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Quantum AI

Quantum Law

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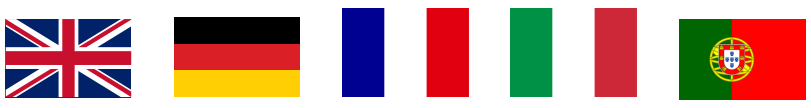
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QUANTUM AI & QUANTUM LAW

How quantum computing will reshape legal certainty, digital signatures, and smart contracts

Strategic legal analysis on technological resilience







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QUANTUM LAW

THE APPROACH OF "Q-DAY"

Shor's algorithm will enable quantum computers to compromise asymmetric encryption (RSA/ECC).

Traditional security securing corporate secrets, banking, and communications faces obsolescence.

Classical digital architectures will forfeit mathematical certainty.

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QUALIFIED SIGNATURES CHALLENGED

Regulations like **eIDAS** grant qualified signatures a legal presumption of authenticity.

Quantum key derivation dismantles the legal presumption of digital document authorship.

Qualified electronic timestamps remain essential to prove historical execution validity.

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THE "HARVEST NOW, DECRYPT LATER" RISK

Hostile entities are capturing encrypted corporate data streams today.

Objective: decrypt sensitive intelligence once commercial quantum hardware matures.

Unaddressed exposure for long-term trade secrets, patents, and sensitive data.

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SMART CONTRACTS DRIVEN BY QUANTUM AI

Legacy blockchains must execute hard forks to integrate **quantum-resistant** signatures.

Quantum AI enables probabilistic, adaptive contracts rather than static deterministic code.

Direct challenges to established legal doctrines of mutual assent, mistake, and liability.

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POST-QUANTUM CRYPTOGRAPHY (PQC): BOARD DUTIES

Deployment of NIST-standardized quantum-resistant algorithms (ML-KEM / ML-DSA).

Direct cybersecurity compliance obligations under the NIS 2 Directive and DORA.

Personal director liability for failing to implement quantum risk management protocols.

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TOMORROW'S LEGAL CERTAINTY REQUIRES ACTION TODAY

Audit the cryptographic resilience of your contracts and protect your enterprise's core digital assets.

Consult specialized counsel in
Digital Law and Emerging Technology Governance!

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