Q→NU

Proactively™ Quantum

Accelerating World's Transition towards a Quantum-Safe Future

Our Genesis

QNu Labs is the **world's no.1 quantum cybersecurity** company and category leader, incubated at IIT Madras Research Park in 2016, born in India but built for the world.

— Our mission is to secure digital infrastructure against emerging quantum threats worldwide.

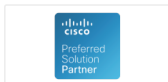— Our vision is to make India a global leader in quantum-secure communications.

Our Legacy

— Backed by the **National Quantum Mission**, we are aligned with the Hon'ble Prime Minister's vision of Viksit Bharat 2047.

— Championing **Atmanirbhar Bharat**, **Make in India**, and **Digital India**, QNu Labs defends critical infrastructure for India and the world.

— Trusted by Government bodies and sectors like Defence, PSUs, BFSI, IT, Telecom, Healthcare, Automobile, etc.

QNu Labs is the winner of '**Cybersecurity Company of the Year**' (**4th MSME & Innovation Summit, 2025**) and has been featured and recognised by the **Ministry of Defence**, **Department of Science and Technology**, NQM, **iDEX**, NASSCOM, **Aegis Graham Bell Award**, **Forbes**, Inc.42, **Intellyx**, and **Technology Development Board, India**.

Our Quantum Leadership

— 10 approved patents (3 from USA); 15 more in pipeline

— 10 years of quantum excellence and technology innovation

Supported by trusted global partners. Co-develop. Interoperable. Secure.

IN-SPACe | DHRUVA SPACE | Thales Accelerate Partner Network OEM GOLD | Lekha Wireless Solutions

iDEX Innovations for Defence Excellence PM Awardee | Cisco Preferred Solution Partner | aws | nasscom

COMPREHENSIVE QUANTUM PRODUCTS AND SOLUTIONS

Armos (QKD)

— Ultimate quantum protection for your data

— Detects and prevents man-in-the-middle attacks

Tropos (QRNG)

— Offers true randomness with high entropy

— Ensures robust security for multiple applications

QHSM - Quantum Hardware Security Module

— Secure, tamperproof cryptographic key management

— Secure signing and verification integrity

Q-ORE

— End-to-end quantum-safe drone communication platform

— Compact design for UAVs & Drones

QShield™

— World's only full-stack end-to-end integrated quantum security platform

— Compliant with NIST, FIPS, and India's quantum cybersecurity mandates

QShield™

QVerse

QVerse

— World's first end-to-end quantum-secure messaging, collaboration and communication platform

— Consent-based file sharing, forward secrecy, and remote wiping

QConnect

— End-to-end quantum-safe VPN and secure tunnel

— Defending every data packet in motion with zero-trust tunnels

QConnect

QOSMOS

QOSMOS
ENTROPY AS A SERVICE

— Quantum-secure Entropy-as-a-Service (EaaS)

— Multiple applications for cryptographic key generation

mCARP

— Critical Analysis Research Platform (CARP)

— To learn and carry out research on QKD
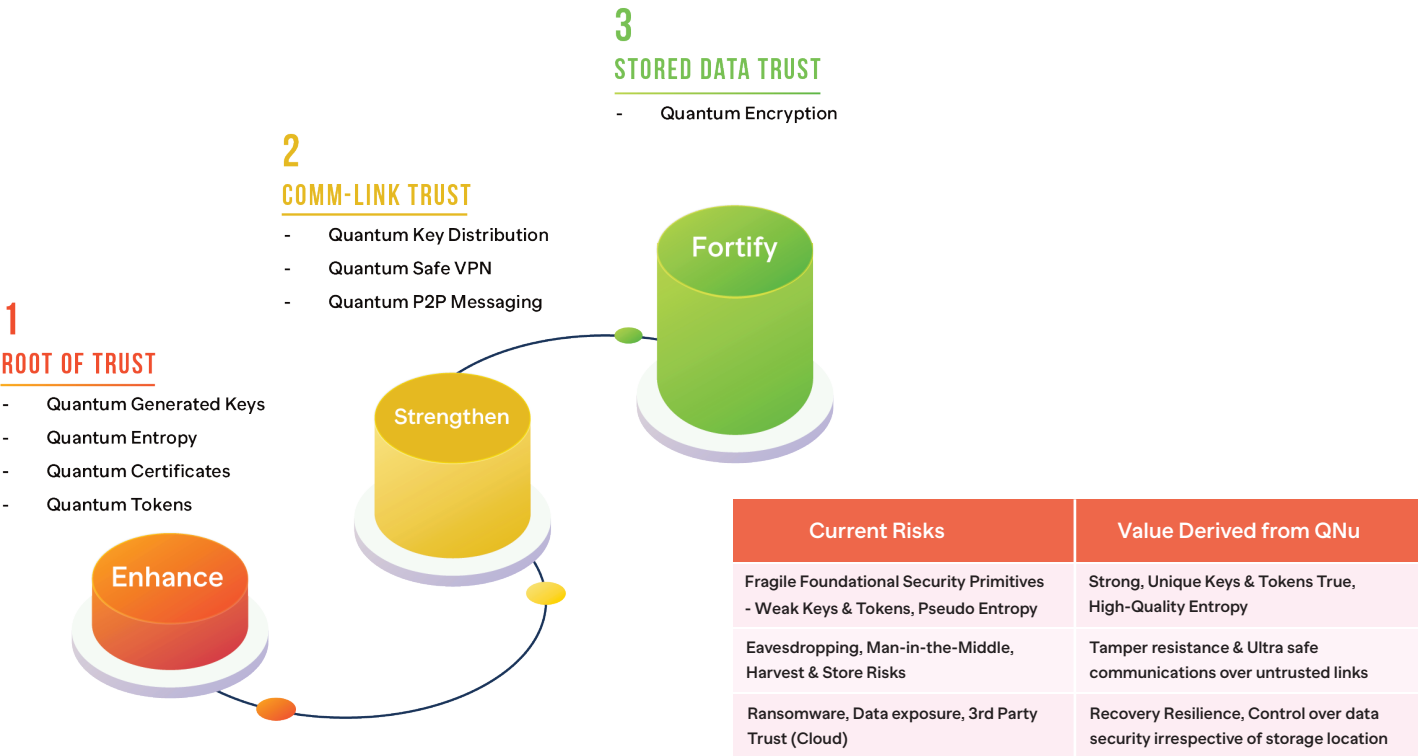
mCARP
YOUR OWN QUANTUM LAB

Why Quantum Security Now?

— 'Organisations that embrace both quantum-resistant and quantum-native approaches will be best positioned to lead in a post-quantum world.' - **World Economic Forum Report, July 2025**.

— '**Quantum communication market is projected to reach $15 billion by 2035**. Top sectors contributing towards it: Governments, Telecommunications, Financial services, Academia, Healthcare, followed by others.' - **McKinsey's Quantum Technology Monitor, 2025.**

— **Increasing Cyberattacks Globally** Cyberattacks are growing in scale and sophistication, targeting all industries.

— **Existing Encryption Vulnerability** Current cryptographic methods will be broken by quantum computers in a few years.

— **Harvest Now, Decrypt Later (HNDL)** Attackers are stealing encrypted data today, planning to decrypt it later.

— **Lack of Perfect Randomness** Weak or predictable encryption keys compromise security.

— **Risk of Encryption Key Distribution** Key exchange over public channels is vulnerable to interception.

— **Sensitive Data Compromise** Due to insufficient protection standards, data is exposed to breaches.
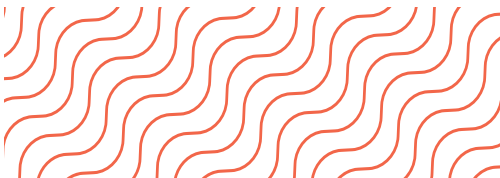
Quantum is no longer a threat. It is a reality. It has begun. Now is the time to act!

How QNu Labs helps?

QNu offers a wide range of quantum products and solutions, addressing each pain point across various industries. We develop and deploy compliant, future-proof and end-to-end quantum cybersecurity solutions to keep data safe, confidential, and private for enterprises worldwide.
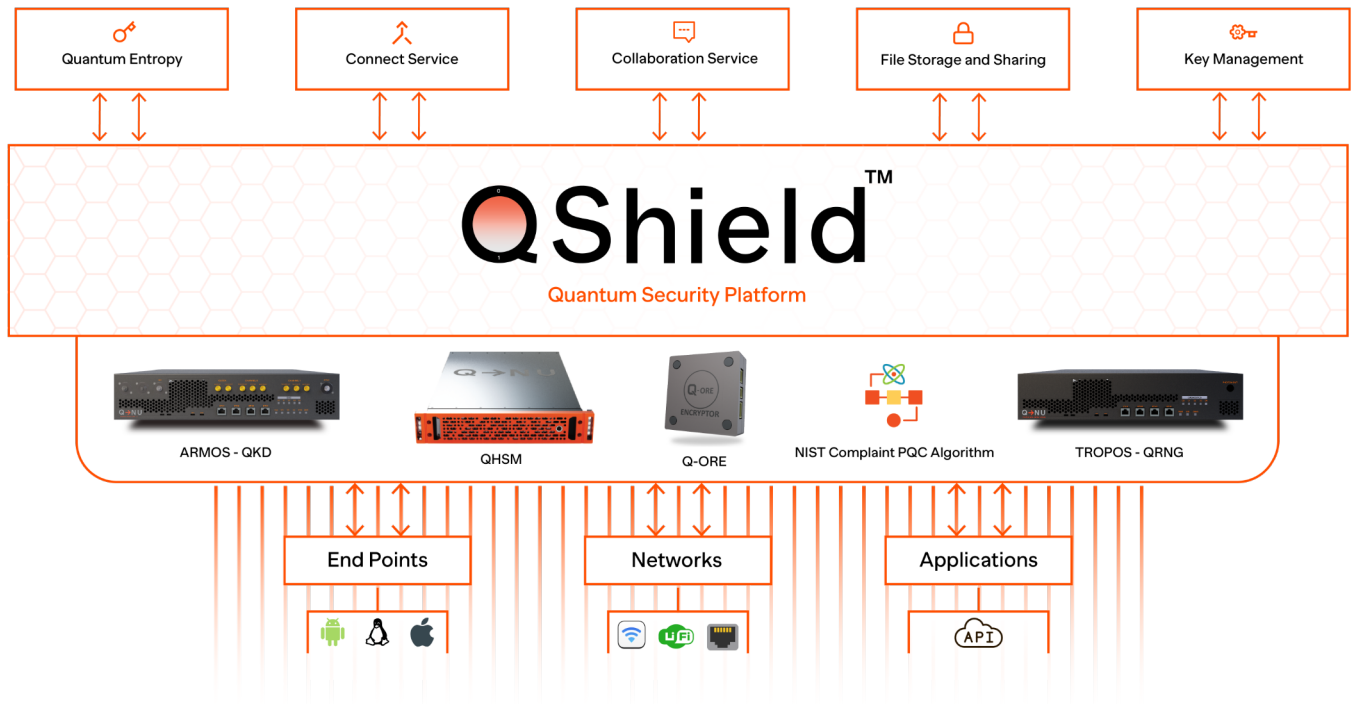
3
STORED DATA TRUST
- Quantum Encryption

2
COMM-LINK TRUST
- Quantum Key Distribution
- Quantum Safe VPN
- Quantum P2P Messaging

1
ROOT OF TRUST
- Quantum Generated Keys
- Quantum Entropy
- Quantum Certificates
- Quantum Tokens

Fortify

Strengthen

Enhance

Current Risks	Value Derived from QNu
Fragile Foundational Security Primitives - Weak Keys & Tokens, Pseudo Entropy	Strong, Unique Keys & Tokens True, High-Quality Entropy
Eavesdropping, Man-in-the-Middle, Harvest & Store Risks	Tamper resistance & Ultra safe communications over untrusted links
Ransomware, Data exposure, 3rd Party Trust (Cloud)	Recovery Resilience, Control over data security irrespective of storage location

— **Integrates** easily with existing infrastructure, without disruption

— **Offers** powerful and pertinent application integrations to serve IT needs

— **Empowers** industries to detect and prevent eavesdropping on the encryption key

— **Enables** a structured upgrade to quantum cryptography with ease.

— **Allows** cloud-centric customers to leverage our products through AWS Marketplace.

QNu's Offerings & Portfolio

QNu Labs delivers a **comprehensive full-stack end-to-end quantum-safe solution** through QShield™ platform. It has three layers, making quantum upgrading convenient.

— **Infrastructure layer** (QKD, QRNG, Quantum-safe Hardware Security Module, and Quantum-safe Drone Communication Platform)

— **Service layer** (Quantum Software Security Module, Quantum Secure Socket Layer, etc.)

— **Application layer** (quantum-safe VPN, quantum-safe key management, quantum secure communication and collaboration platform, quantum-safe file sharing, etc.)

Top Focus Industries

| Defence | Government | Telecom | BFSI | Health Care | Energy | Automobile |

We are also providing quantum solutions for Fortune 500 companies, one of the largest PSUs in the world, and market leaders in each industry.
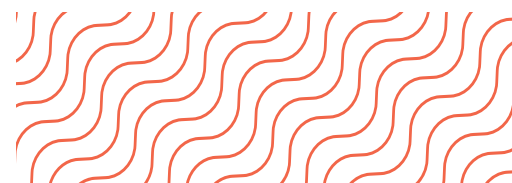
Use Cases

Quantum and Post Quantum Key Generation

— **Blockchain Security**

— **File Encryption**

— **Secure remotework environment**

— **Tokenization and OTPin Banking**

— **Secure workspace incloud**

Case Study

— Built quantum secure communication capability using QVPN, QVerse and QRNG with PQC Stack

— Blockchain-based distributed ledger used cloud-based entropy service to generate random keys for encrypting blocks and used Quantum secure VPN service for secure transactions between nodes of a blockchain

Quantum Key Distribution

— Data Center -Disaster Recovery center security

— Critical Infrastructure Control Systems

— 5G Back Haul using QKD Network

— Quantum CommunicationNetworks

— Open QKD standard-based networks Quantum Key Management

— Storage and retrievalof encryption keys

— Encryption as aservice

Quantum Key Management

— Storage and retrievalof encryption keys
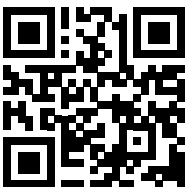
— Encryption as aservice

Case Study

— Building long-rangesecure communicationnetworks fordefence using QRNG, QKD andTrusted Nodes

— Created a quantum secure Metro Area Network (MAN) using Hub and Spoke topology where 5 Alice systems (nodes) are connected with one Bob system (central office)

Case Study

— Provided Quantum secure Key Management to a Blockchain companies

— Enabled the world's largest payment infrastructure to achieve 100% PQC compliance

— Fortified defence communications & ensured 300KM operational quantum-secure network

— Deployed future-proof security for a top European bank

— Provided a quantum-safe 5G network for a telecom giant

Tomorrow's Quantum Security, Today

QNu Labs offers proven, flexible and future-proof solutions, delivering true quantum randomness and tamper-proof protection, ensuring no brute force or quantum attack can break it.

Scan for more details

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India   USA   Australia   Global