

ENERGY STORAGE

Global Conference

Brussels, 14-16 October 2025

2025



Session 2.8 Why Cybersecurity Matters for your Projects: Responsibilities and Obligations?



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Moderator:

Patrick Clerens

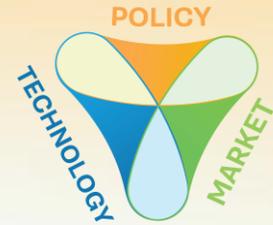
Secretary General / Energy Storage
Europe

Session 2.8 Why Cybersecurity Matters for your Projects: Responsibilities and Obligations?

Michaela Kollau

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Cybersecurity in the energy sector

Energy Storage Global Conference 2025

*Michaela Kollau, European Commission, DG ENER,
Unit F4: Energy security and safety*

15 October 2025

Cybersecurity in the energy sector

A policy perspective



EU's horizontal Security Framework

**Critical Entities
Resilience
Directive (CER)**

NIS 2 Directive

**Cyber
Resilience Act
(CRA)**



Cybersecurity in the energy sector

- **Cybersecurity Network Code for cross-border electricity flows**
- **NZIA – implementing Act on criteria on cybersecurity in auctions for RES** 
- **Risk assessment related to wind energy – Action#5 of the European Wind Power Action Plan**
- **Risk assessments related to solar**

COMMISSION IMPLEMENTING REGULATION (EU) 2025/1176

of 23 May 2025

specifying the pre-qualification and award criteria for auctions for the deployment of energy from renewable sources

Article 5

Cybersecurity and data security (pre-qualification criteria)

Pre-qualification criteria related to cybersecurity and data security shall require bidders to:

- take appropriate and proportionate technical, operational and organisational measures that reflect the principles of security by design and by default to ensure the security of the renewable energy installation's network and information systems including, where relevant, measures listed in Article 21(2) of Directive (EU) 2022/2555;
- where, 9 months or more before the publication of an auction within the scope of Article 26 of Regulation (EU) 2024/1735, the bidder is subject to the jurisdiction of a third country requiring the bidder to report information on software or hardware vulnerabilities to authorities of that third country prior to those vulnerabilities being known to have been exploited or there is a public statement on behalf of the Union or the Member State carrying out the auction that threat actors operating out of the territory of that third country have carried out malicious cyber activities or campaigns, present a cybersecurity plan outlining how the bidder guarantees the security of the installation and of the overall system and more specifically take the necessary technical, operational and organisational measures to ensure that data used for or generated in their business activities related to the auction are stored in and not transferred outside the European Economic Area;
- ensure and demonstrate, where the bidder relies on suppliers for the supply of ICT products used in the renewable energy installation or ICT services related to its operation, that the suppliers take the measures referred to in point (a) and where those suppliers meet any of the two conditions set in point (b) for bidders, that those suppliers also take the measures referred to in point (b);
- ensure that an operator established in the European Economic Area maintains operational control of the installation.



Review energy security framework

Status update



Why a revision?



Main reasons to act: emerging challenges and weaknesses

- Competitiveness
- Cumbersome framework
- Lack of cross-sector interaction
- Limited cross-border cooperation
- A changing energy system
- Climate change adaptation
- New threats (cyber and physical)
- Dependencies and geopolitical turbulences

Problems and objectives



Problems

Problem 1:

Regulatory provisions are **not actionable** and insufficient during crises

Problem 2:

Limited **cross-border** cooperation.

Problem 3:

Lack of **cross-sector** interaction, blind spots to spillover effects

Problem 4:

A **changing energy system** is reshaping the fundamentals of energy security.

Problem 5:

Overreliance on **unreliable suppliers**, including new dependencies

Problem 6:

Not equipped to tackle **new threats**, such as climate change impacts, cybersecurity and physical threats to critical energy infrastructure



Objectives

Objective 1

Operationalise the energy security framework, especially in case of crisis

Objective 2

Improve cross-border cooperation among Member States

Objective 3

Ensure cross-sector consideration, taking a whole of system approach

Objective 4

Adapt to a changing energy system with new carriers throughout the transition

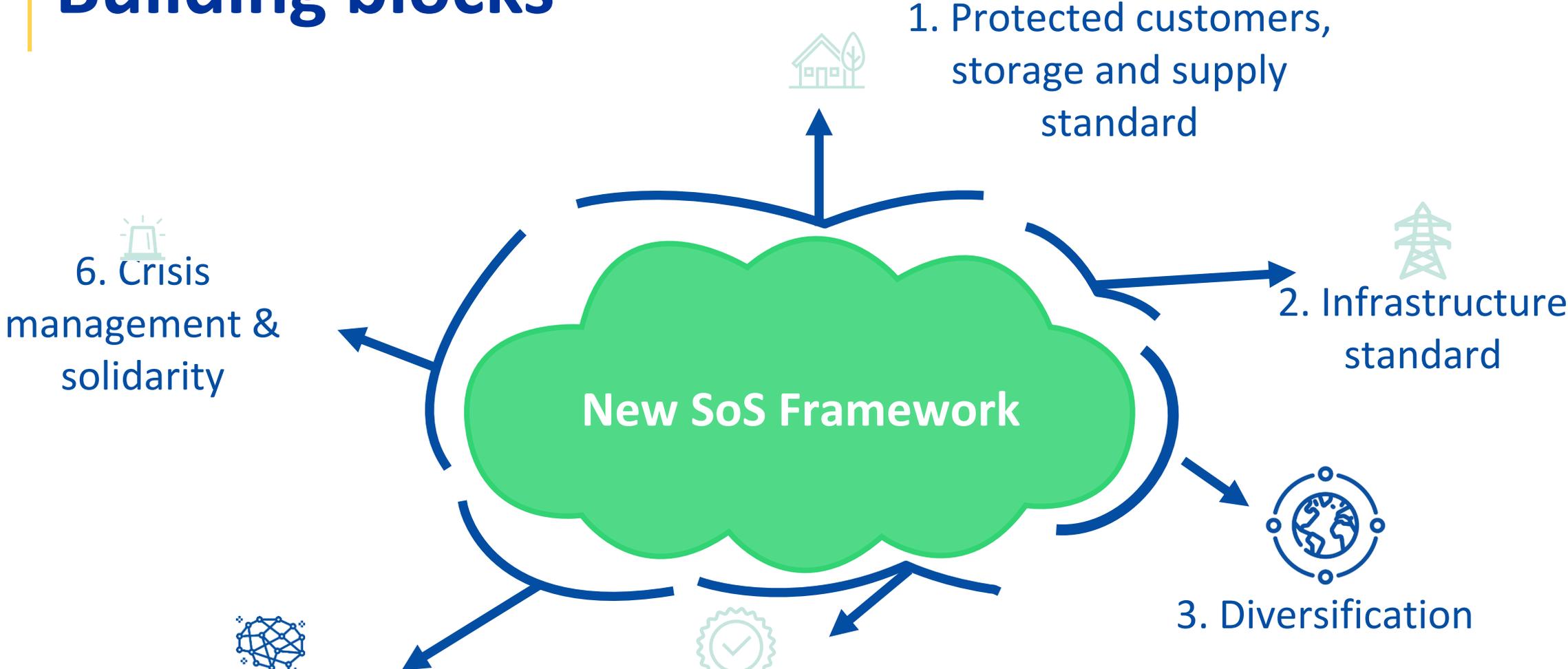
Objective 5

Diversification of supply, to reduce overreliance on unreliable suppliers

Objective 6

Incorporate new threats, addressing specificities of the energy sector

Building blocks



4. Resilience

- Climate change adaptation
- Cybersecurity
- Physical security



Timeline



Thank you



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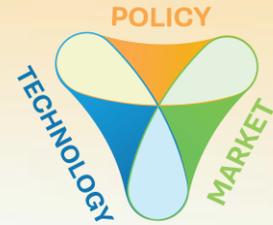
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Marteen Hoeve

Director Technology
European Network for Cyber Security



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Risk: disruption of grid through storage

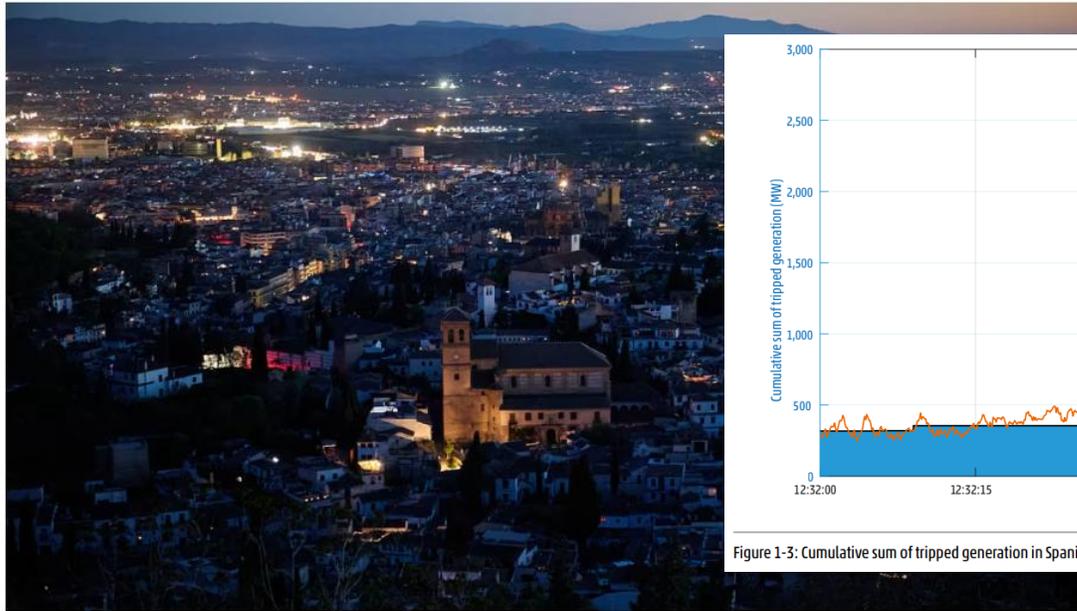

Sign In

World / Europe

Spain says April blackout was caused by grid failures and poor planning, not a cyberattack

Story by the Associated Press

3 min read · Updated 9:09 PM EDT, Tue June 17, 2025



A general view of the city of Granada, with the Alhambra, is plunged into darkness during the power outage that affects Spain nationwide in Granada, Spain on April 28, 2025. Fermin Rodriguez/NurPhoto/Getty Images

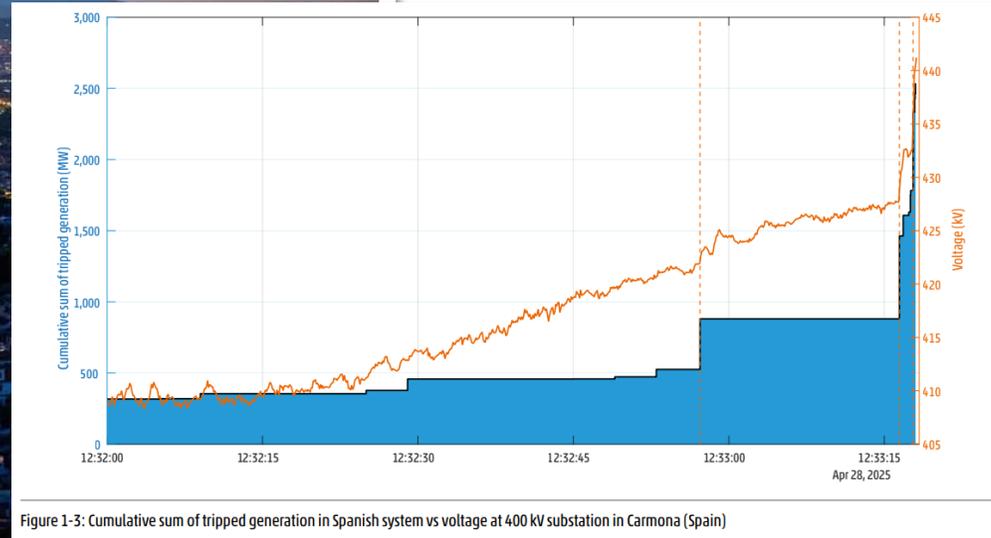


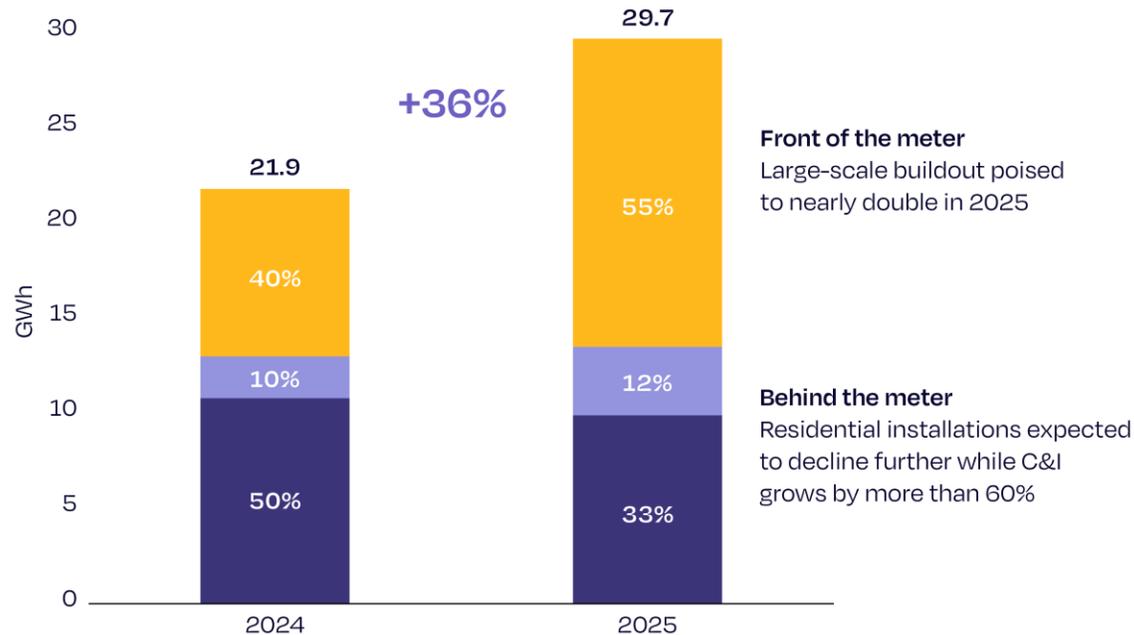
Figure 1-3: Cumulative sum of tripped generation in Spanish system vs voltage at 400 kV substation in Carmona (Spain)

Source: ENTSO-E

Mitigation: segmented approach

European annual battery market expansion set to speed up again in 2025, driven by utility-scale

Europe annual BESS installed capacity 2024-2025



- Mitigated as for traditional utilities
- Covered by NIS2 / NCCS

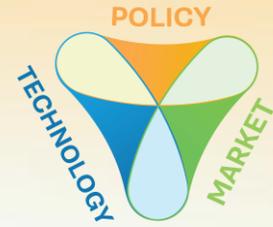
- To be mitigated by manufacturers
- Gaps in legislation

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Aakash Sharma

Product Certification Manager
Sungrow

SUNGROW
Clean power for all



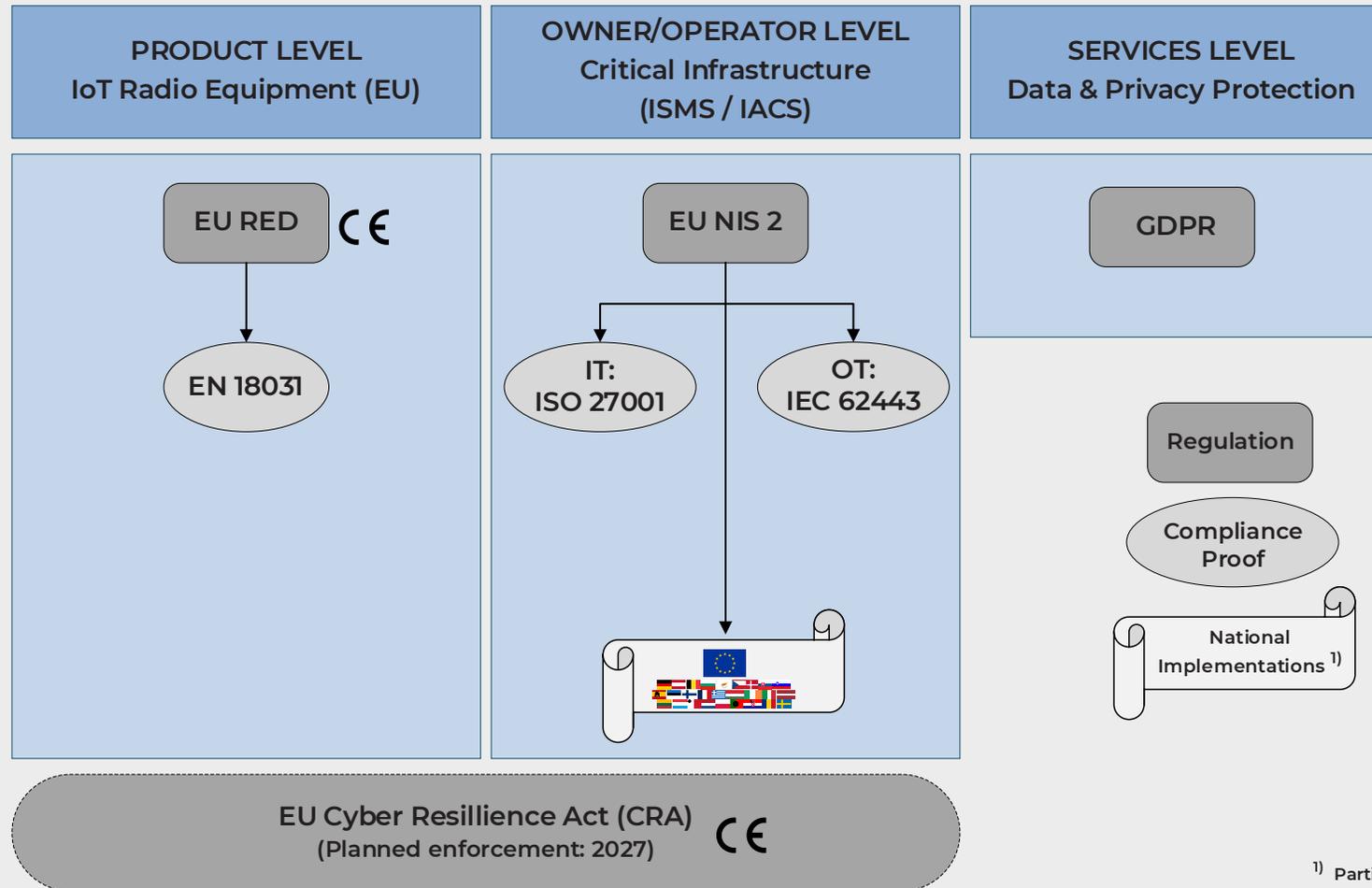
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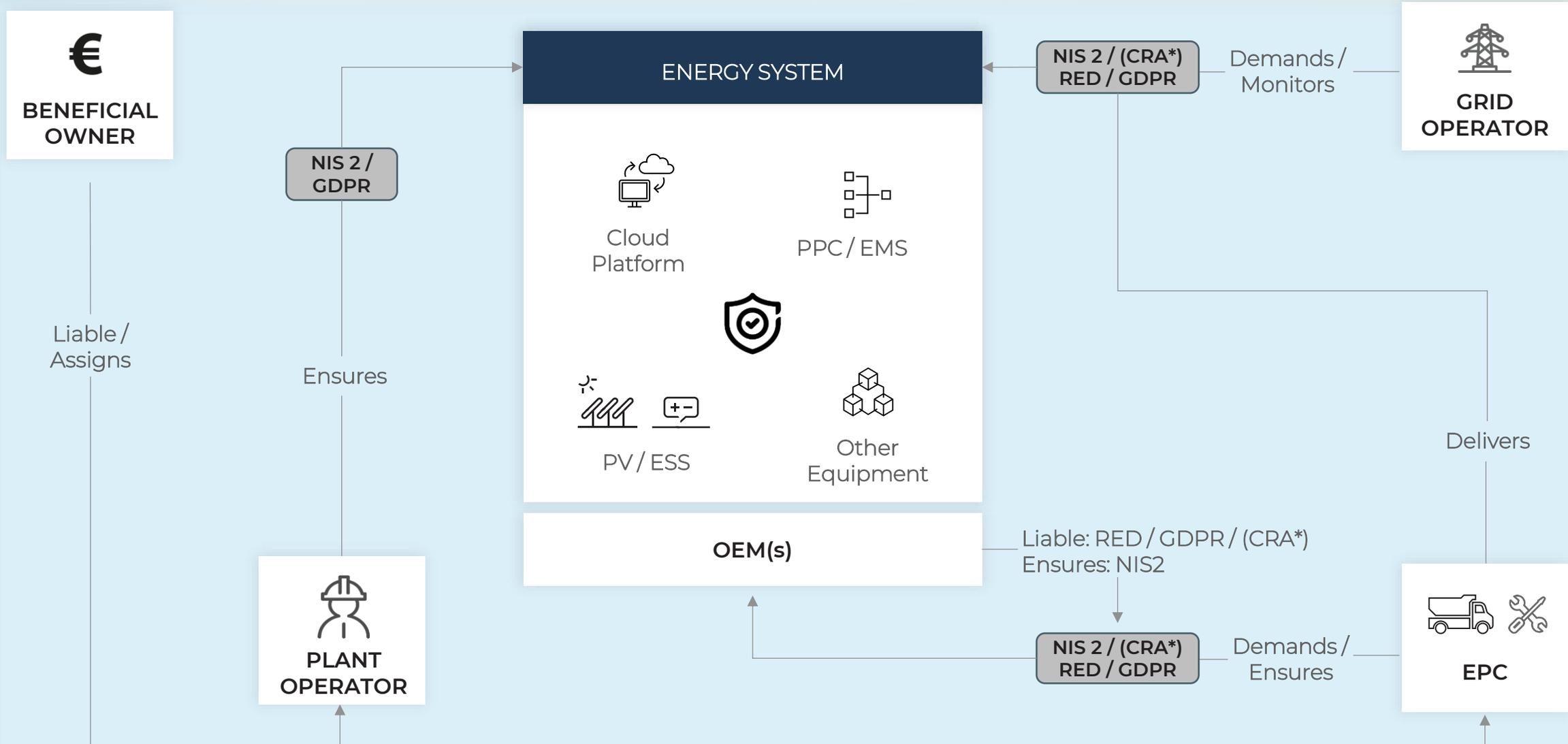
- 1 Cyber Security Regulations
- 2 Stakeholder Obligations
- 3 Key Regulatory Challenges

Cyber Security Regulations



¹⁾ Partially pending

Stakeholder Obligations



* Planned enforcement of CRA: 2027

Key Regulatory Challenges

Regulatory Overlap

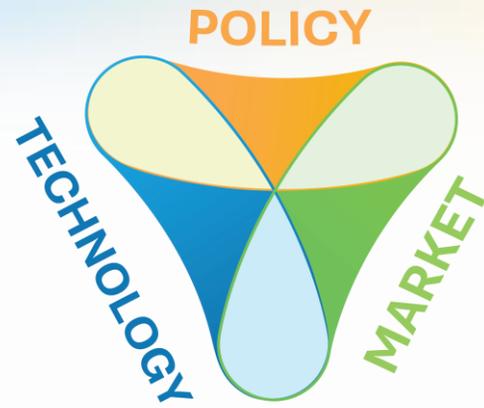
- Intersecting Scope
- Duplicated Compliance Efforts

Divergent National Implementation & Enforcement

- Varying Thresholds
- Patchwork of Rules Management

Fast Innovation vs Slow Regulatory Processes

- The Speed Mismatch
- Evolving Technology



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THANK YOU!



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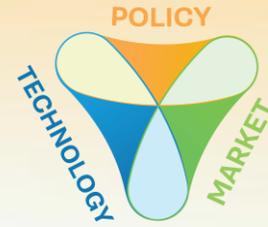


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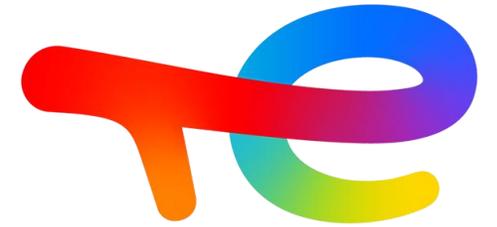
Stéphane Alaimo

Head of Digital Product Developments
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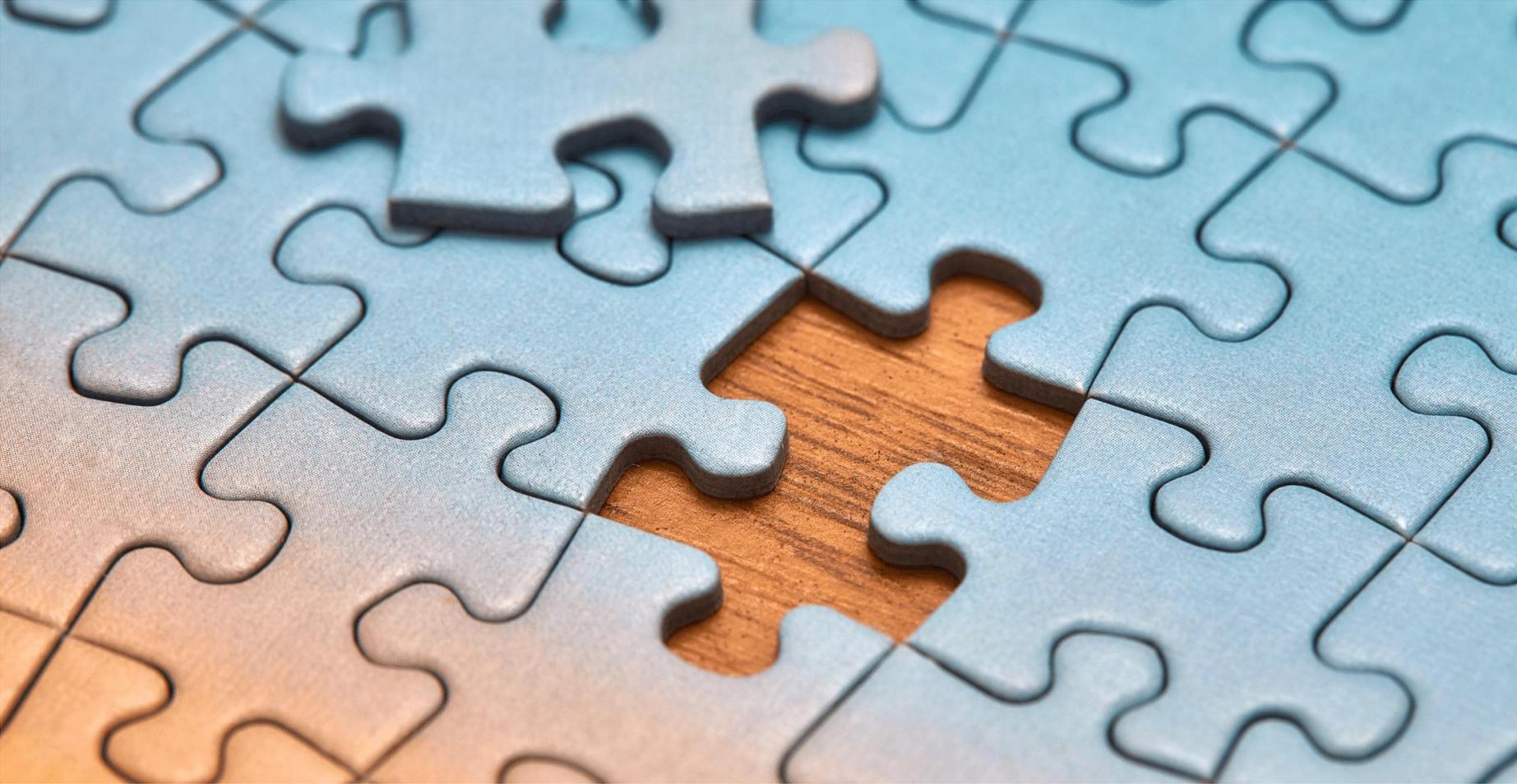
TotalEnergies

The path to Battery Security in Europe

ESGC Brussels
October 2025
Stéphane ALAIMO

saft

The missing piece of the puzzle



Battery systems are critical infrastructure



- The European grid won't survive without energy storage
- Batteries systems are connected digital systems
- Cyber-threats on electricity networks are booming

Regulatory Timeline – USA vs Europe



United State

- 2008: **NERC CIP** : comes into force for bulk connected
- 2014: **NISTIR 7628** Guidelines for Smart Grid Cybersecurity
- 2016: NERC CIP : Inclusion of supply-chain controls
- 2025: NERC CIP : Explicit requirements for energy storage > 20MVA

European Union

- Before 2025: Local initiatives
- 2025: **NCCS** Network Code on Cybersecurity (TSO and DSO)
- 2026: **NIS 2** Directive on network and information systems
- 2028: **CRA** Cyber Resilience Act



Proposed path



- No need of another standard.
- Leverage the **CRA** with:
 - Batteries classified as **Critical assets**, with third-party certification
 - Adopt or adapt **IEC 62443** as harmonised baseline standard



Why IEC 62443



People & Organization

Strategic security

Security awareness and personnel trainings, roles and responsibilities, corporate policy...

IEC-62443-4-1



Process

Secure by design

Secure development Lifecycle with Thread & Risk analysis, Configuration and change management, Requirements traceability, Security testing and monitoring, Vulnerability management...



Technology

Defense-in-depth

Access control, Authentication, layer Hardening, Detection & monitoring

IEC-62443-4-2

Secure batteries. Secure the Energy Transition