

India's First Full-Stack Quantum Computer 'Indus'

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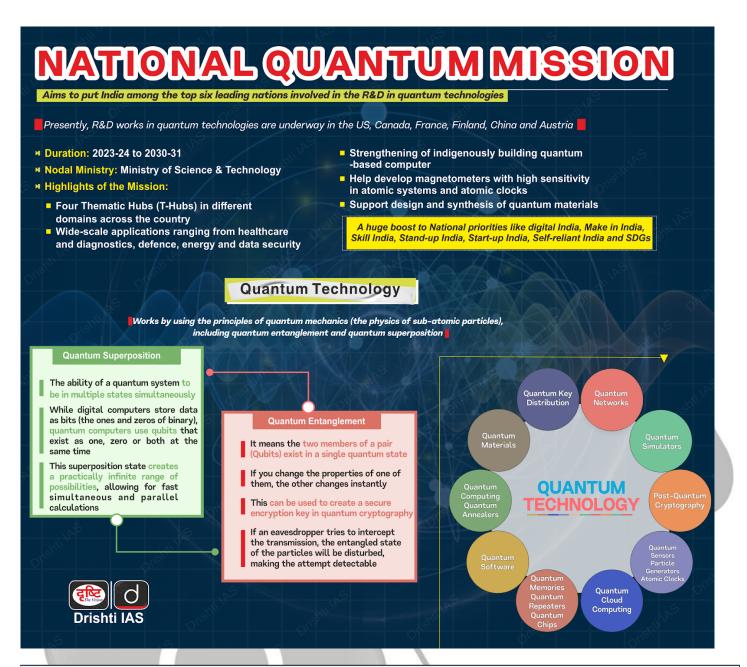
On **World Quantum Day (14th April)**, Bengaluru-based QpiAl launched **India's first full-stack quantum computer**, **QpiAl-Indus**, a major milestone in the country's **National Quantum Mission (NQM)**.

QpiAI-Indus

- About: It is the first complete quantum computing system built entirely in India.
 - It includes both hardware and software, covering everything from the quantum processor to Al-driven application tools to efficiently run quantum applications.
- Performance: The system boasts 25 qubits, crucial for high-performance quantum computing;
 - It enables faster complex calculations with enhanced stability and minimal error rates compared to traditional computers.
- Applications: It has potential uses in life sciences (drug discovery, genomics), materials science (designing new materials), mobility and logistics (route and supply chain optimization).

World Quantum Day

- It was launched in 2021, to commemorate <u>Planck's constant (4.14)</u>, a fundamental quantity in quantum physics, and to promote awareness of quantum science and its technological impact.
- The date was chosen because 14th April ("4.14") represents the first three digits of Planck's constant (4.14 × 10⁻¹⁵ eVs) when rounded up.
- The UN has designated the year 2025 as the 'International Year of Quantum Science and Technology'.



Read More: National Quantum Mission, Quantum-Enabled Science & Technology (QuEST)

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