



# Drive Q-KMS adoption



From Research to Large Scale Commercial  
Deployment

Jean-Robert Morax

Quantum-Safe Product Management Director

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—  
Founded in 2001



—  
Geneva, Switzerland  
Seoul, South Korea  
Boston, USA  
Vienna, Austria  
Singapore  
Dubai, UAE



—  
130+ employees,  
including 50  
engineers/scientists



—  
Acquisition by IonQ  
in 2025



Develops technologies and products based on quantum physics within two business units:

—  
Quantum-Safe  
Security

—  
Quantum Detection  
System

Performs R&D, production,  
professional services,  
integration, support



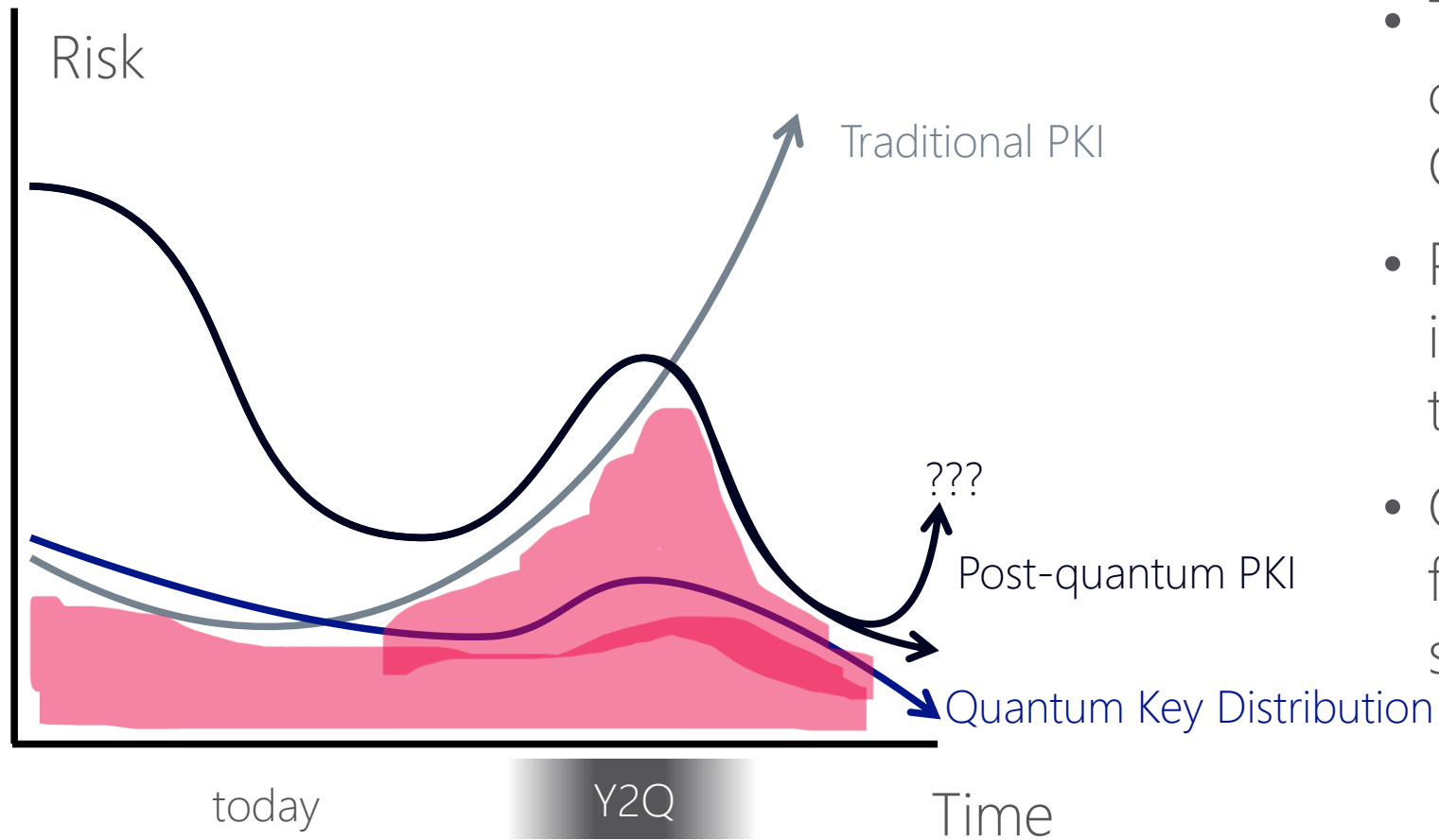
Clients: Governments / Banks /  
Telecom / Critical Infrastructure  
/ Universities / IT Security



# Q-KMS as a QKD enabler

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# Risk management: Why QKD?



- Traditional PKI must be complemented before “Year to Quantum”
- Post-Quantum Crypto (PQC) is new and hence risky. Long-term development unclear
- QKD bridges short-term risk from PQC and is the most secure long-term solution

# Dual Strategy

Combine both PQC and QKD for defense-in-depth.



# CLARION KX – Software Solution Integrated in all IDQ Hardware



## XG/R series QKD



- ⊕ Benefits from XG HW features
- ⊕ Less rack footprint
- ⊕ Leverages XG Series
- ⊕ >2Mbps IDQ QRNG\* entropy for KX

## Clarion KX Platform

- ⊕ Supports a Large portfolio of encryptor vendors
- ⊕ Multi-KMS integration
- ⊕ Third party QKD (ETSI014)
- ⊕ Standalone KMS
- ⊕ Supports edge “non-QKD” key exchange link (i.e. PQC)

## Solteris Appliance

NEW



- ⊕ Out-of-band key exchange
- ⊕ Over any IP Network
- ⊕ 1U rack mount
- ⊕ Redundant power supply
- ⊕ Higher Key Exchange processing power
- ⊕ Extended modular network ports
- ⊕ >40Mbps IDQ QRNG\* entropy for KX





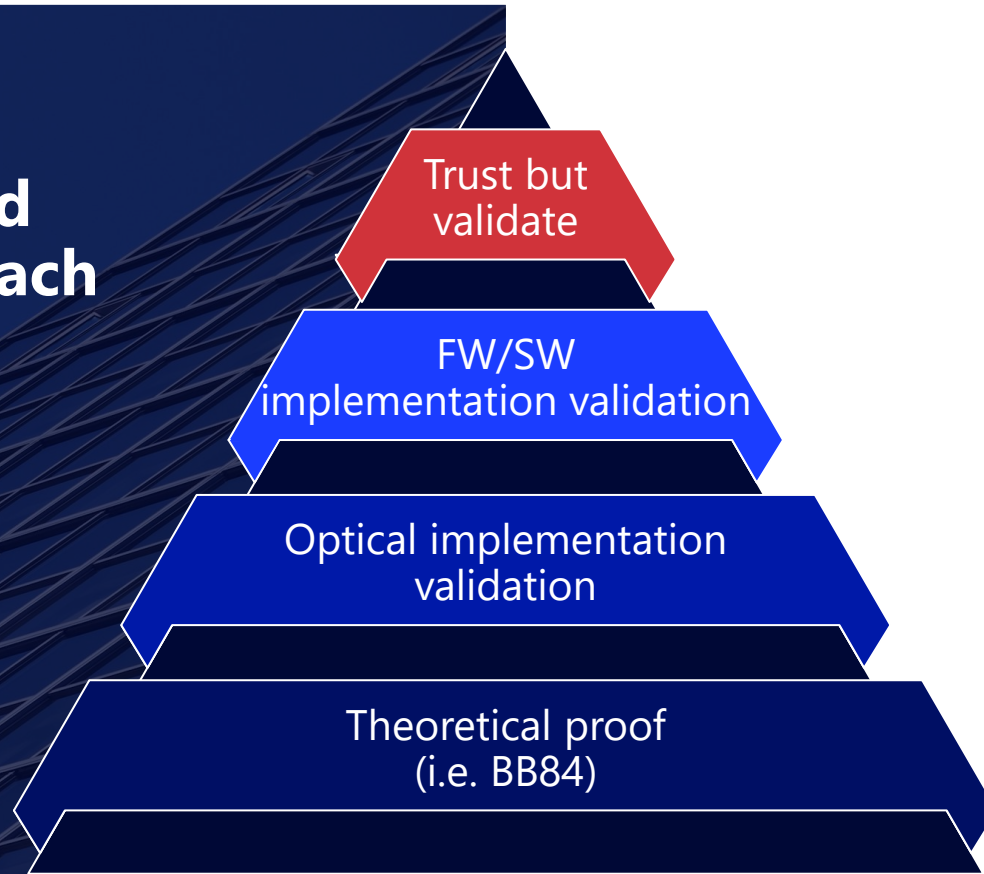
## Trust required to deploy Q-KMS and QKD

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# QKD – The Road to Security Standardization and Certification



## Phased approach



## Collaborations

Standards Organizations



Certification Bodies



Security Evaluation



## Initiatives

National Initiatives



# NSR Korea – national security accreditation for QKD

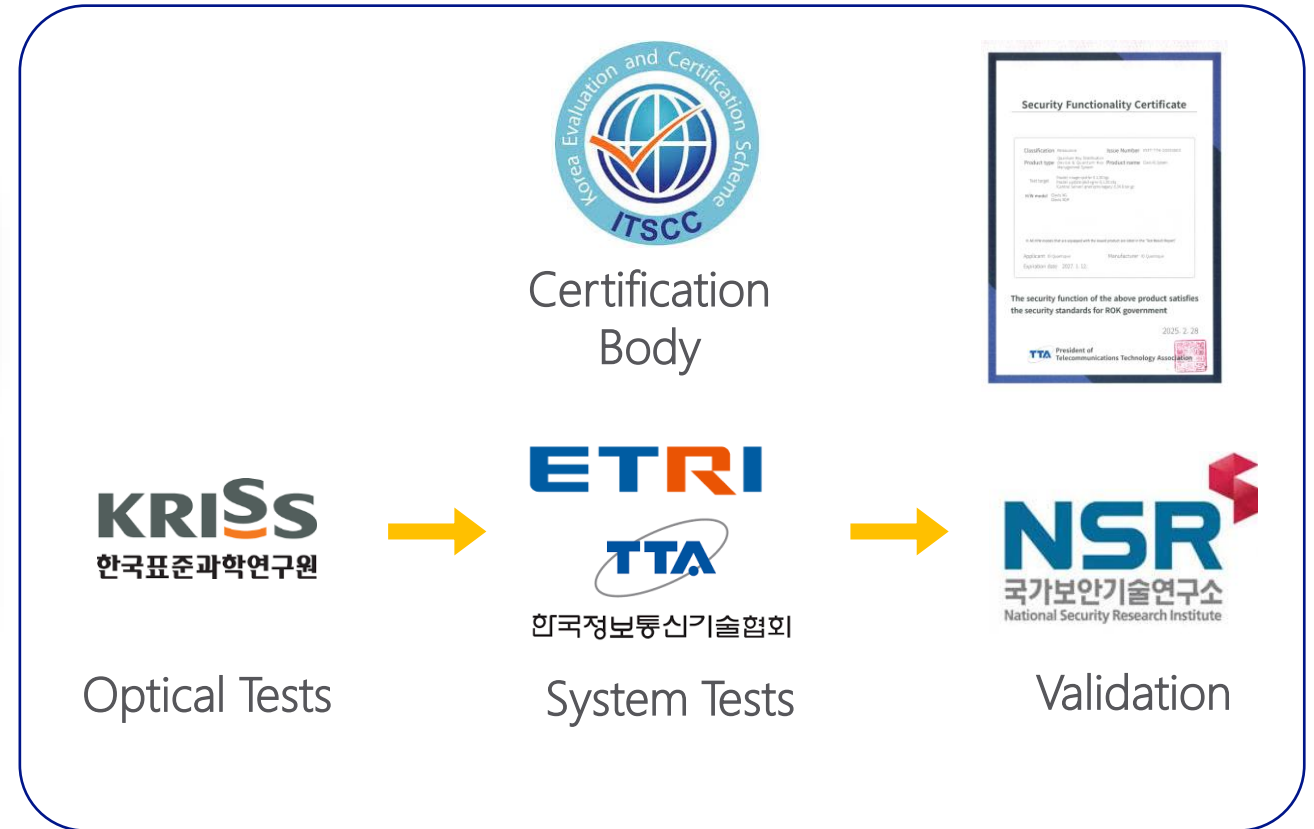


## First QKD and Q-KMS Certification

Quantum Key Management System Layer



Quantum Key Distribution Layer



**2 ½ years company wide effort  
Awarded in February 2025**



# **From Research, To Government, To Commercial**

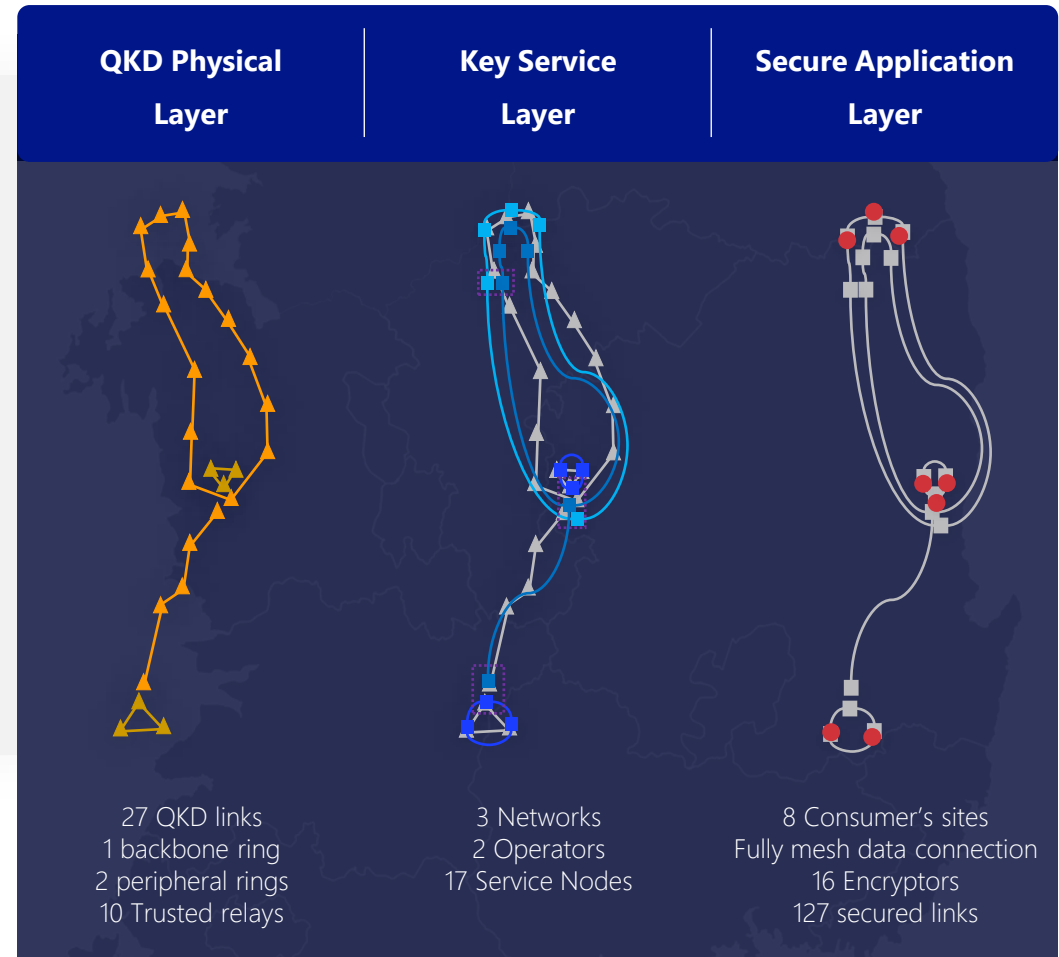
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# Use case: South Korean Quantum-Safe Key Distribution Network



**Combining 48 Government departments into a single 800-km converged network**

- The world's first cost-effective quantum-safe infrastructure on a national level
- The largest and most sophisticated quantum communication network outside China

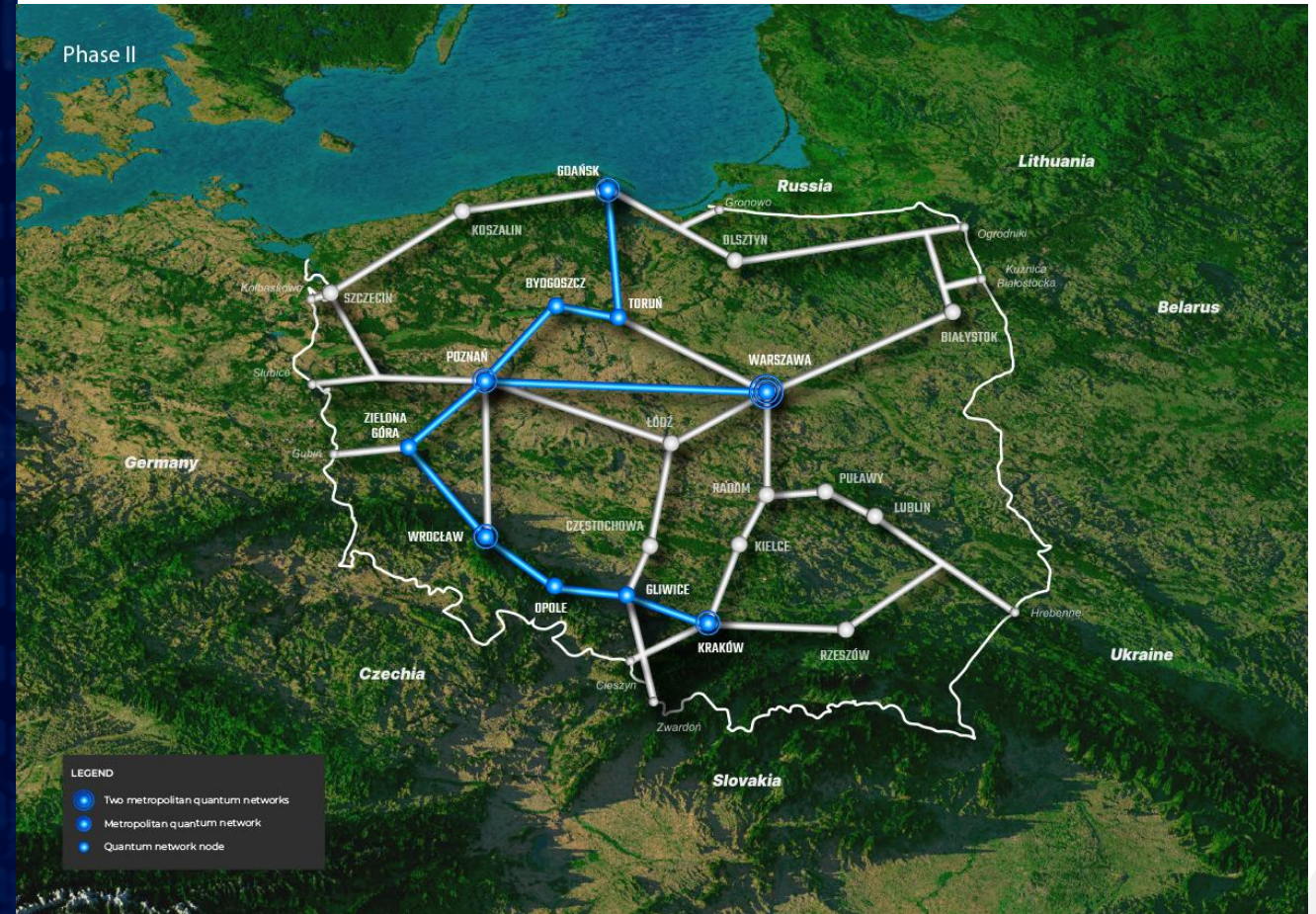


# 1770 km-long intercity QKD infrastructure in Poland

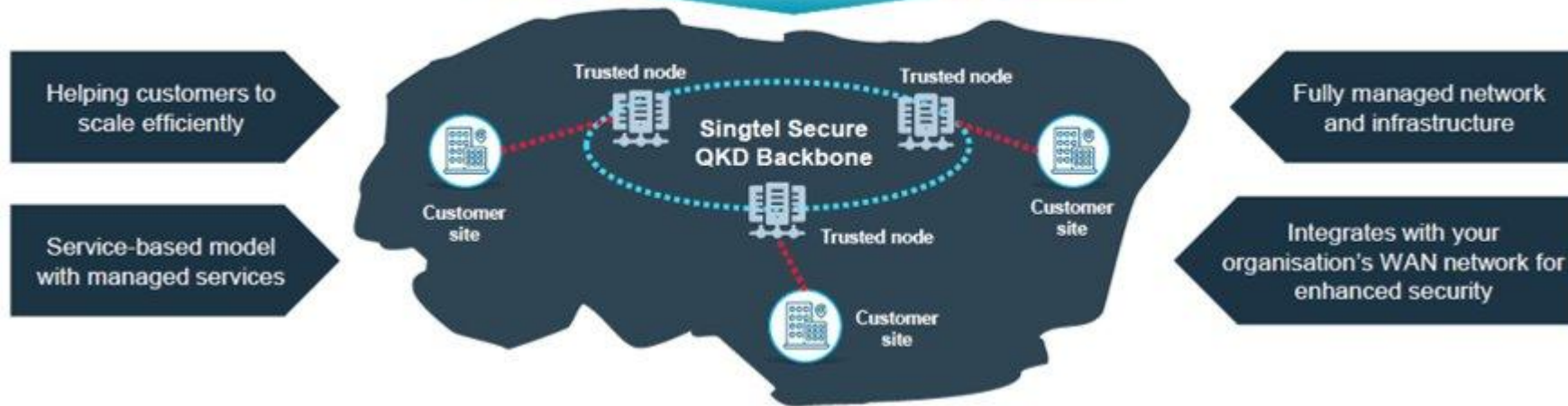
*QKD connections between HPC Centers*

## Infrastructure:

- 1770 km of intercity QKD links over dedicated fibers
- Trusted nodes in main cities of Poland and ready for metro QKD system installations with different topologies
- Each partner has metro QKD systems for local QKD network and use cases
- Separate QKD network and integrated with PIONIER infrastructure and services
- Number of different use cases including quantum computing
- Based on IDQ's Clavis and Cerberis QKD systems



# Singapore – Quantum-Safe Network (NQSN+)



Financial services and Banks



Manufacturing



Public safety and defense



Land transportation and aviation



Utilities and Power plants



Healthcare organization and hospitals



# The ecosystem matters more than the solution

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# Entreprises worried about suppliers induced security risk



April 2022 - Healthcare



**+30 health firms impacted by the breach of 2.65 million employee's records**

<https://www.hipaajournal.com/onetouchpoint-ransomware-victim-count-increases-to-2-65-million/>

July 2024 – 100<sup>th</sup> of Fortune 1000 companies



**8.5 million systems to crash, disrupting operations for days across thousands of organizations worldwide**

<https://hbr.org/2025/01/what-the-2024-crowdstrike-glitch-can-teach-us-about-cyber-risk>



February 2014 - Retail

**Massive Breach Happened Via Third-Party Vendor Credentials**

<https://www.infosecurity-magazine.com/news/home-depot-breach-third-party/>

July 2017 - Finance



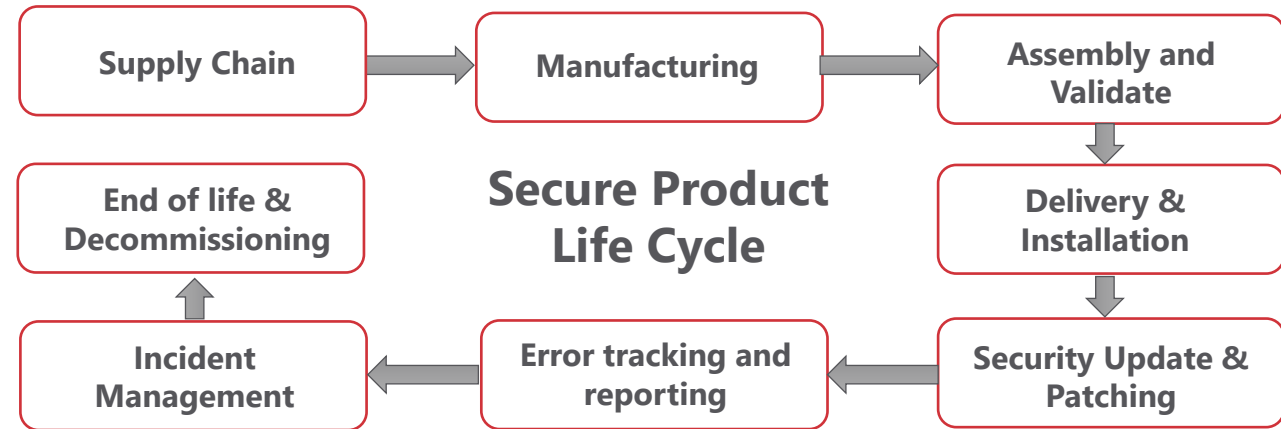
**Security flaw in a software program leads to +148 million personally identifiable information stolen**

<https://www.mozilla.org/en-US/products/monitor/equifax-data-breach/>

# Holistic Approach of Product Security



Security at the core of the Company





# ID Quantique

*Quantum.  
Trust enabled for the future*

[pegon@idquantique.com](mailto:pegon@idquantique.com)

[www.idquantique.com](http://www.idquantique.com)

## ID Quantique

**Founded  
in 2001**

**3 Product  
lines:**

1. Quantum Random Number Generation
2. Quantum-Safe Security
3. Quantum Sensing



**High-quality  
engineering**



**Best-in-class  
performance**



**Trust**



**Operational  
simplicity**