NIS-Directive and Smart Grids

Workshop on European Smart Grid Cybersecurity: Emerging Threats and Countermeasures

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EU FP7 Programme Contract No. 608224

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SMART GRID PROTECTION AGAINST CYBER ATTACKS

NAME: DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning **measures for a high common level of security of network and information systems across the Union** (NIS-Directive)

Directive (EU) 2016/1148 of 6th July 2016

Entry into force: August 2016

→ *MS have 21 months to transpose the Directive into their national laws*

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NIS-DIRECTIVE is defined as a common provision for **ALL network and information systems**, e.g. digital infrastructure, financial market infrastructure, banking, …

NO specific regulation for the energy sector and the smart grid environment

Can a common provision sufficiently cover the specific requirements of the Energy Sector?

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AIM
of NIS-DIRECTIVE

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What is the aim of the NIS-Directive?

- ensure a high common level of network and information security (NIS)
- improving the security of the Internet and the private networks and information systems
- increase preparedness of Member States (MS)
- improve cooperation between Member States

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OBJECTIVES

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SMART GRID PROTECTION AGAINST CYBER ATTACKS

What are the cornerstones?

1. national ***NIS strategy***
2. creating a ***cooperation group*** to support and facilitate ***strategic cooperation*** and ***exchange of information***
3. creating a ***Computer Security Incident Response Team*** (CSIRTs) to facilitate effective operational cooperation

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4. security and ***notification requirements*** for ***operators of essential services*** and

5. ***digital service providers***

6. ***national competent authorities***, ***single points of contact*** and ***CSIRTs*** with tasks related to the security of networks and information systems

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AFFECTED PARTIES

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For whom does the NIS Directive apply?

- Operator of essential services
- Digital Service Provider

→ no application if “certain” provisions (with at least equivalent requirements) apply instead of the respective NIS Directive Directive not applicable:

→ not for Micro and Small Enterprises

→ not for sectors which are regulated separately (with at least equivalent requirements)

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Operator of essential services

- 6 months after implementation of MS to identify operators of essential services
- public or private entity with an important role for the society and economy
- have to take appropriate security measures and to notify serious incidents to the relevant national authority

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Operator of essential services

- applies to operators of essential services in the following critical sectors:

  - → **Energy: electricity, oil and gas**
  - → Transport: air, rail, water and road
  - → Banking: credit institutions
  - → Financial market infrastructures: trading venues, central counterparties
  - → Health: healthcare settings
  - → Water: drinking water supply and distribution
  - → Digital infrastructure: internet exchange points, domain name system service providers, top level domain name registries

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Operator of essential services

- Requirement
  - National Measures
    - Preventing risks: Technical and organisational measures that are appropriate and proportionate to the risk.
    - Ensuring security of network and information systems: The measures should ensure a level of security of network and information systems appropriate to the risks.
    - Handling incidents: The measures should prevent and minimize the impact of incidents on the IT systems used to provide the services.

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Operator of essential services

- Identification of OoES
  - Entities providing service which is essential for the maintance of critical societal/economic activities
  - provision of that service depends on network and information systems
  - security incident would have significant disruptive effects on the provision of the essential service

Which entities in the Smart Grid Environment need to be considered ?

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Applicability of NIS-Directive

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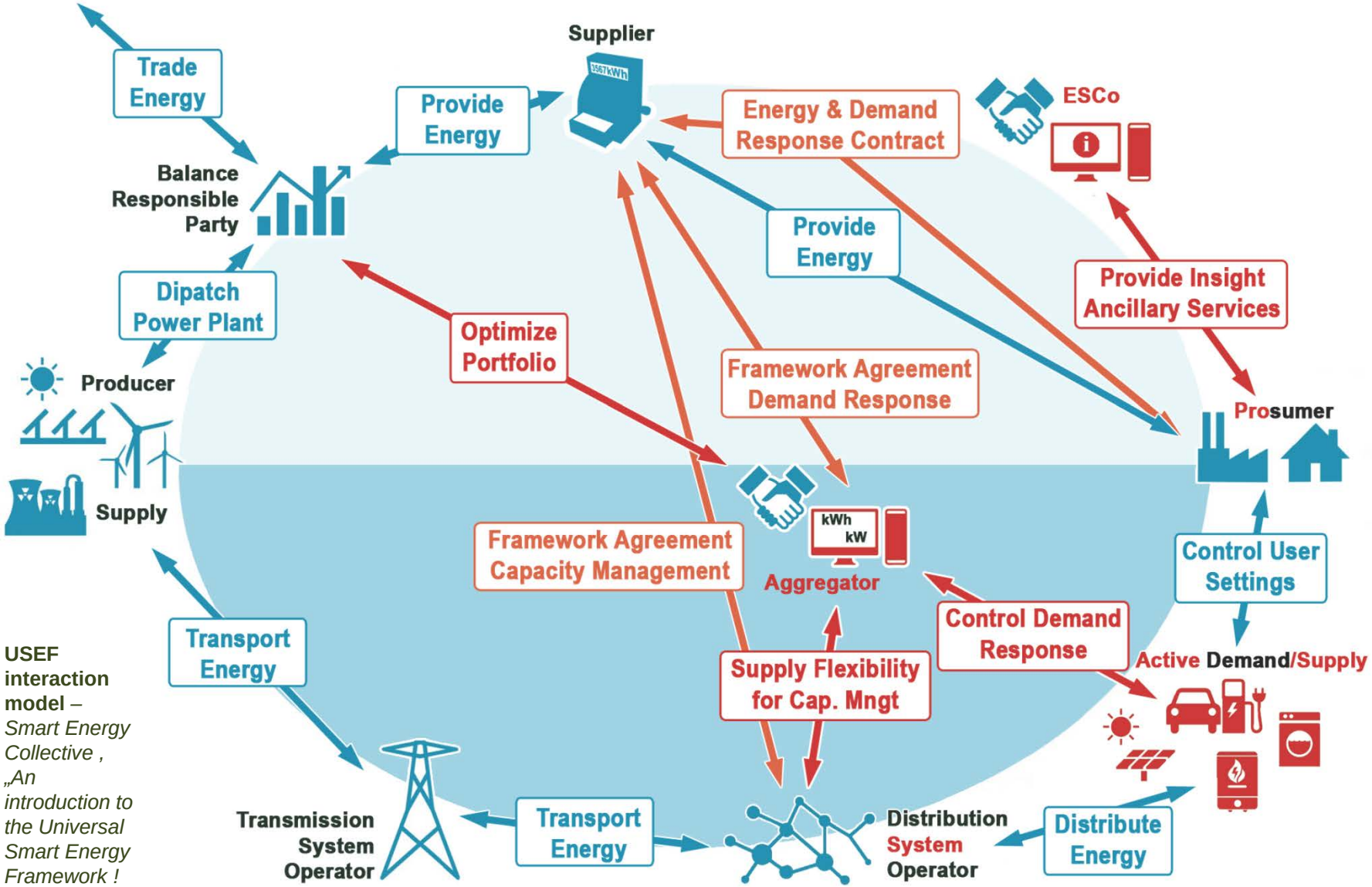

USEF interaction model – *Smart Energy Collective , „An introduction to the Universal Smart Energy Framework !*

Digital Service Provider (DSP)

- means any legal person that provides a digital service
- Types of DSPs for purposes of NIS-Directive
  - Online Marketplace
  - Online Search Engine
  - Cloud Computing Service

Is there any relevant Digital Service Provider in the Smart Grid Environment?

NATIONAL EFFORTS & INSTITUTIONS

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SMART GRID PROTECTION AGAINST CYBER ATTACKS

NIS Strategy

Each MS has to adopt a National NIS Strategy

- Strategic objectives, priorities and governance framework
- Identification of measures on preparedness, response and recovery
- Cooperation methods between the public and private sectors
- Awareness raising, training and education
- Research & development plans related to NIS Strategy
- Risk assessment plan
- List of actors involved in the strategy implementation

communicated to Commission within 3 months from their adoption

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NIS Strategy

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What do we expect from the NIS-Strategies to promote security in the Energy Sector?

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Which compulsory institutions does every Member State have to establish?

- Competent Authority
- Single Point of Contact
- Computer Security Incident Response Team (CSIRT)

Competent Authority

- **Monitors** application of NIS Directive **at national level**
- Is **to be notified in case of an incident** (or CSIRT)

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Single Point of Contact

- **liaison function to ensure cross-border cooperation** of MS authorities

- anonymized **summary report** to Cooperation Group about received notifications

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Computer Security Incident Response Team (CSIRT)

- **handling incidents and risks** according to a defined process - responding to incidents
- ensure **high availability of communications services** by avoiding single points of failure
- **Monitoring** incidents at a national level
- **Providing early warning, alerts, announcements and dissemination of information**

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- Competent Authority
- Single Point of Contact
- Computer Security Incident Response Team (CSIRT)

How to ensure that the specific needs of the Energy Sector are covered?

TRANSNATIONAL NETWORKS

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Cooperation Group

Aim

- support and facilitate strategic cooperation among MS
- share information about best practices

Composition

- Members of Commission, ENISA and MS
- Biennial workprogramme

Output

- report assessing gained experience with strategic cooperation every 1,5 years

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CSIRTs network

Aim

- confidence and trust between MS
- swift and effective operational cooperation

Composition

- National CSIRTs, CERT-EU, Commission (*observer*), ENISA (*support*)

Output

- report assessing gained experience with operational cooperation every 1,5 years

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- Cooperation Group
- CSIRTs Network

What should be the specific tasks of these transnational networks?

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INCIDENT NOTIFICATION *according to NIS-DIRECTIVE*

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Significant disruptive effect – cross-sectoral factors

- **Number** of users
- **Dependency** of other sectors
- Impact on **economic and societal acitivities** or public safety (degree and duration)
- Market share
- **Geographic spread**
- Importance for **maintaining a sufficiant level**
- Appropriate sector-specified factors

How do we classify an incident as ***significant*** in a Smart Grid environment?

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Parameters which should be taken into consideration by OoES

- Number of users affected
- Duration of incident
- Geographic spread

These parameters may be further clarified by means of guidelines adopted by the national competent authorities acting together within the Cooperation Group.

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Parameters which should be taken into consideration by DSP

- Number of users affected
- Duration of incident
- Geographic spread
- The extent of the disruption of the service
- The impact on economic and sociatal activities

These parameters will be further specified by the Commission by means of implementing acts.

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Notification to Public

- public awareness necessary to prevent an incident
- deal with an ongoing incident
- disclosure otherwise in the public interest

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INCIDENT NOTIFICATION according to *GENERAL DATA PROTECTION REGULATION (GDPR)*

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Notification to supervisory authority (General Data Protection Regulation)

- **risk to personal data**
- Personal data breach is **likely to risk rights and freedom of individuals**
- deal with an ongoing incident
- disclosure of the incident is otherwise in the public interest

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INCIDENT NOTIFICATION

SUMMARY

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Focus:

NIS Directive: focused on **network security** to **improve security** of the Internet and private networks and information systems

GDPR: safeguard **personal data**

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SMART GRID PROTECTION AGAINST CYBER ATTACKS

Requirement:

NIS Directive: requires operators to appropriately **secure their networks** to **protect** the **provision** of the service

***GDPR*:** requires controllers to adopt **measures** that **secure personal data**

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What incidents require notification?

NIS Directive: breach notification required **if significant disruption** to provision

GDPR: breach notification only where **personal data is jeopardized**

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Whom to notify?

NIS Directive: Notification to **competent authority**

GDPR: Notification to **data subjects**

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INVITATION

- Workshop on **Security Requirements for Smart Grids:** Economic, legal and societal aspects
- On **19th of October 2016 in the European Parliament, Brussels**
- Attendees of EP, Comission, ENISA, ACER, …

THANK YOU FOR YOUR ATTENTION

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