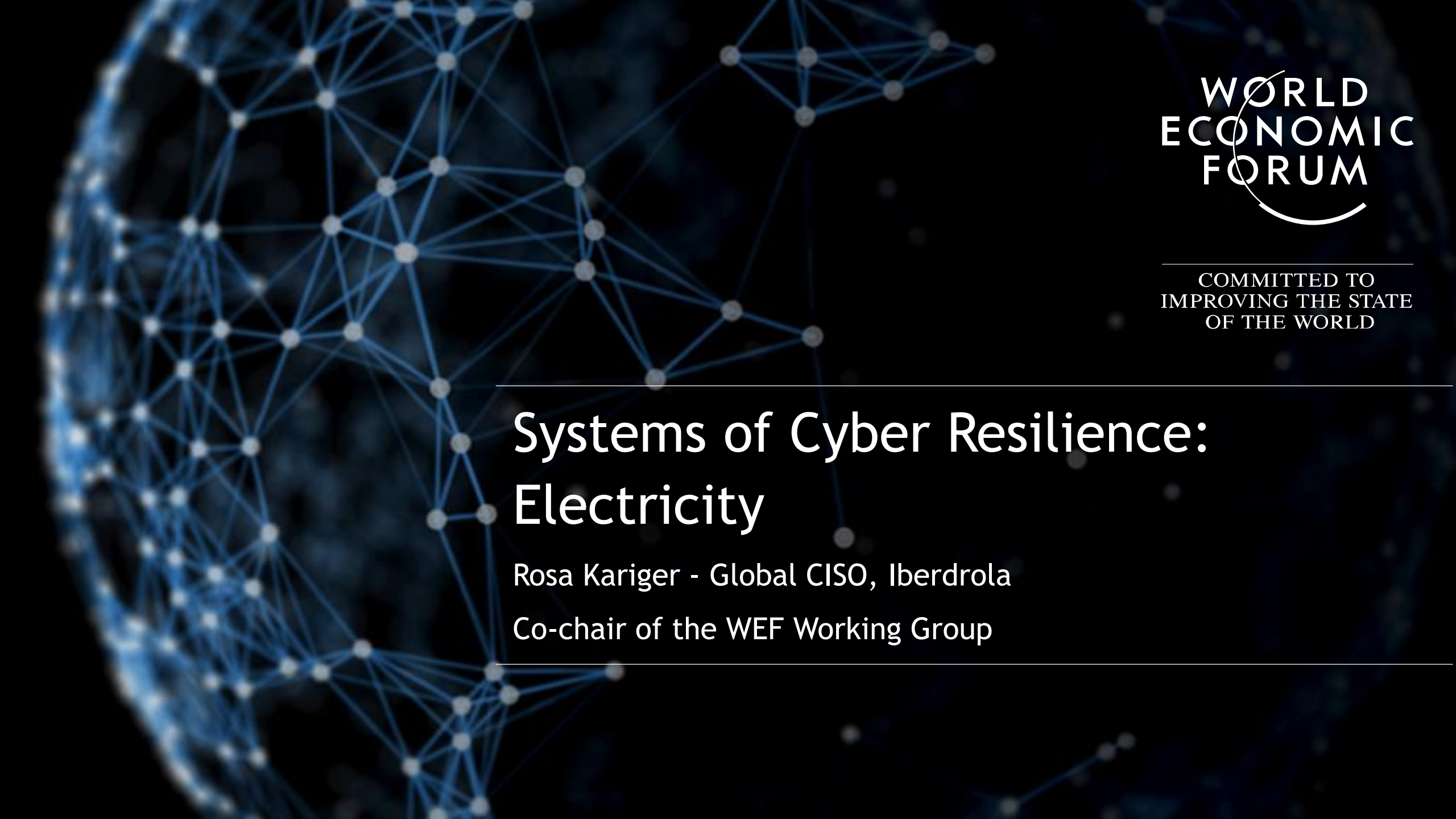


WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

Systems of Cyber Resilience: Electricity

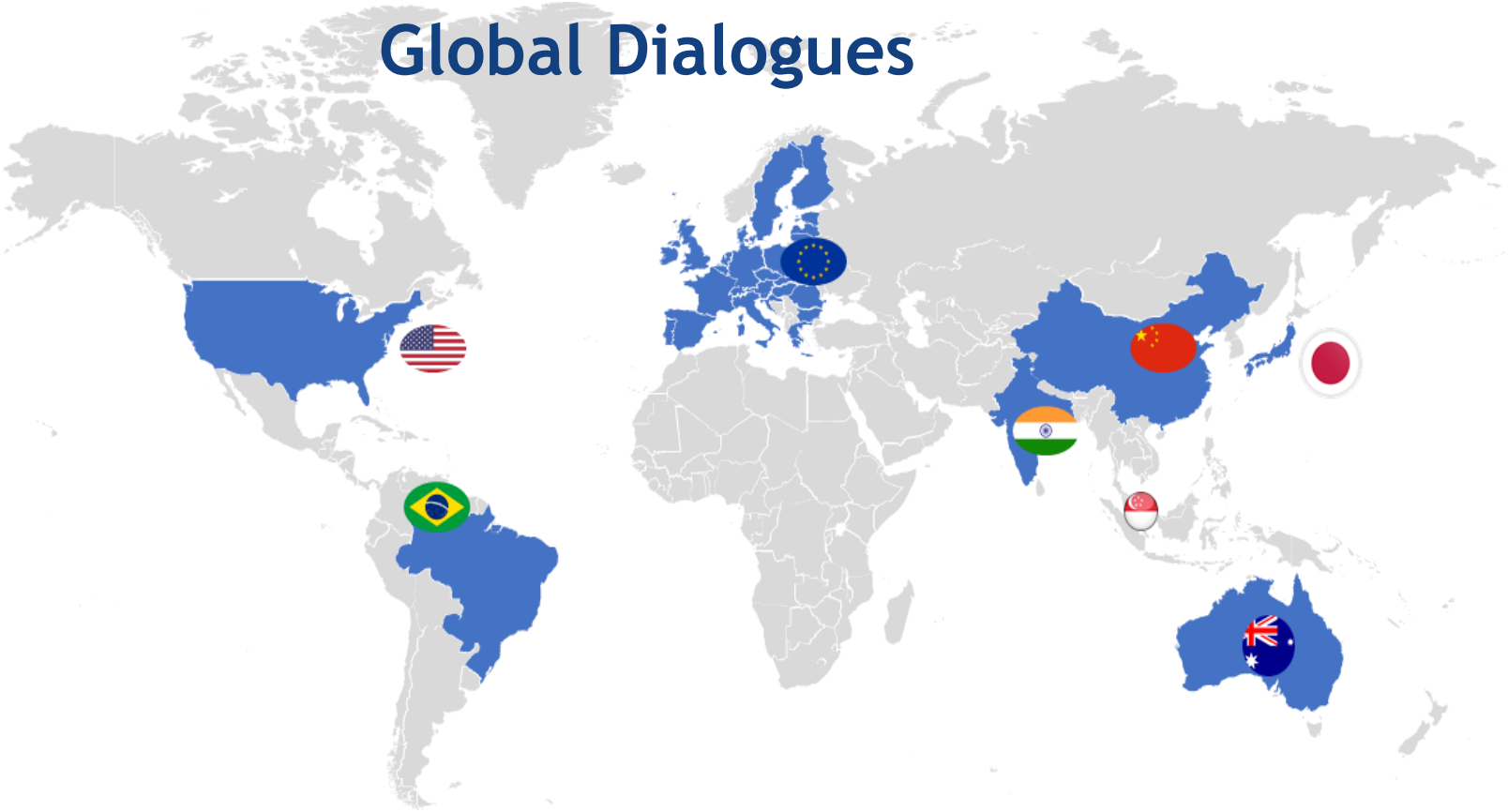
Rosa Kariger - Global CISO, Iberdrola

Co-chair of the WEF Working Group

The Systems of Cyber Resilience: Electricity - Community

A public-private collaboration initiative bringing together committed leaders from companies, government entities and academia, who meet regularly in a trusted, neutral environment.

Global Dialogues



Since 2018, CISOs from Electricity Industry companies around the world have joined our dialogues on **enhancing the resilience of critical electricity infrastructure**

ORGANISATIONAL

POLICY RELATED

SUPPLY & VALUE CHAIN

ELECTRICITY
What is different about electricity?

INTERDEPENDENT ECOSYSTEM

CULTURE OF **COMPLIANCE**

SILOED APPROACH TO CYBER RESILIENCE

Taking into account the differential characteristics of the electricity ecosystem

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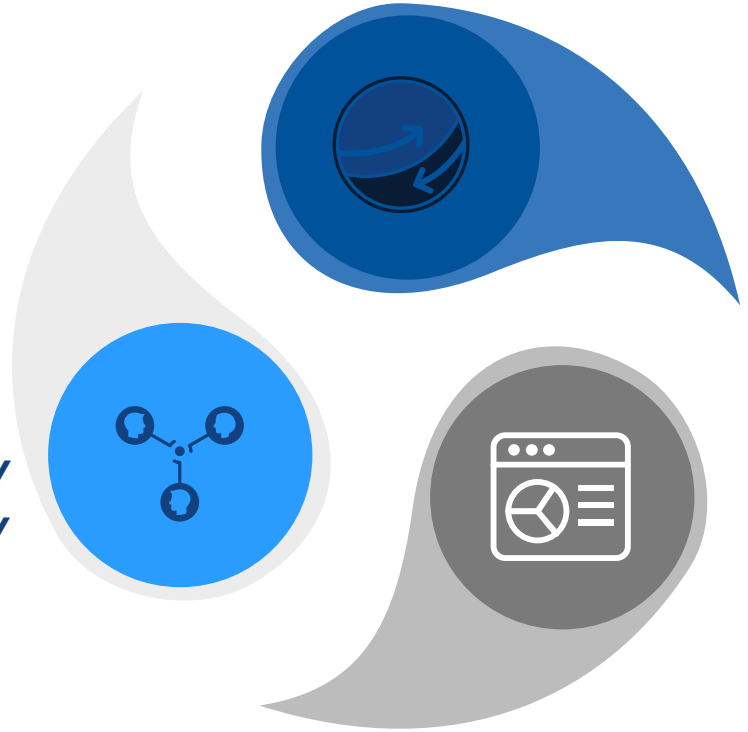


POTENTIAL FOR CASCADING EFFECTS

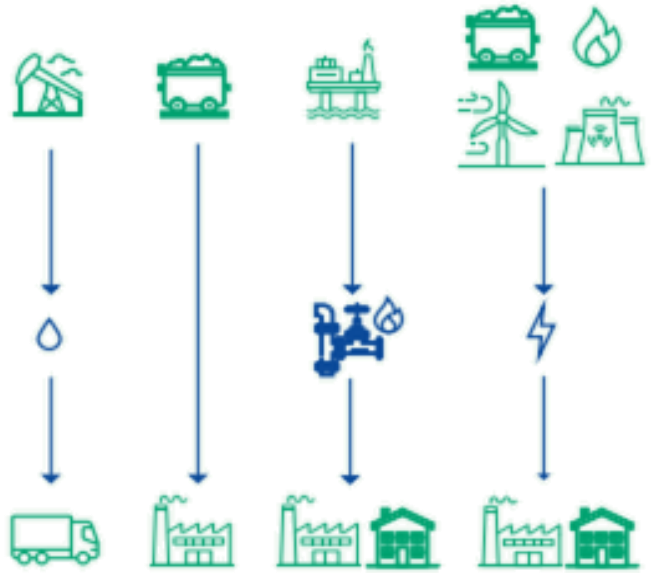
REAL TIME SUPPLY OF ELECTRICITY

LEGACY EQUIPMENT & THE INTEGRATION OF IT AND OT

A new approach to security is required

- Evolving electricity industry
- Global regulatory environment
- Rapid change of cyberthreat landscape

Energy system today
Linear, one-directional flows of energy



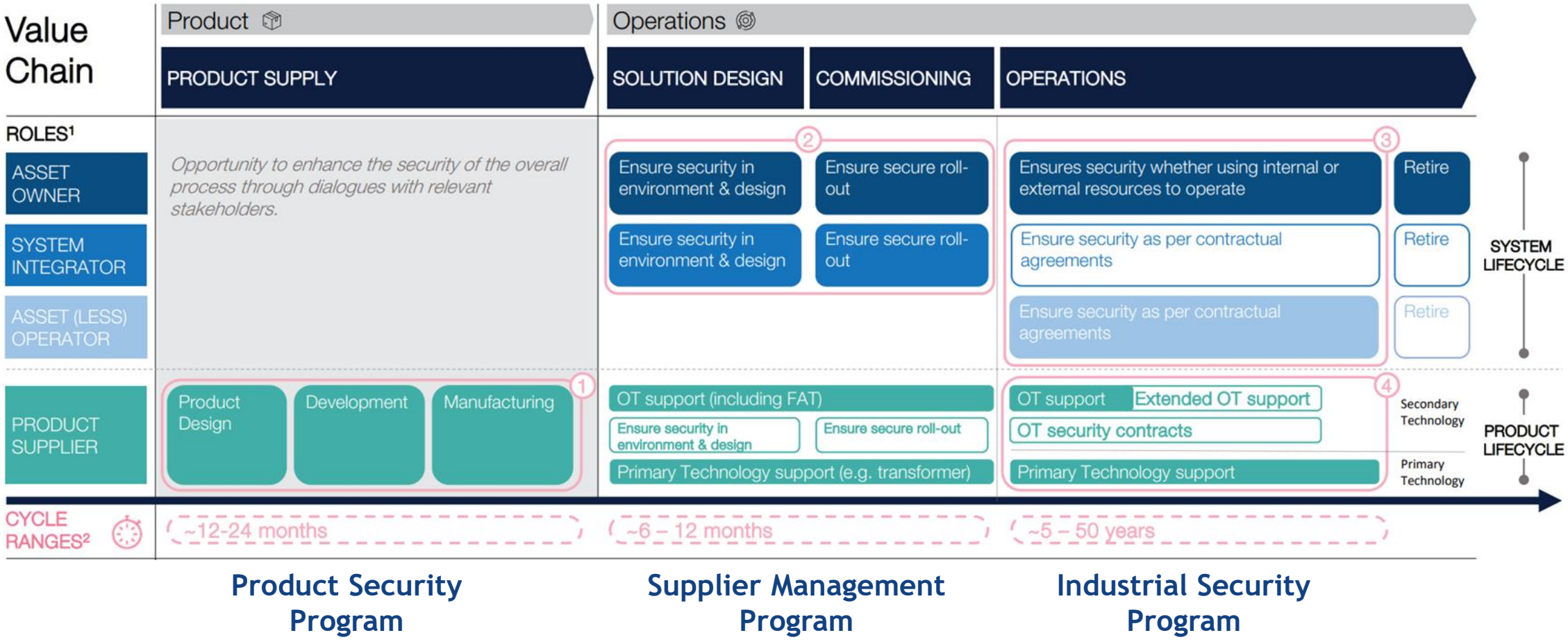
- Majority large generation assets
- Top-down energy distribution
- One-way digital communication

Future Energy system
Integrated, multilateral flows of energy

- Customer-centric energy
- Decentralized, agile, collections of real-time, networked assets
- Entrance of new players

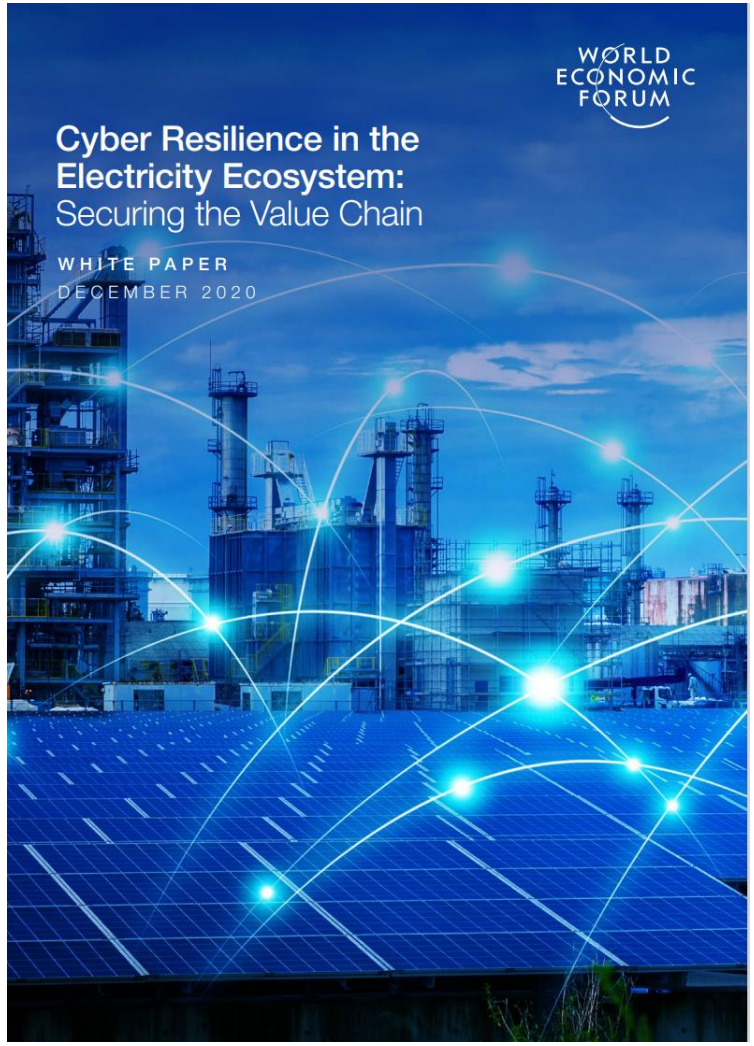
- Increased Digitization
- IT-OT convergence

Security across the entire Lifecycle – A shared responsibility



Securing the operations is a shared responsibility that requires secure products to be integrated into a secure system and operated in a secure context

Electricity Industry Value Chain Security



Effective and sustainable measures for protecting the electricity industry supply and value chains go beyond securing individual products or systems, driving the need for a **shared understanding of roles and responsibilities throughout the entire lifecycle of the system**…

Roles

- Product supplier
- System integrator
- Asset owner
- Asset (less) operator

Phases

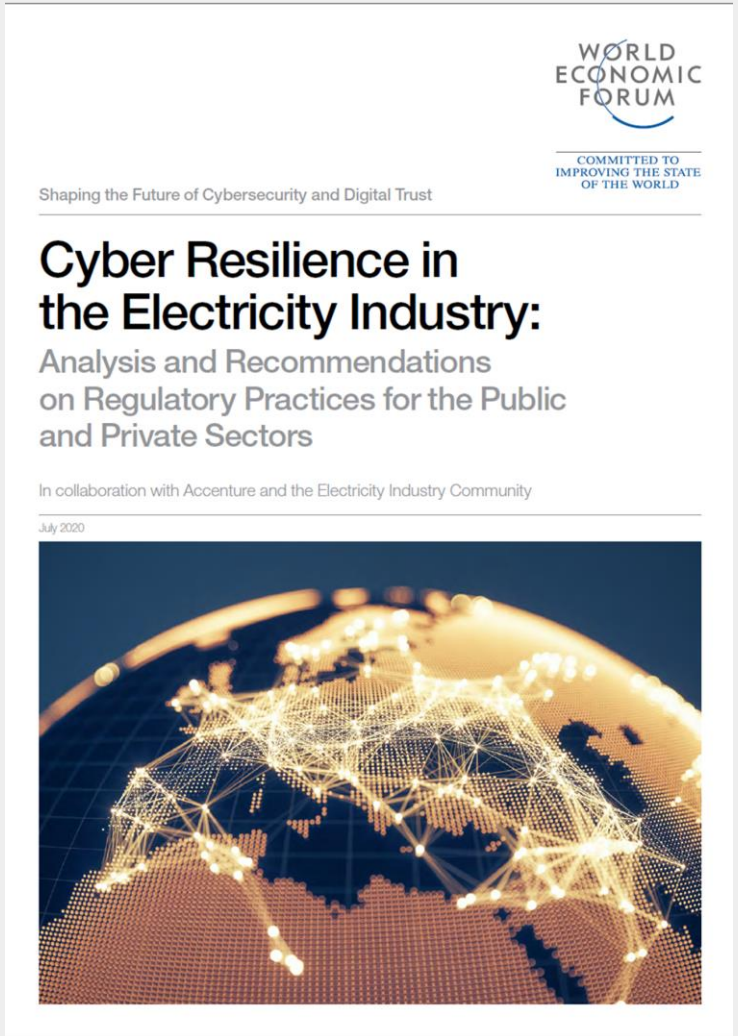
- Product supply
- Solution design and Commissioning
- Operations

Individual and shared commitments

… as a starting point for **further dialogue and action** on supply chain resilience

http://www3.weforum.org/docs/WEF_Securing_the_Electricity_Value_Chain_2020.pdf

Recommendations to Improve Regulatory Practices



- Regulators worldwide should agree on **global risk-based regulatory guidance**, while retaining the flexibility to tailor their regulations in a way that reflects their national and ecosystem-specific interests.
- Regulatory approach should promote **cyber resilience and a risk-based approach** (vs a "checkbox mentality") enabling businesses to allocate resources more efficiently and to keep pace with the fast changing electricity ecosystem and evolving threat landscape.
- Regulation should address dependencies in the **utility value chain** (utilities, manufacturers, prosumers, etc.) to ensure the safe, reliable operation of the electricity sector, including consideration of security architectures along with **certification efforts**.
- Regulation should promote greater **ecosystem-wide and cross-border collaboration** and encourage actionable information-sharing by private-sector actors, government entities and law enforcement agencies.

http://www3.weforum.org/docs/WEF_Cyber_Resilience_in_the_Electricity_Ecosystem_Policy_makers_2020.pdf

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THANK YOU!

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