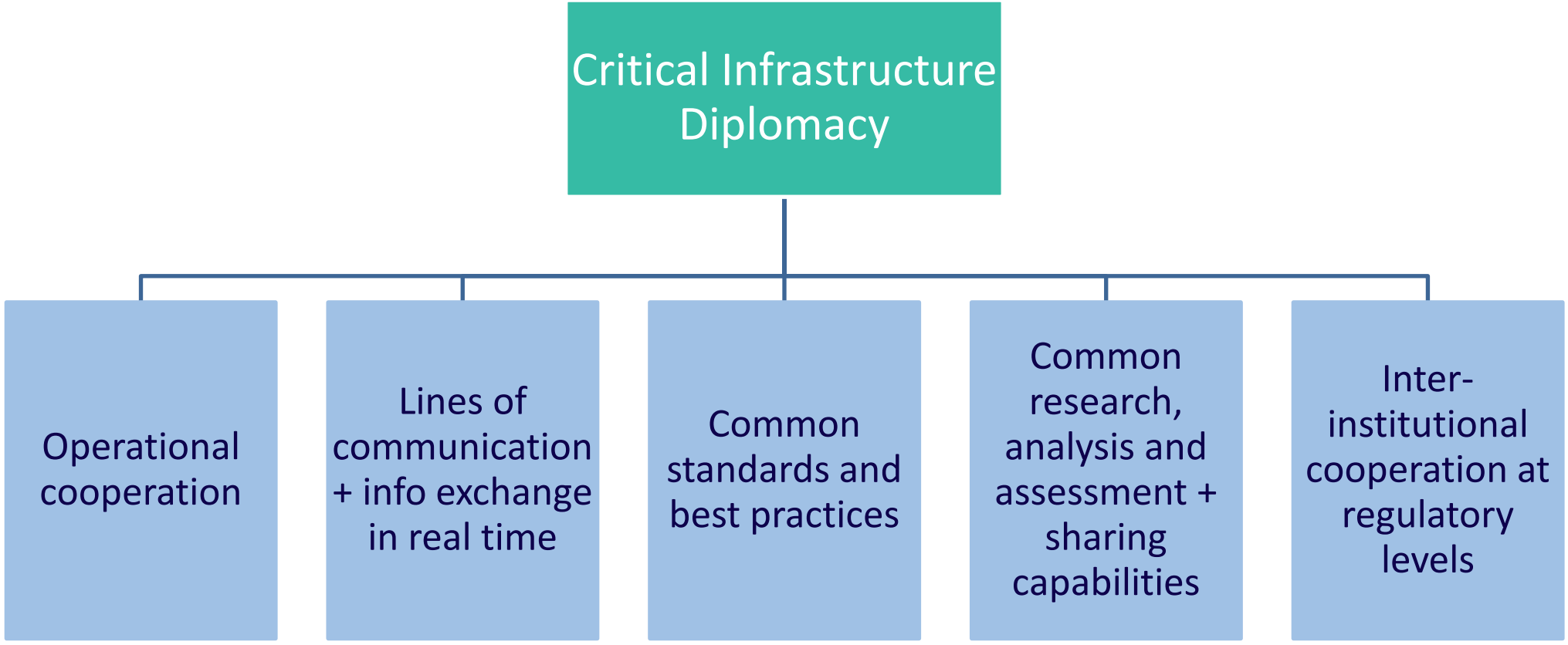
- **Data can be steal from energy providers to extract intelligence regarding military operations**

CIP and Energy Diplomacy

Critical Infrastructure Diplomacy

- It is a pragmatic, risk oriented diplomacy
- Necessity of cooperation between states
- Regardless of geopolitical confrontation, critical infrastructure must be protected and resilient
- The network is only as strong as the weakest link
- Significant risk for cascading disruptions

What does CIP Diplomacy entail?



What can CIP diplomacy achieve now?

- Technical assistance for CIP roadmap, from legislative to personnel and administrative development
- Common security planning sessions for future infrastructures
- Research focus on cross-border infrastructure risks + exercises
- Sharing of capabilities – for instance, ICI Cyber Range
- Security Liaison Office systems for transmission of early warnings and other information
- A reduction in asymmetry of information regarding local infrastructure security environment between states
- More transparency and predictability of transborder CI functioning
- Countermeasures for faster recovery

From the Cyber Diplomat to the Energy Cyber Diplomat

Is there a need for a new role?

Energy Cyber Diplomat

to coordinate protection, security, response and policies for affordability, sustainability and accessibility of energy

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