Cyber security cultures in Critical National Infrastructures

Understanding policies, practices and sectoral differences

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Experts agree! Cyber security concerns go beyond “technical” issues

What does it mean in practice? What are the research questions, methods, collaborations we need to mobilise?

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Four approaches to cyber security

1. Fixing broken objects, protecting objects from breaking (engineering, computer science)
2. Extension of political activities (international relations)
3. Usability, attitudes and behaviours (human factors, management)
4. Social practices enacted through the production of knowledge, evolving standards and diffusion of innovation (science and technology studies - STS)

(adapted from Dunn-Cavelty, 2018)

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STS approach

Social practices

Production of knowledge

Evolution of standards and policies

Diffusion of innovation

(Shove and Trentmann, 2018)

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Project Aim

To explore the co-evolution of cyber security expectations, technological innovations, formal policies and informal practices in the context of NIS implementation across the diverse CNI operators in the UK.

Research Question

How do evolving cyber security policies mutually shape CNIs' everyday security practices, business priorities and services they offer?

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Research design

Stage 1: Semi-structured interviews with cyber security professionals in CNIs, consultancies, law firms, public sector (October 2019-January 2020)

Stage 2: Embedded case studies: ethnographic fieldwork in the offices of CNI organisations.
This includes: informal interviews, workshops and shadowing of CNI employees (January-June 2020)

LOOKING FOR COLLABORATORS!

(Yin, 2008; Neyland, 2008)

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Policy landscape

- EU NIS directive (2016)
- UK NIS regulations (2018)
- UK Cyber Security Strategy (2016-2021)
- Overlaps with GDPR (2018)
- National Cyber Security Centre (2016)
- Role of the regulators (”Competent Authorities”)
- New public-private partnerships?
- Place-based scope: Local Resilience Forum (LRF), Warning and Advice Reporting Point (WARP)

NIS progress to date

Organisations in scope submitted their self-assessment using NCSC’s Cyber Assessment Framework (CAF) to the relevant Competent Authorities. They’re currently discussing further development plans and third-party assessments.

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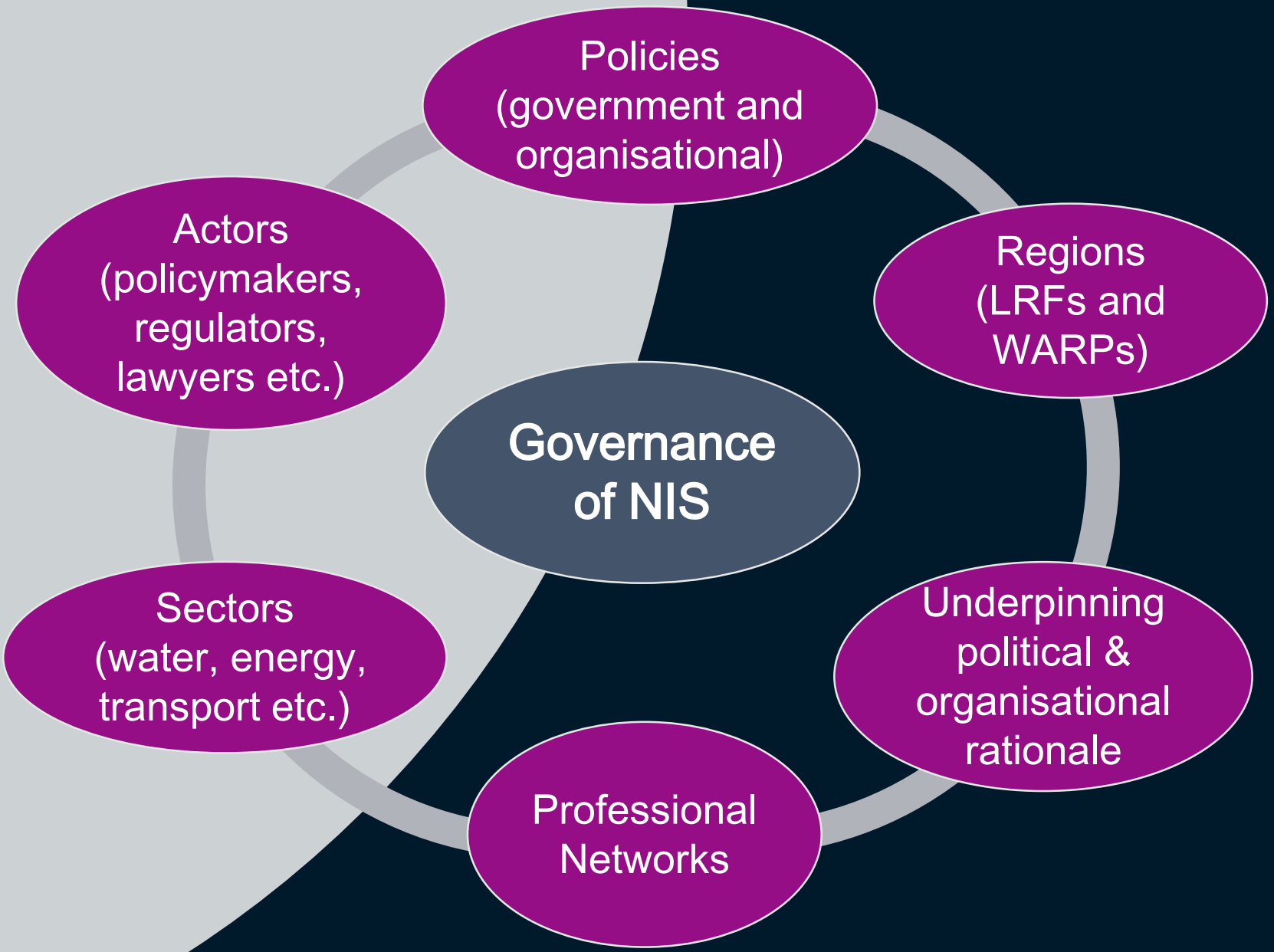

Model NIS implementation

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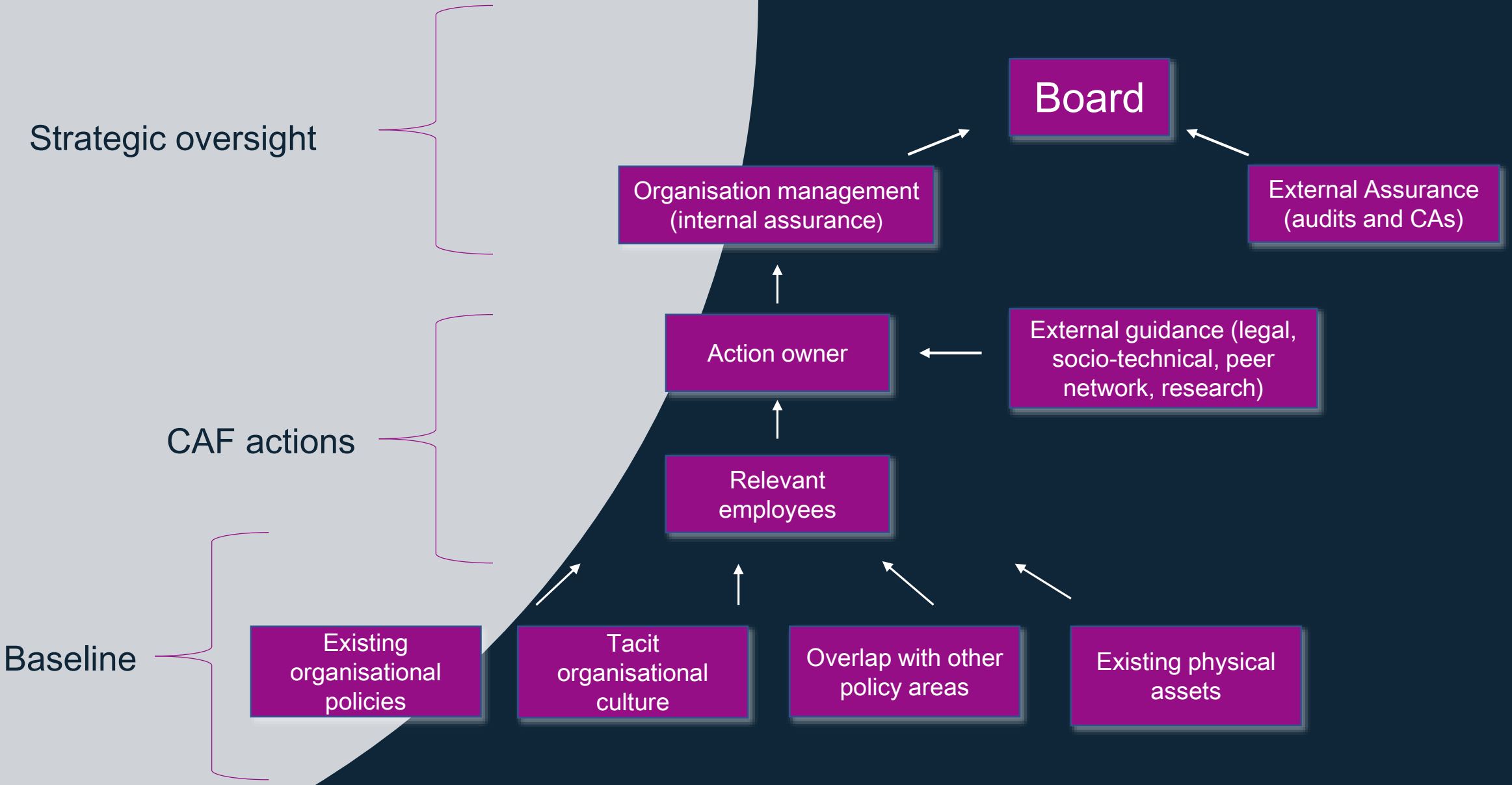

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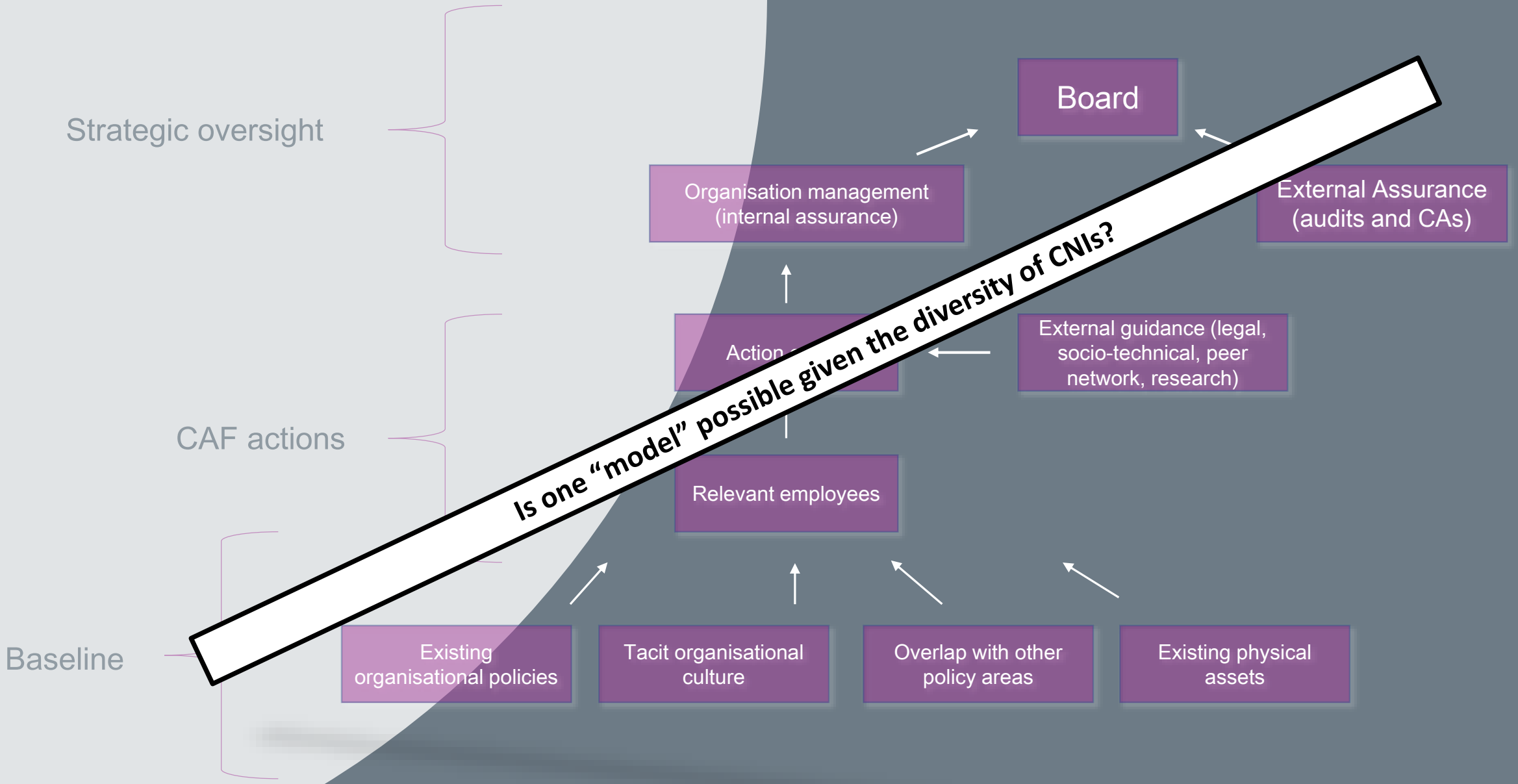

Early typology of practices

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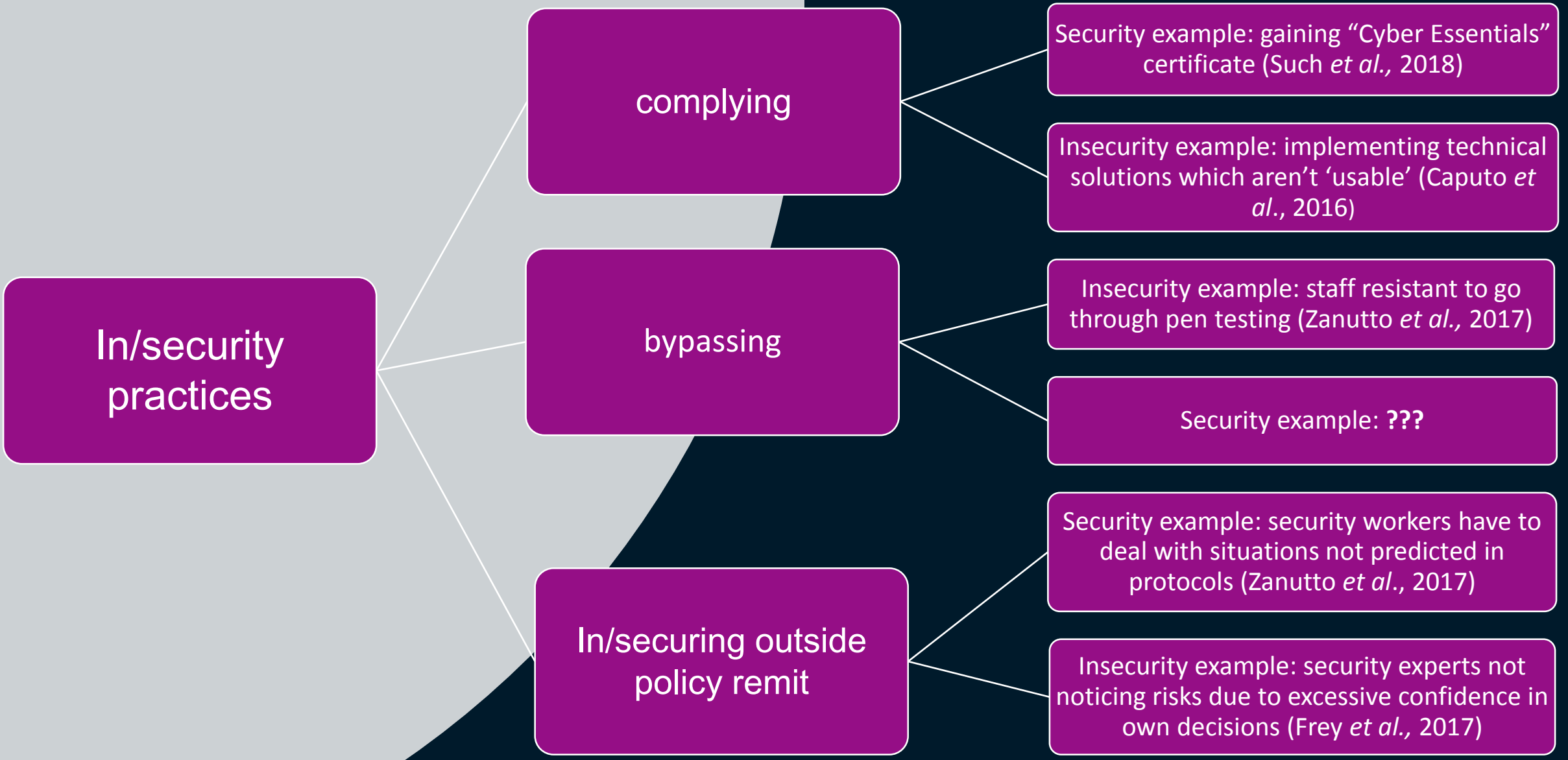

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Summary

- We presented social science / STS perspective on cyber security
- We are tracing the ‘making of’ NIS directive
- We are interested in everyday security practices within diverse CNIs
- We will collect data through interviews (stage 1) and ethnographic fieldwork (stage 2)
- We are currently looking for participants and collaborators

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Thank you for your attention

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Collaborate with us!

What? Hour-long face to face interviews (location and time chosen by participant)

When? Between October 2019 and January 2020

Who? People with professional experience of NIS (e.g. civil servants, consultants, lawyers, engineers, CEOs, Security Managers, regulators)

Why? We want to find out more about your experiences of NIS design, implementation and compliance.

Interested?

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