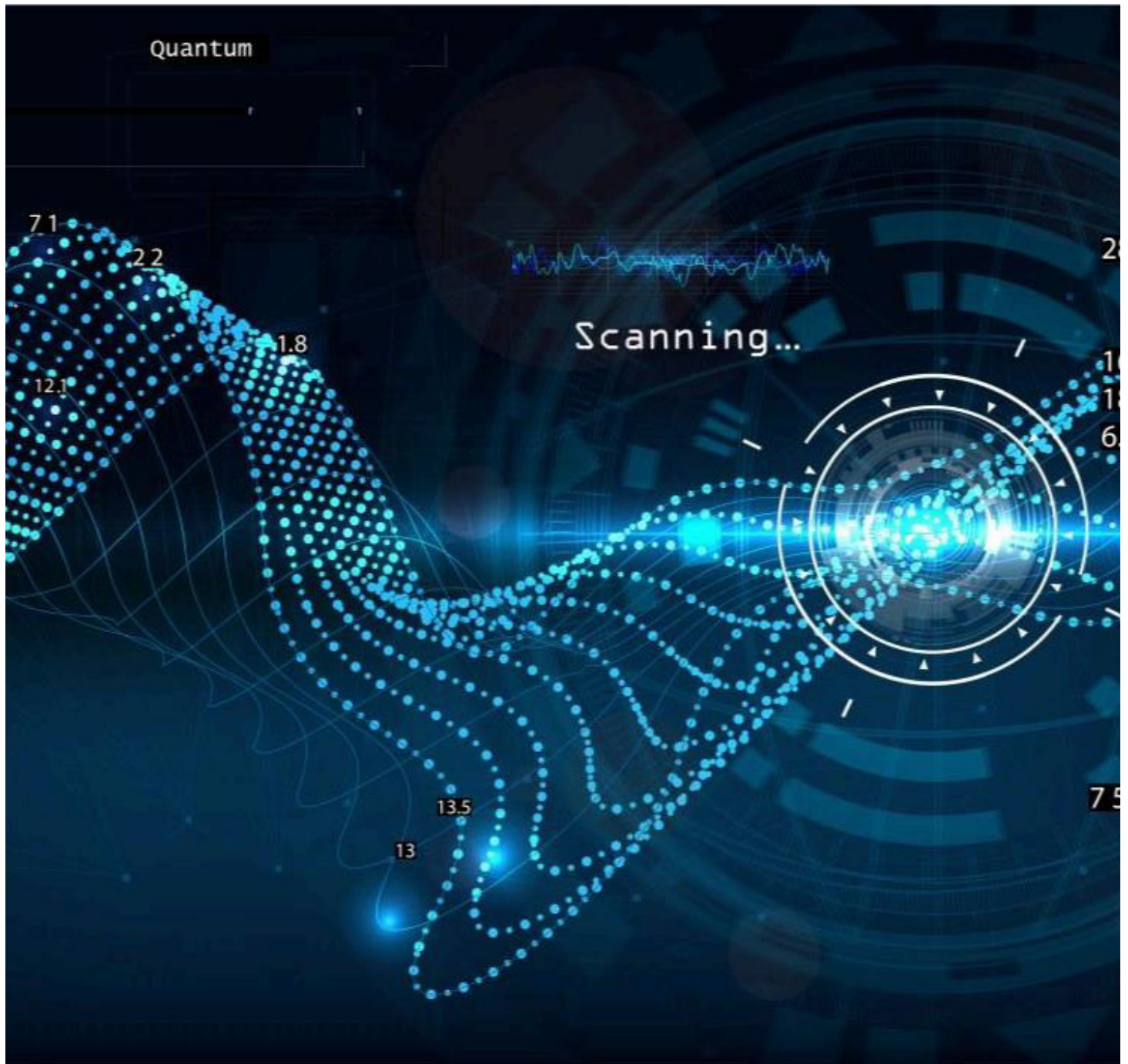




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# Shaping India's Future in Quantum and Classical Communica

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In a landmark move to advance India's capabilities in classical and quantum communication technologies (<https://pib.gov.in/Press-Release-Details.aspx?prid=194444>) and the CSIR-National Physical Laboratory (CSIR-NPL) have signed a Memorandum of Understanding (MoU).

This collaboration aims to enhance research and development efforts, focusing on technologies such as Quantum Key Distribution and the development of FPGA (Field Programmable Gate Array)-based control electronics.

C-DOT, which operates under the Department of Telecommunications (DoT), has long been a leader in telecom research and development, specializing in protocols, Internet of Things (IoT), machine-to-machine communication, wireless systems and quantum communications.

On the other hand, CSIR-NPL, as the National Metrology Institute (NMI) of India, maintains national standards and conducts research in quantum metrology and quantum communication.



Image credits: Press Information Bureau

The primary goal of the MoU is to establish a long-term framework for the delivery of next-generation communication technologies.

C-DOT brings its expertise in telecom networks, quantum communication and standardisation, creating a powerful synergy for technological advancement.

Together, these institutions will be at the forefront of shaping India's digital needs.

This agreement highlights collaborative research, with both institutions committed to securing additional resources, including grants, to support joint initiatives.

This partnership will accelerate the development of indigenous solutions and establish a robust ecosystem for future advancements, ensuring India's leadership in the quantum domain.

Beyond joint R&D, the MoU promotes academic exchange through fellowships and workshops, skill development and cross-institutional learning. Intellectual property and data sharing are also key components, with both institutions ensuring equitable management of outcomes.

At the signing ceremony, Dr. Rajkumar Upadhyay, CEO of C-DOT, emphasised the role of quantum communication in securing India's digital infrastructure.

“Quantum communication represents the next frontier in safeguarding data and ensuring the integrity of critical information capabilities and reflects our commitment to national priorities like self-reliance and technological sovereignty.”

Dr. Upadhyay also highlighted that this collaboration will set the stage for the creation of next-generation technologies that are secure, scalable and standardised.

Prof. Venugopal Achanta, Director of CSIR-NPL, expressed his enthusiasm for the partnership, noting that it would enhance India's scientific capabilities.

He stressed that the collaboration would support initiatives like “Make in India” and “Atmanirbhar Bharat”, strengthening India's platform for the country to lead in both the academic and industrial domains of quantum communications.

The signing ceremony was attended by Dr. Rajkumar Upadhyay, CEO of C-DOT, Ms Shikha Srivastava, EVP of C-DOT, Professor Arora, Senior Principal Scientist, Dr. Paramita Guha, Senior Scientist and other senior officials from both organisations.

This collaboration marks a significant step toward positioning India as a global leader in secure, scalable and standardised communication technologies. As India's scientific leadership grows, India aims to secure its digital infrastructure and contribute to the global advancement of quantum communication, playing a crucial role in shaping the future of secure communications worldwide.