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National Stock Exchange of India Limited
Exchange Plaza, 5th Floor,
Plot No. C-1, G Block,
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Mumbai – 4000517

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Mumbai – 400001

Scrip Code - 532374

Sub: - Press Release – STL & C-DOT Achieve India's First Quantum-secured network breakthrough with Multi-Core Fibre

Dear Sir/Madam,

The Company in collaboration with the Centre for Development of Telematics (C-DOT) has announced the successful demonstration of India's first Quantum Key Distribution (QKD) transmission over 100 kms, 4-core Multi-Core Fibre (MCF) network. This landmark achievement marks a significant step in building India's first quantum-secured, future-ready communication networks. A copy of press release in this regard is enclosed herewith.

Kindly take the above on record.

Thanking you.

Yours faithfully,
For **Sterlite Technologies Limited**

MRUNAL ASAWADEKAR
Digitally signed by MRUNAL ASAWADEKAR
Date: 2025.05.06 13:24:09 +05'30'

Mrunal Asawadekar
Company Secretary (ACS 24346)

Enclosure: As above

PRESS RELEASE

STL & C-DOT Achieve India's First Quantum-secured network breakthrough with Multi-Core Fibre

India, 06/May/2025: STL [NSE: STLTECH], a leading global optical and digital solutions company, in collaboration with the Centre for Development of Telematics (C-DOT), India's premier telecom R&D centre under the Department of Telecommunications (DoT), Ministry of Communications, Government of India, has announced the successful demonstration of India's first Quantum Key Distribution (QKD) transmission over 100 kms, 4-core Multi-Core Fibre (MCF) network. This landmark achievement marks a significant step in building **India's first quantum-secured,** future-ready communication networks.

As a leading provider of advanced connectivity solutions for digital infrastructure, including Optical Networking, Optical Connectivity, Data Centres, and Enterprise solutions, STL has designed, developed and deployed India-first Multi-Core Fibre (MCF) cable (aerial and underground network) as an end-to-end solution, spanning cabling, connectivity, installation, and deployment. STL's field-deployable MCF cabling technology was deployed in the **Department of Telecommunications (DoT)-sponsored Advanced Optical Communications (AOC) Test Bed** at IIT-Madras, complying with Essential Requirements (ER) led by TEC standards. STL is the first company in the world that has taken a position on deploying MCF cables in both underground and aerial network infrastructures. It is now leading efforts in the standardisation of fibre and cable and their test & measurement technologies globally. This positions STL at the forefront of building **high-capacity, future-ready** optical infrastructure.

MCF technology provides a powerful solution by enabling data transmission across multiple cores within a single fibre, significantly saving physical space and infrastructure costs. In the context of QKD, which typically requires a dedicated dark fibre for the quantum channel, MCF offers a significant advantage - it enables the physical separation of quantum and classical signals into distinct cores within a single fibre. This allows for the simultaneous transmission of QKD and high-capacity data traffic without compromising quantum signal integrity.

By integrating QKD with MCF, STL and C-DOT have addressed two critical challenges in quantum communication - the need for dedicated dark fibre, further improving the cable's form factor and the ability to handle exponentially growing data traffic.

In this demonstration, the quantum signals of QKD were transmitted through one core while the other three cores were used to carry high-speed user data simultaneously. STL and C-DOT successfully demonstrated a stable, error-free QKD link over 100+ km on a single fibre while transmitting high-capacity classical data simultaneously, proving its resilience in real-world network conditions. This proves the system's ability to support India's 5G/6G rollout and surging data demands without sacrificing network security—**a first for the nation**.

With this development, STL and C-DOT have reaffirmed their commitment to enabling a secure, scalable, and resilient quantum communication network for India, paving the way for a digitally sovereign future powered by advanced optical and quantum technologies.

Speaking at the occasion, **Dr. Rajkumar Upadhyay, CEO of C-DOT**, stated, "This initiative is a

key milestone for India's telecom ecosystem. We are glad to have innovative partners like STL in

India's fiberization journey. This achievement clearly establishes the feasibility of integrated quantum-classical networks over next-generation optical fibres, saving costs for QKD deployments drastically."

Commenting on this achievement, **Rahul Puri, CEO – Optical Networking Business, STL**, said, *"This breakthrough collaboration with C-DOT underscores India's growing prowess in pioneering next-gen digital infrastructure. We have demonstrated how cutting-edge optical innovations can revolutionise secure communication by successfully integrating QKD with our indigenously developed MCF. This **first in India** milestone is a testament to the power of public-private partnerships in building a digitally sovereign and secure nation."*

About STL - Sterlite Technologies Ltd:

STL is a leading global optical and digital solutions company providing advanced offerings to build 5G, Rural, FTTx, Enterprise and Data Centre networks. Read more, Contact us, stl.tech | Twitter | LinkedIn | YouTube

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