

# Quantum-Safe Networks

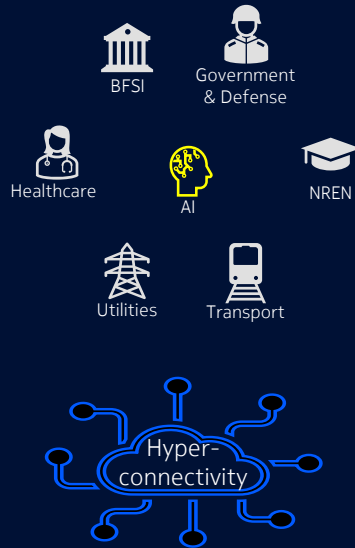
Securing The Quantum Future, today!

Dan Bond  
Quantum-Safe Networks, Nokia  
November 2024



# Digitalization has changed the world economy

## Continuing Transformation & Growth



Empower our  
economies with

**unshakable  
security**

&

**TRUST**



Secure



Available



Scalable

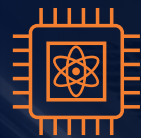
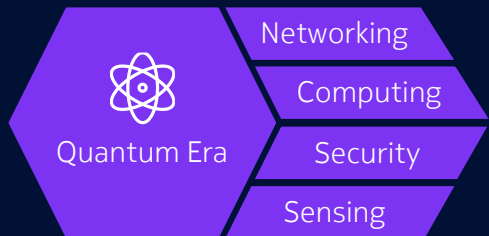
We must act now to shield our digital future from a quantum paradigm shift

# The Quantum Era heralds both

Benefits

&

Threats



CRQC  
@ Q Day



Harvest Now  
Decrypt Later



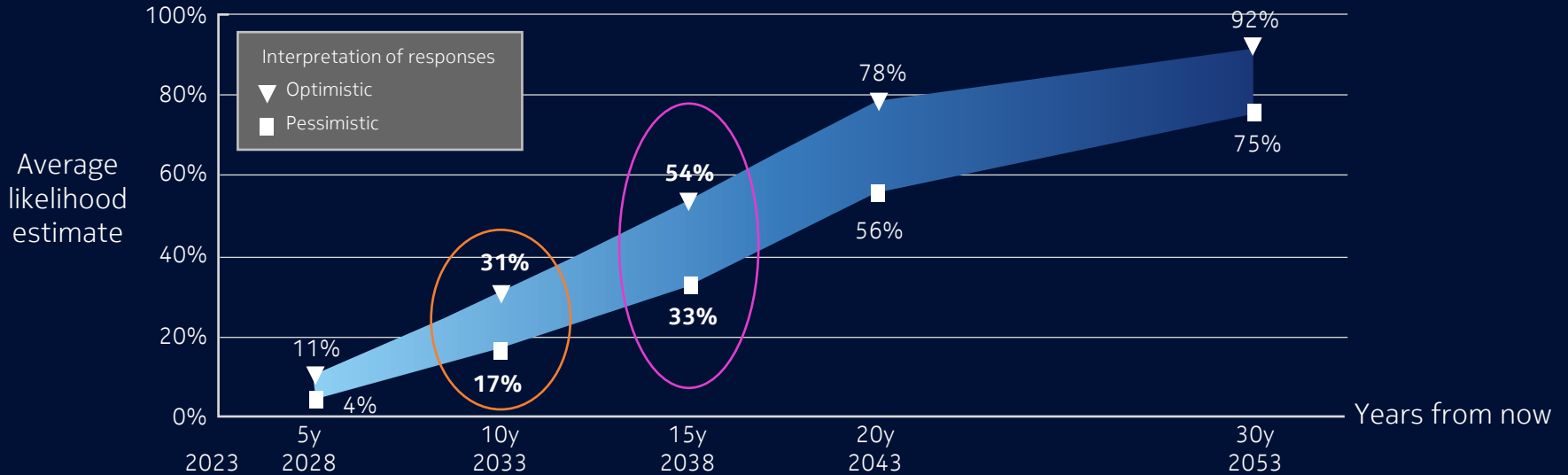
Current  
asymmetric  
cryptography  
(PKC)



# Growing CRQC Risk

## Time for action

Expert survey on the likelihood of a Quantum Computer breaking RSA-2048 in 24h



Source: Global Risk Institute, Quantum Threat Timeline Report 2023

# Policy makers are responding to the security impact

## Awareness, recommendations, and proactive measures



Is your cybersecurity ready to take the quantum leap?



Government of Canada launches National Quantum Strategy



NIST Releases First 3 Finalized Post-Quantum Encryption Standards



EU urged to prepare for quantum cyberattacks with coordinated action plan



Singapore to build national quantum-safe network that provides robust cybersecurity for critical infrastructure

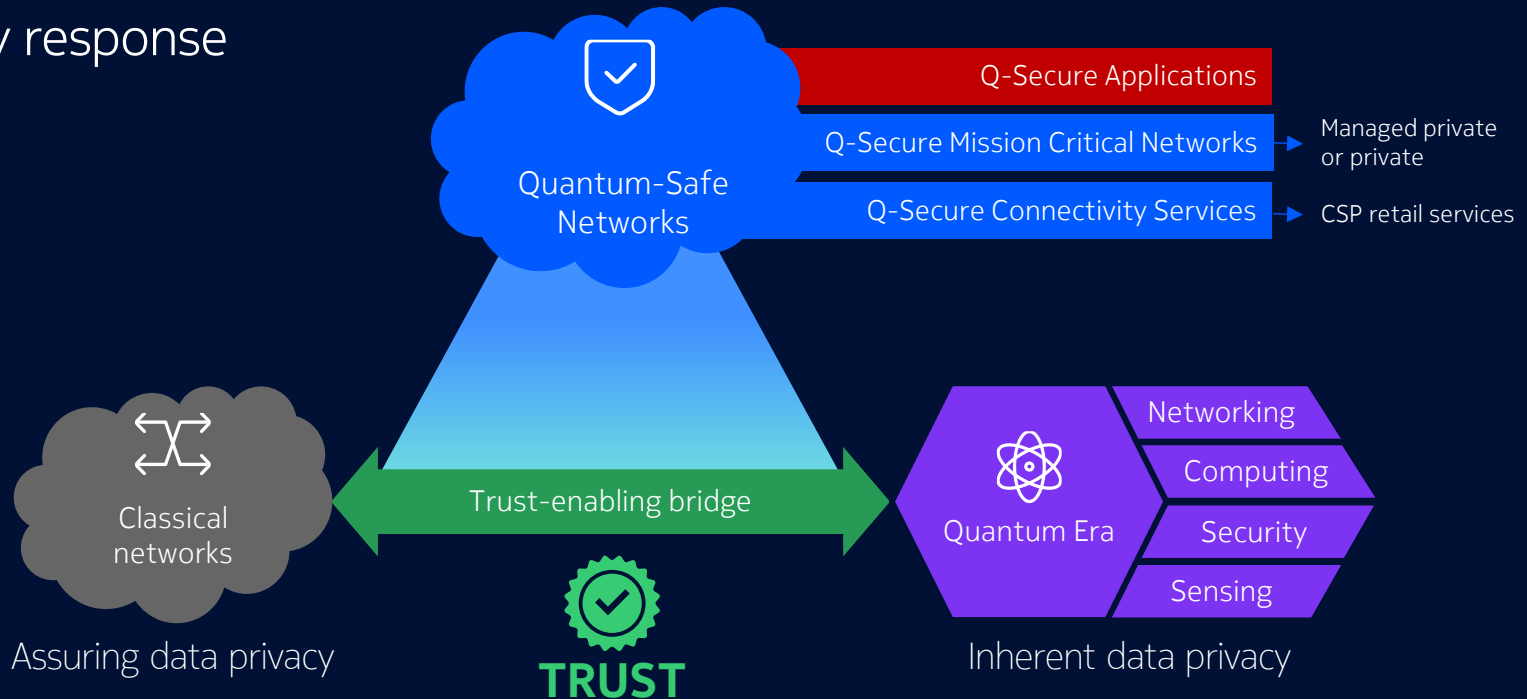


South Korea plans large scale quantum cryptography adoption

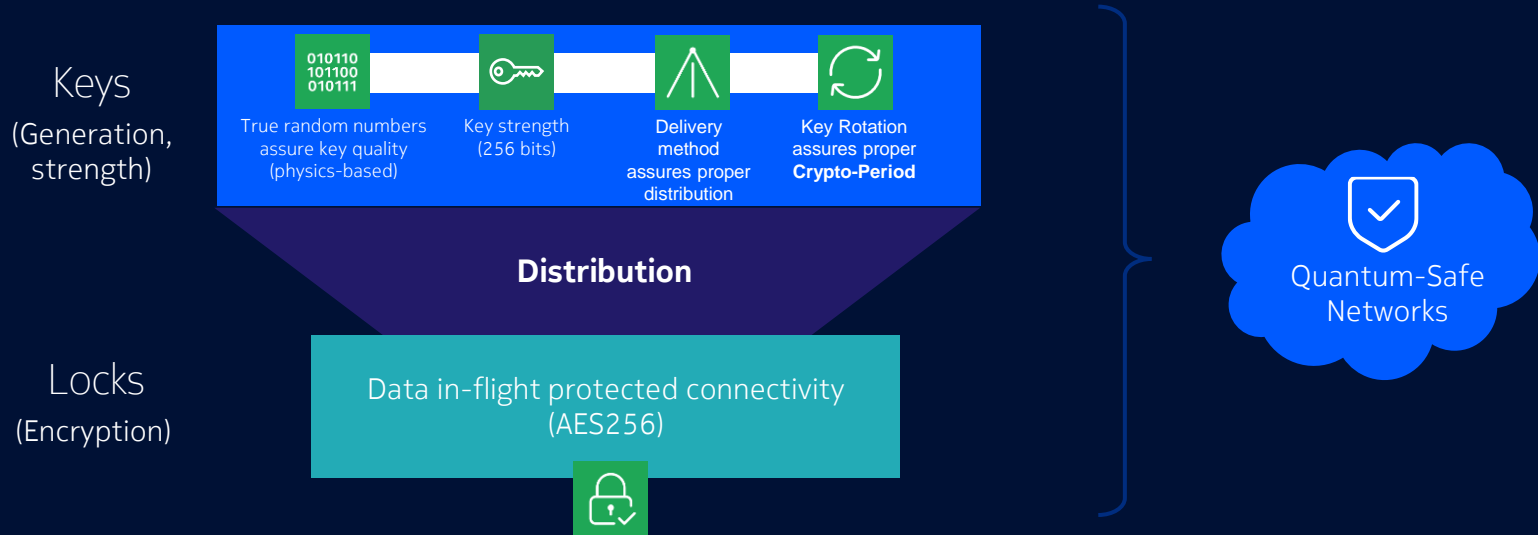
# We are transitioning to a quantum-secure economy

An era where secure and trusted connectivity will have a prevalent role

## Industry response



# Ingredients of Quantum-Safe Networks



The combination of locks and keys assure Quantum-Safe Networks

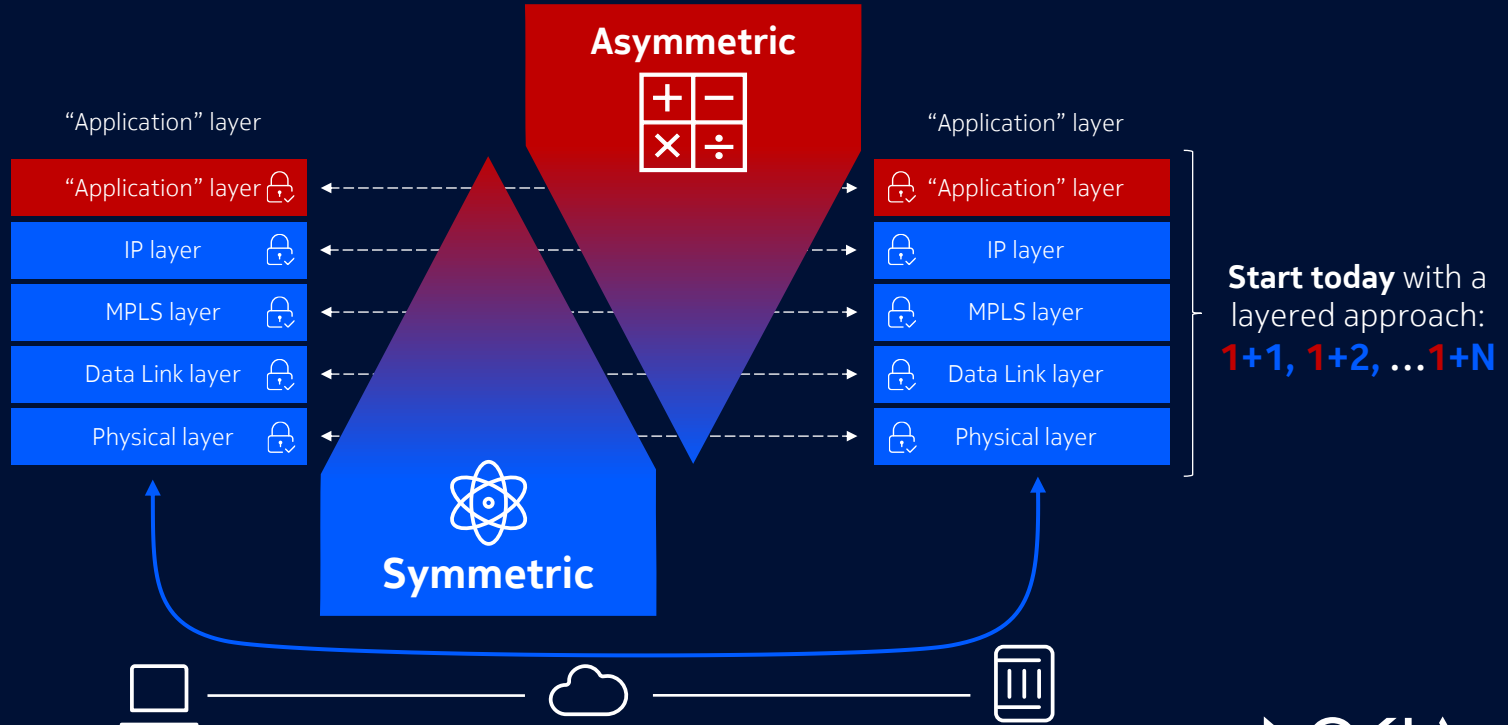
# There is no “one-size-fits-all” solution in Quantum Safety

We need to adapt, scale and evolve using a layered Defense-in-Depth approach

**Adapt**  
to your  
business needs

**Scale**  
your  
Quantum-Safe  
deployment

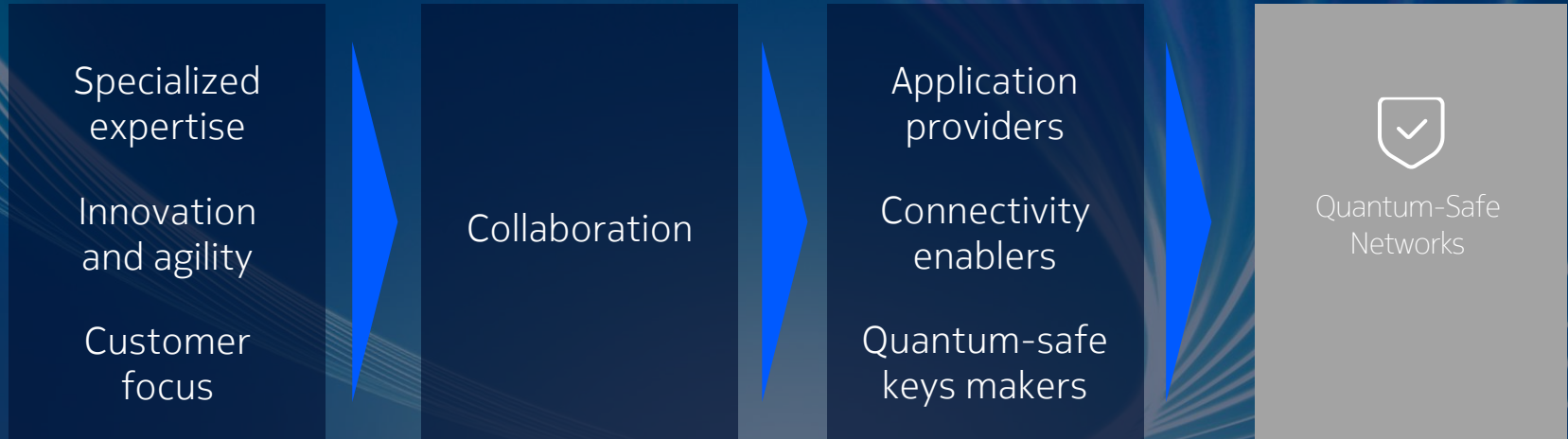
**Evolve**  
with the  
Quantum  
landscape





# Embracing the industry to enrich our engagements

## Driving forward by fostering a collaborative approach



# GRNET HellasQCI Proof of Concept

## Quantum Safe NREN

### Objective

Safeguard valuable and vital research data in the face of emerging security threats while protecting Greek society from cyber-attacks that could penetrate encrypted systems and threaten life-sustaining infrastructure

NEWS

## Nokia and HellasQCI complete quantum-safe networks proof of concept

Trial showcase by leading networking tech firm and communication infrastructure consortium shows hybrid approach with both classic and quantum physics key to reach goal of quantum-safe networks

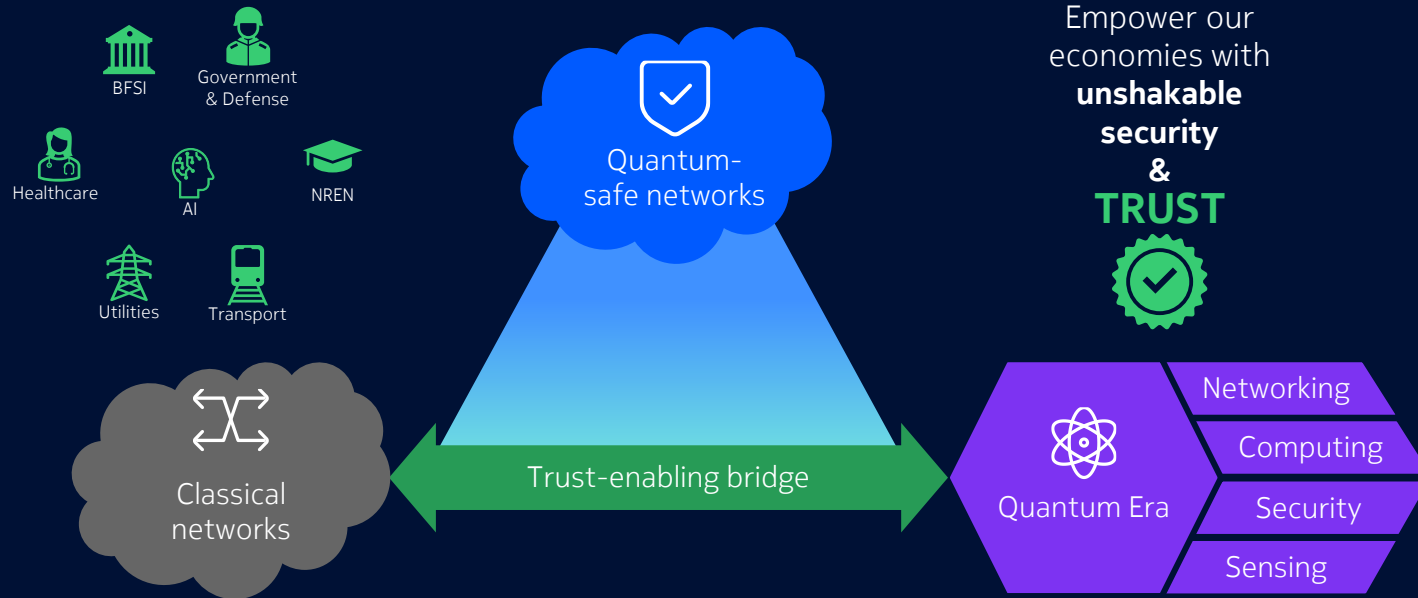


By Joe O'Halloran, Computer Weekly

Published: 19 Dec 2023 12:00

# As we continue our digitalization journey

## We must act now to shield our digital future from a quantum paradigm shift



Enable the world to securely act together today

NOKIA