DRDO successfully tests Quantum Key Distribution (QKD) platform on a live network at Chandipur, Odisha

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News

A fibre-based, scalable Quantum Key Distribution (QKD) platform developed by the Defence Research and Development Organisation (DRDO) was successfully tested on the live network of the test ranges of the Proof and Experimental Establishment (PXE), Chandipur, Odisha (announced 14 Oct 2026). It will secure real-time observation and telemetry data from artillery and armoured-weapon trials. Bengaluru's Taqbit Labs is the production partner.

Key facts

Test	Quantum Key Distribution (QKD) – fibre-based; live network; announced 14 Oct 2026
Site	Proof and Experimental Establishment (PXE), Chandipur, Odisha (not the Integrated Test Range – ITR)
Developer	DRDO's Micro Electronic Devices, Computational Systems & Cyber Security cluster; production partner Taqbit Labs, Bengaluru
Use	Securing data from artillery and armoured-weapon trials
Earlier milestone	Feb 2022 – DRDO–IIT Delhi: 100+ km QKD between Prayagraj and Vindhyachal (commercial optical fibre)

Background

- QKD uses quantum physics to create and share encryption keys (it does not encrypt the data itself); any eavesdropping disturbs the quantum states and is detected. The first QKD protocol was BB84 (Bennett and Brassard, 1984); the 'no-cloning theorem' dates from 1982.
- National Quantum Mission (NQM): Cabinet approval 19 Apr 2023; ₹6,003.65 crore; 2023–24 to 2030–31; Department of Science and Technology. 4 hubs: computing – IISc Bengaluru; communication – IIT Madras (with C-DOT); sensing – IIT Bombay; materials – IIT Delhi.
- Chandipur (Balasore district) hosts both DRDO's PXE and the Integrated Test Range (ITR). China's 'Micius' (2016) was the world's first quantum-communication satellite.

Tamil Nadu link: the National Quantum Mission's 'quantum communication' hub is at IIT Madras (with C-DOT).

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