Cyber-Security Strategy and Regulatory Context

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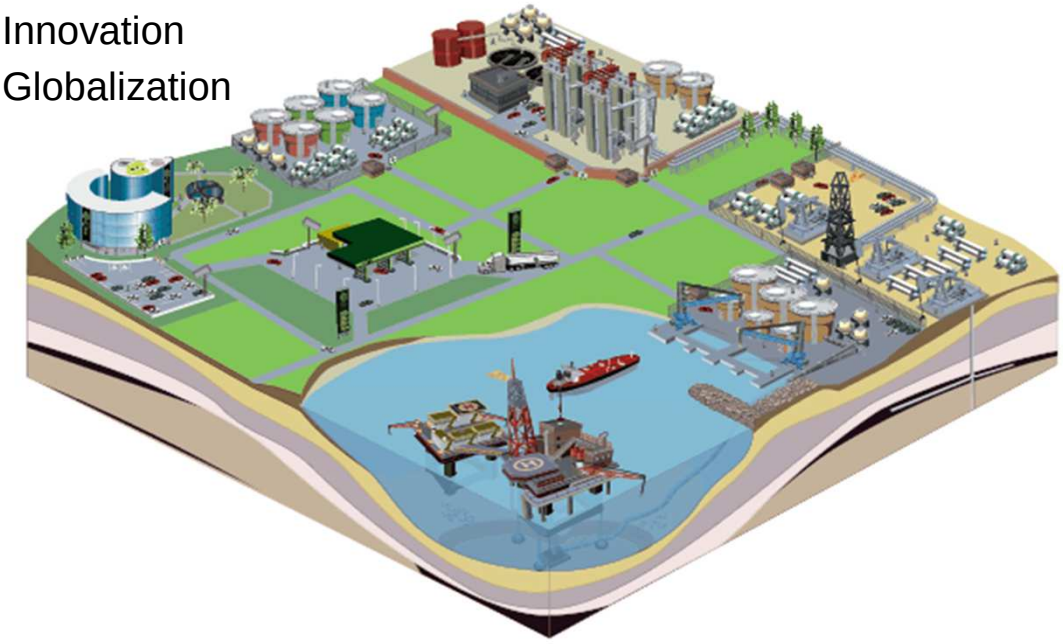
THE HYDROCARBON VALUE CHAIN CHALLENGES DRIVES DIGITIZING THE HYDOCARBON NETWORK…

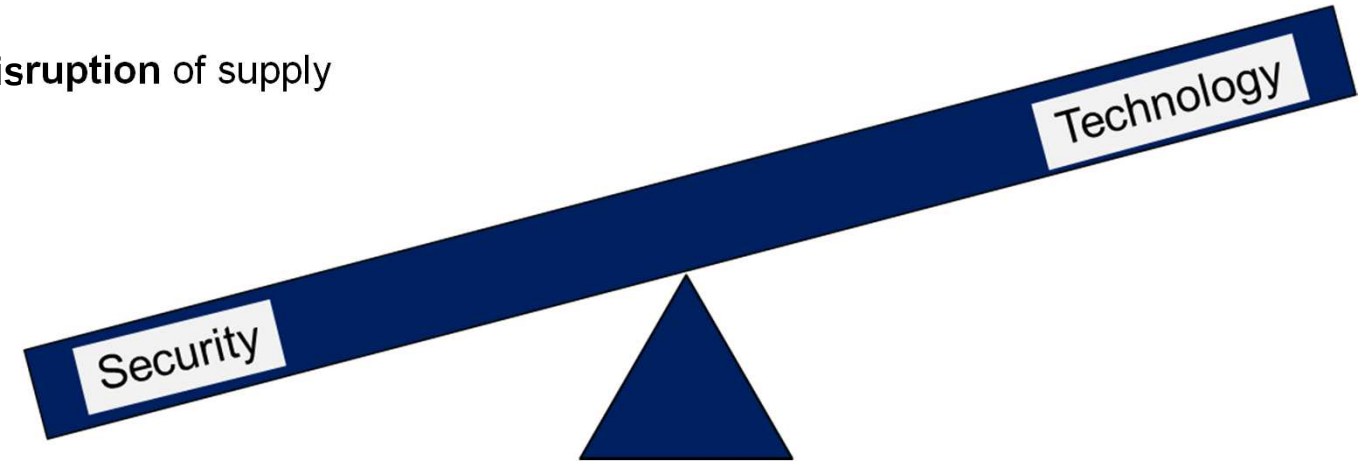
- Competition for reserves
- Pressure on cost
- Innovation
- Globalization



- Real time production and reservoir monitoring
- Collaborative production operations across teams and technologies
- Production optimization and real time asset monitoring
- Automated issue detection and response, predictive asset maintenance

..WHICH MIGHT COMPROMISE SECURITY AND SAFETY

- Compromising the oil field and refining networks can create **physical impact** on safety and environment
- Potential for **compromise of information** flow might impact competitive advantage
- **Disruption** of supply

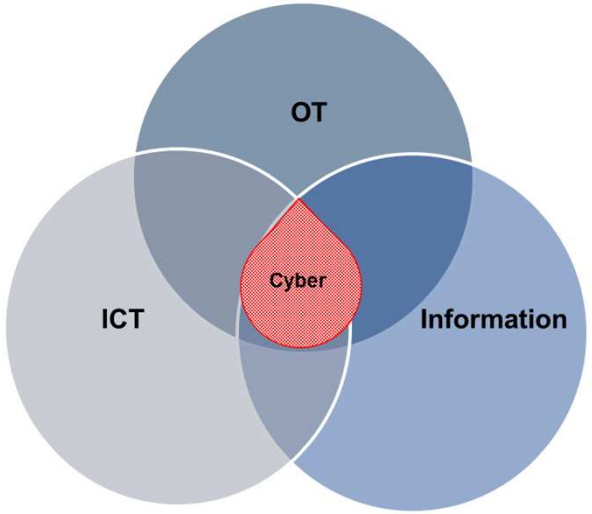


A THREAT BASED, HOLISTIC APPROACH IS REQUIRED

Homogenous Threats (random)

- Vulnerabilities
- Actors unknown
- Random

„IT Security“ – compliance driven, baseline measures



Insider Threats

Heterogeneous Threats (targeted)

- Attractiveness
- Actors known
- Targeted

Direct threat, physical or digital threat based measures

Regulatory framework of Cyber-Security (example EU and A)

EU-Directive on security of network and information systems (NIS)	▶ Aims at acquiring a high level of security of network and information systems across the EU (harmonization) and to improve the security of critical infrastructure against disruptions and attacks
	▶ Key aspects
	  ▶ national strategy for security of network and information systems
	  ▶ definition of operators of essential services and digital service providers
	  ▶ national organizational and coordinating structures
	  ▶ data protection and sanctions
	▶ Sectors affected (Annex II): energy, transport, banking, financial market infrastructures, health sector, drinking water supply and distribution, digital infrastructure

National implementation	▶ The EU-Directive has to be implemented into national law until May 2018
	▶ Operators of essential services have to be defined by November 2018.
	▶ Discussions with Federal Chancellery and Ministry for Interior ongoing – draft expected in upcoming weeks
	▶ Austrian Strategy for Cyber-Security (ÖSCS)
	  ▶ Adopted by the Austrian Government in March 2013
	  ▶ Key aspect is the establishment of a coordination structure at operational level with the aim of securing a regular exchange between cyber-security stakeholders in Austria and to continuously monitor and analyze the situation in the cyber-field
	  ▶ Concrete measures were defined to improve cyber-security in Austria and to secure high resilience of critical infrastructure against cyber-attacks

Operators of essential services

- **Member States shall identify operators of essential services which will be obliged to**

- Comply with security requirements at technical and organizational level
  - State of the art; adequacy
  - Usage of international norms, standards and specifications

  ➔Operators need to provide evidence for the effective implementation (e.g. result of authority/qualified auditor)

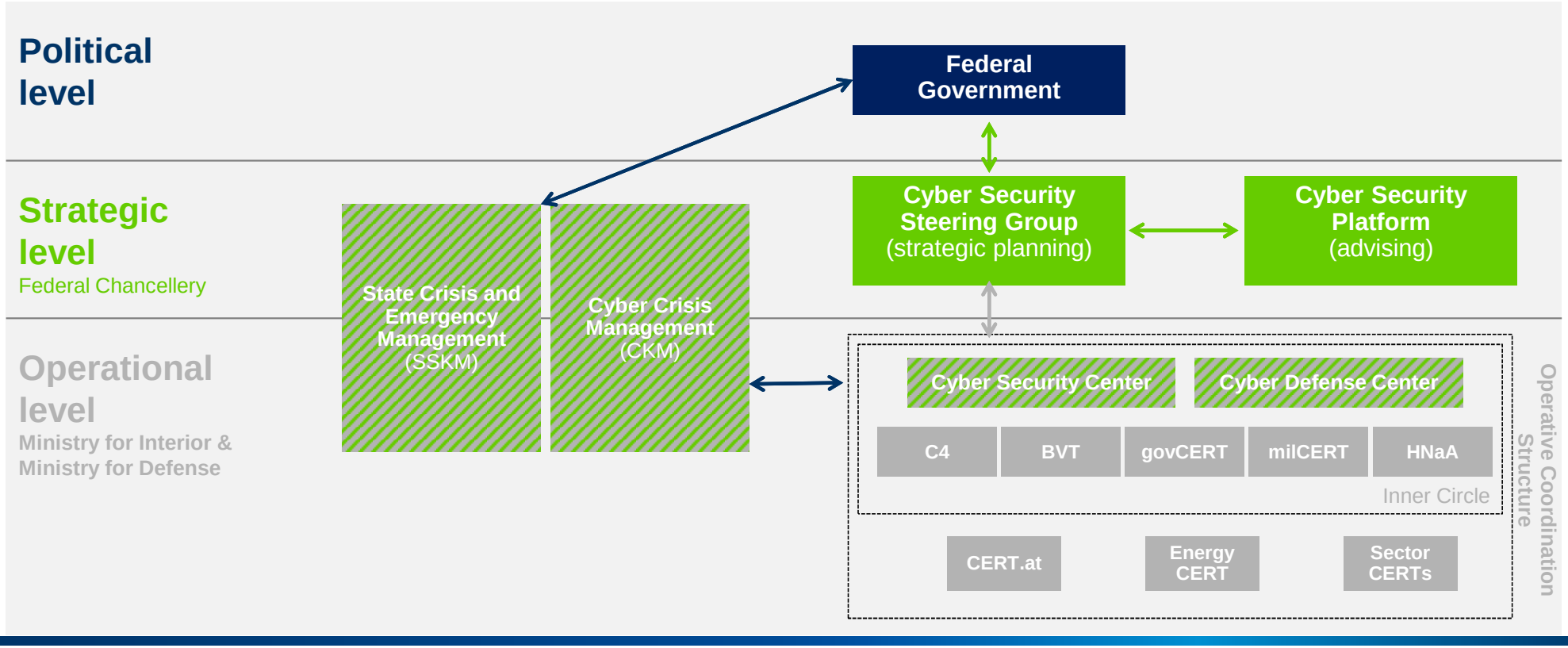
  ➔Authority may issue binding instructions to remedy the deficiencies identified (Art. 15)

- Notification of incidents with significant disruptive effect on the provision of that service (Art. 6), a.o.
  - Number of relying users
  - Dependency of other sectors of Annex II
  - Impact on economic and societal activities or public safety
  - duration
  - geographic spread

  ➔ **Notification without undue delay** to responsible Computer-Emergency Team (CSIRT) - Art. 14

- **Designation of an-house contact point (CISO)**

National actors & structures in the strategy for cyber-security



Source: Federal Chancellery, Ministry for Interior, Ministry of Defense

Summary: Approach from the industry‘s perspective

- **Holistic** approaches and (industry) tailor made security solutions, including physical security, information security, industrial control systems’ security, personnel security thorough cross-disciplinary organizations, strong cross-functional networks
- **Integrated** approach – prevention, reaction, business continuity
- **System approach** – value chain, not single objects/services (dependencies)
- **Governments and companies should have distinct, but cooperative roles:**
  - Governments to be responsible for deterring cyberattacks by nation states and organized criminal elements (highly targeted attacks)
  - Companies retaining autonomy and primary responsibility for protecting their assets against cyber-attacks
  - Governments and companies collaborate and share information of cyber threat indicators and intelligence

Summary: Principles of implementation and co-operation

- **Harmonization** of definitions and criterias laid down for the definition of critical infrastructure; harmonization of threat and risk assessments (common assessment)
- **Collaborative** - cross-border exchange with companies and states
- **Cost neutral** - potential security requirements for critical infrastructure are implemented in a cost neutral way
- **Standards** - globally used security and industry standards companies impose on themselves are recognized (no additional regulation)
- **Audits** - no additional audits shall be necessary; flexibility for companies to prove risk reduction measures implementation
- **Balanced** – sectoral and cross sectoral neutral application (no competitive disadvantage)
- **Reporting** – ensure data sovereignty and confidential business information; no duplication of existing reporting lines; severe cases only
- **Focus**: Performance not compliance

Questions & Answers

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