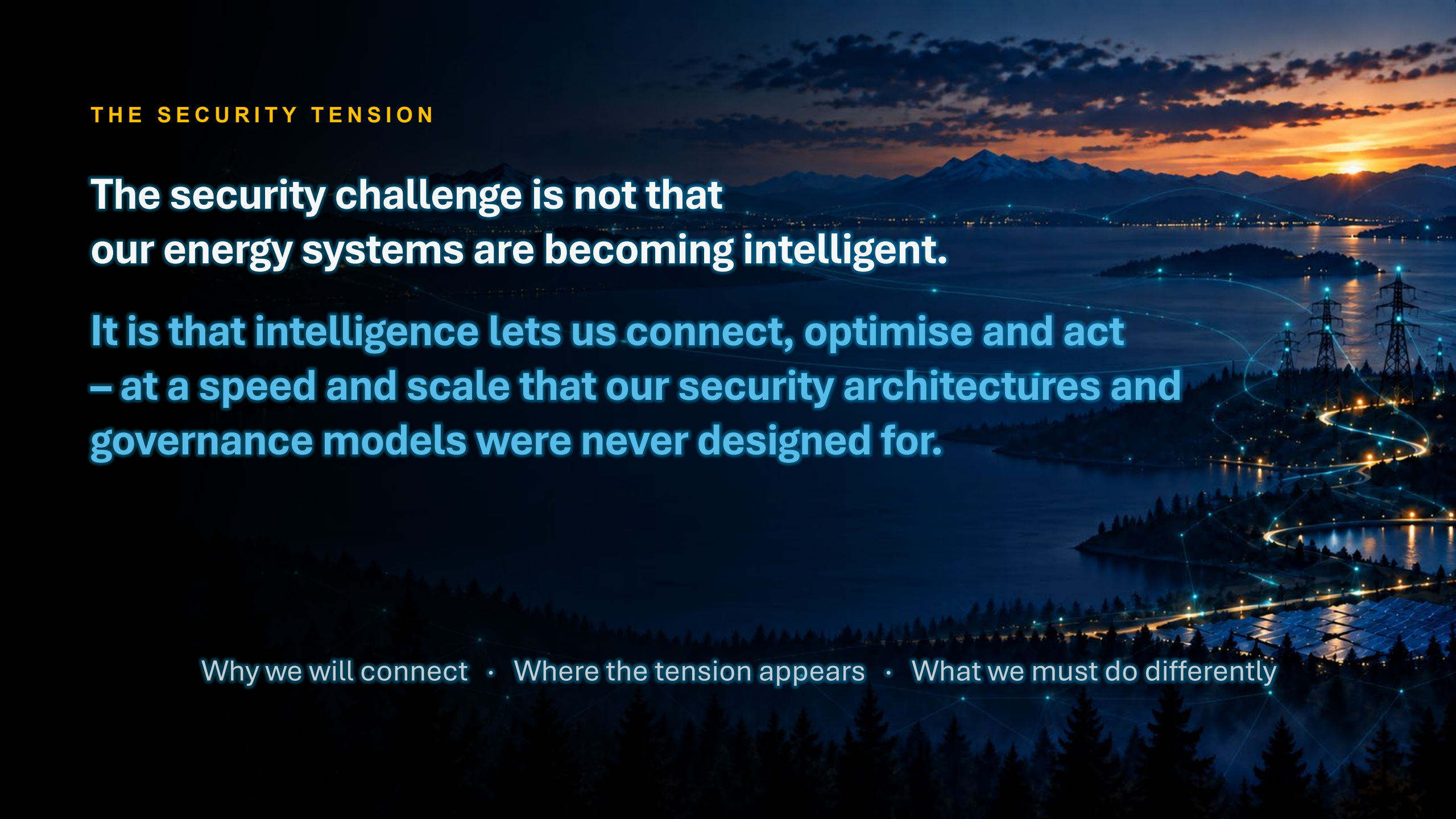
MANAGEMENT DOCTORS AB

THE SECURITY TENSION IN INTELLIGENT ENERGY SYSTEMS

Speed, Scale and Systemic Risk

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THE SECURITY TENSION

The security challenge is not that our energy systems are becoming intelligent.

It is that intelligence lets us connect, optimise and act – at a speed and scale that our security architectures and governance models were never designed for.

Why we will connect · Where the tension appears · What we must do differently

THE BUSINESS CASE IS BECOMING IRRESISTIBLE

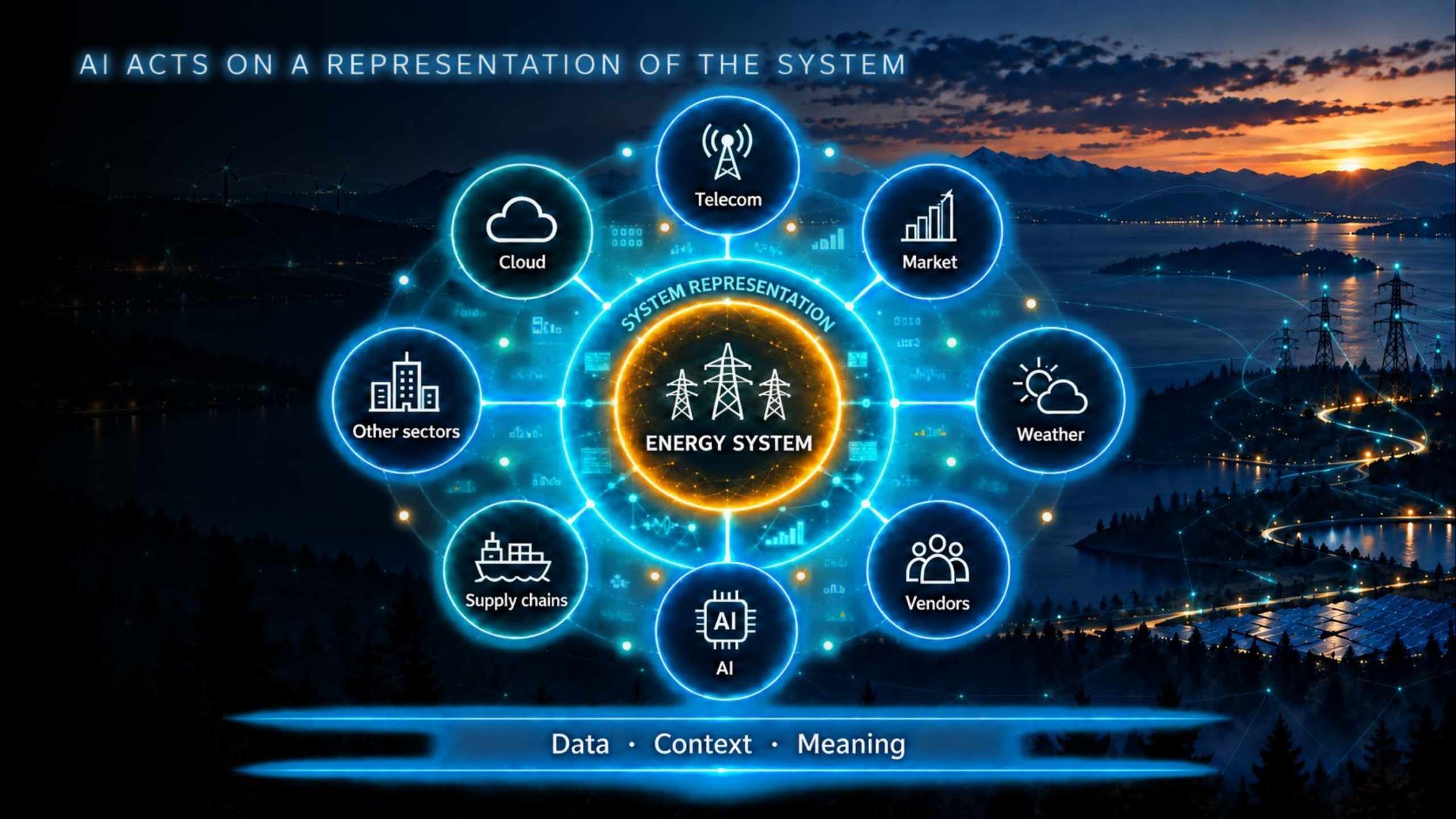


Better decisions · Faster decisions · More decisions

WE ARE REDESIGNING THE DEPENDENCY STRUCTURE



Connectivity → Interdependency → Complexity


AI ACTS ON A REPRESENTATION OF THE SYSTEM
Telecom
Cloud
Market
SYSTEM REPRESENTATION
ENERGY SYSTEM
Other sectors
Weather
Supply chains
AI
Vendors
AI
Data · Context · Meaning

THE SYSTEM IS ACCELERATING. ARE WE?



Note, this diagram is a concept – not a measured forecast.

MACHINE SPEED MEETS MEETING SPEED



TIME IS COMPRESSING

WE ALREADY LET MACHINES MAKE CRITICAL DECISIONS



Bounded | Defined | Independent | Traceable | Recoverable

CLEAR LIMITS FOR OPERATIONAL AI



AI / Optimisation



Operational authority & guardrails



Control / SCADA / DCS

Independent protection & safety





Physical process

Ownership

Traceability

Accountability

ROBUSTNESS IS A DESIGN PARAMETER



WHAT MUST STILL WORK WHEN OUR ASSUMPTIONS FAIL?



THREE SHIFTS

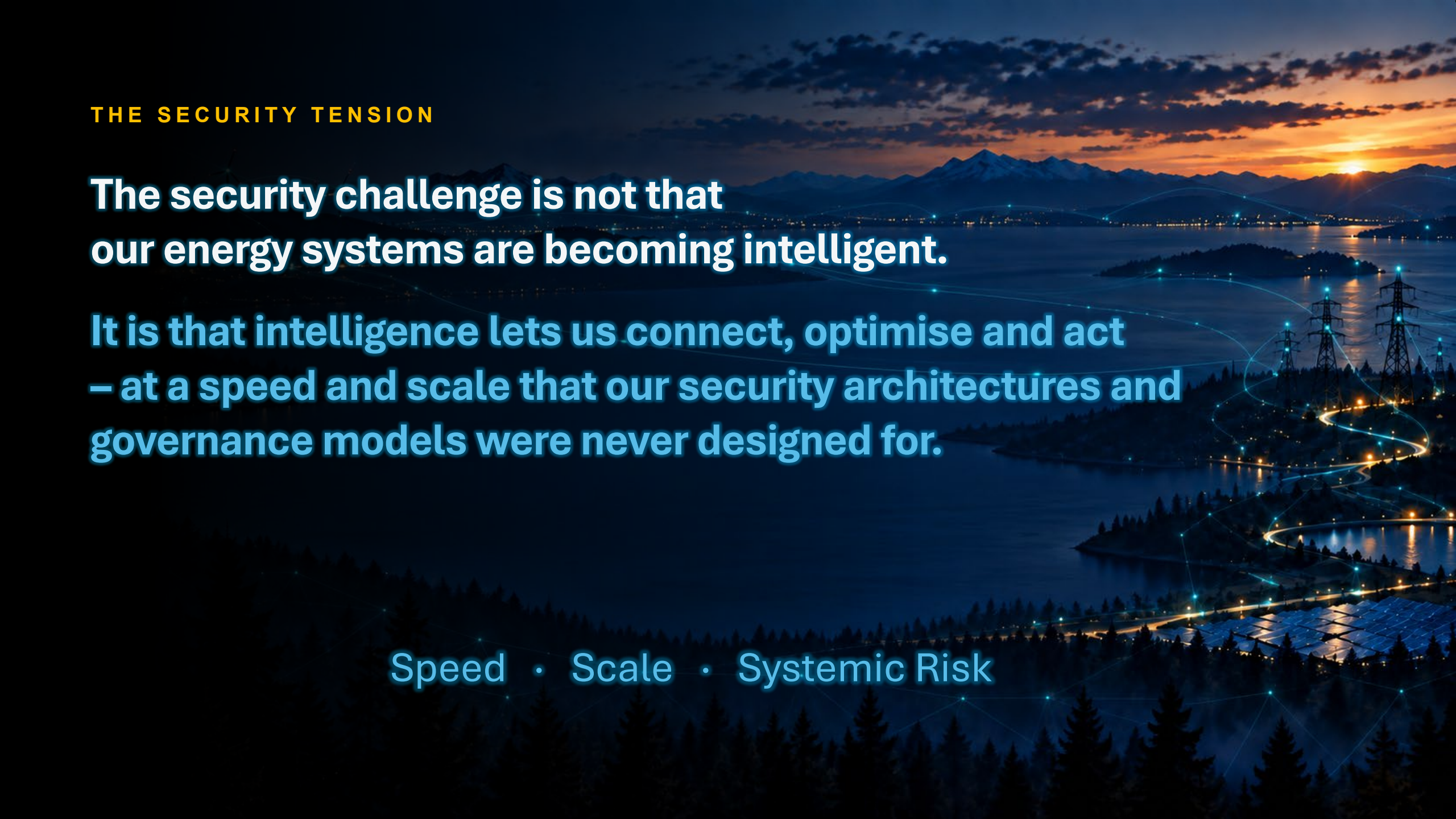
Protecting components → Understanding systems

Managing connections → Engineering dependencies

Trusting automation → Governing authority

BUILD SYSTEM COMPETENCE AT THE SPEED OF CHANGE

Speed · Scale · Systemic Risk



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Speed · Scale · Systemic Risk

QUESTIONS & DISCUSSION

The Security Tension in Intelligent Energy Systems

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Speed · Scale · Systemic Risk