

**REQUEST FOR PROPOSAL FOR SELECTION OF
SYSTEM INTEGRATOR FOR ESTABLISHMENT,
IMPLEMENTATION, OPERATIONS AND
MAINTENANCE OF THE
QUANTUM COMMUNICATION LAB AND DESIGN
AND EXECUTION OF FACULTY DEVELOPMENT
PROGRAMME UNDER THE GUJARAT QUANTUM
TRANSFORMATION PROGRAMME**

Issued by: -

Gujarat Informatics Limited

Block No. 2, 2nd Floor, C & D Wing, Karmayogi Bhavan

Sector - 10 A, Gandhinagar - 382010

Gujarat, India

Ph. No. 23255950, 23258389

www.gil.gujarat.gov.in

Disclaimer

1. The purpose of this RFP is to provide interested parties with the information that may be useful to them in formulating their Bids. The information in this RFP has been provided to the best of knowledge of Directorate of ICT and e-Governance (Department of Science & Technology), Govt. of Gujarat and in good faith. However, the information may not be complete, accurate and exhaustive in all respects.
2. While reasonable care has been taken in providing information in this RFP, the Bidders are advised not to rely solely on this information only but also carry out their independent due diligence and risk assessments before submitting their response to this RFP. Further, the Bidders are advised to conduct their analysis of the information contained in this RFP, carry out their investigations about the project, the regulatory regime that applies thereto and all matters pertaining to the RFP and to seek their own professional advice on the legal, financial, and regulatory consequences of entering into an agreement or arrangement relating to this RFP.
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1. Abbreviations & Definitions

In this document, the following terms shall have respective meanings as indicated:

1.1 Abbreviations

Abbreviation	Description
API	Application Programming Interface
BG	Bank Guarantee
FRS	Functional Requirement Specifications
GeM	Government e-Marketplace
ICT	Information and Communication Technology
DST	Department of Science and Technology, Govt. of Gujarat
DIT	Directorate of ICT & e-Governance, Govt. of Gujarat
GSDC	Gujarat State Data Centre
R&D	Research and Development
SaaS	Software-as-a-Service
SI	System Integrator- the selected Bidder
SRS	Software Requirement Specification
SSO	Single Sign-on
AIS-31	Evaluation Methodology for True Random Number Generators
AICTE	All India Council for Technical Education
AMC	Annual Maintenance Contract
APD	Avalanche Photodiode
BB84	Bennett–Brassard 1984 (QKD protocol)
CERT-In	Indian Computer Emergency Response Team
CII	Critical Information Infrastructure
CoC	Code of Conduct
DPS	Differential Phase Shift (QKD protocol)
DPIIT	Department for Promotion of Industry and Internal Trade
EMD	Earnest Money Deposit
ETSI	European Telecommunications Standards Institute
FDP	Faculty Development Programme
FIPS	Federal Information Processing Standard (United States NIST)
GFR	General Financial Rules

GIFT City	Gujarat International Finance Tec-City
GoG	Government of Gujarat
GoI	Government of India
GQTP	Gujarat Quantum Transformation Programme
GUJCOST	Gujarat Council on Science and Technology
HNDL	Harvest Now, Decrypt Later
IFSC	International Financial Services Centre
I&C	Installation and Commissioning
IP	Intellectual Property
ISO	International Organisation for Standardisation
LD	Liquidated Damages
MAF	Manufacturer's Authorisation Form
MAA	Manufacturer's Authorisation Agreement
MeitY	Ministry of Electronics and Information Technology
ML-DSA	Module-Lattice-Based Digital Signature Algorithm (FIPS 204)
ML-KEM	Module-Lattice-Based Key-Encapsulation Mechanism (FIPS 203)
MoU	Memorandum of Understanding
NAAC	National Assessment and Accreditation Council
NDA	Non-Disclosure Agreement
NEP	National Education Policy
NIST	National Institute of Standards and Technology (USA)
NQM	National Quantum Mission
OEM	Original Equipment Manufacturer
PBG	Performance Bank Guarantee
PQC	Post-Quantum Cryptography
QBER	Quantum Bit Error Rate
QKD	Quantum Key Distribution
QKDN	Quantum Key Distribution Network
QRNG	Quantum Random Number Generator
QT-06	AICTE Quantum Technology Minor Degree Framework
RFP	Request for Proposal
SEBI	Securities and Exchange Board of India

SLA	Service Level Agreement
SLH-DSA	Stateless Hash-Based Digital Signature Algorithm (FIPS 205)
SMF	Single-Mode Fibre
TEC	Telecommunications Engineering Centre (India)
UAT	User Acceptance Test
UPS	Uninterruptible Power Supply

1.2 Definitions of Terms

Sr No.	Term	Definition
1	Bidder	Bidder means a legal entity submitting a proposal in response to this RFP.
2	Bid /Proposal	Offer by the Bidder to fulfil the requirement of the Client under the RFP/Contract for an agreed price. It shall be a comprehensive technical and commercial response to this RFP document.
3	Confidential information	All information (whether in written, oral, electronic or other format) which relates to the technical, financial and business affairs, dealers, suppliers, products, developments, operations, processes, data, trade secrets, design rights, know-how, plans, budgets and personnel of each stakeholder and its affiliates which is disclosed to or otherwise learned by the other Party in the course of or in connection with this Agreement (including without limitation such information received during negotiations, location visits and meetings in connection with this Agreement)
4	Data	A collection of discrete or continuous values that convey information in general and data organised in a standard, structured manner to enable both human- and machine-readability in particular.
5	Deliverables	Products, Platform, infrastructure and services agreed to be delivered by the Bidder in pursuance of the agreement as defined more elaborately in the RFP Implementation and the Maintenance phases and includes all documents related to the user manual, technical manual, design, process and operating manuals, service mechanisms, policies and guidelines (such as security related, etc.), inter alia payment and/or process related etc.

6	Go-live	The date on which the Quantum Communication Laboratory (QCL) is successfully installed, integrated, tested, commissioned, and accepted by the DIT after completion of all prescribed acceptance tests. The Go-Live date shall mark the commencement of the Warranty and Operations & Maintenance (O&M) period.
7	Project Owning Agency/ Client	Directorate of ICT and e-Governance (Department of Science & Technology), Govt. of Gujarat
8	Request for Proposal/ Tender Document	Written solicitation that conveys to the Bidder, requirements for software products/ services that the Client intends to implement
9	SLA	The level of service and other performance criteria which will apply to the Services delivered by the Bidder; Performance and Maintenance SLA executed as part of the Master Service Agreement.
10	Bid Security	A security provided to the procuring entity by a bidder for securing the fulfilment of any obligation in terms of the provisions of the bidding documents.
11	Vendor/ System Integrator (SI)	The bidder who is qualified and successful in the bidding process and is given the award of Contract and will be referred to as System Integrator (SI).
12	Tender Inviting Authority/ Client / Tenderer	Directorate of ICT and e-Governance (Department of Science & Technology), Govt. of Gujarat
13	Authorized Representative	Any person duly authorized in writing by either Party to act on its behalf for the purposes of this Agreement.
14	Commissioning	The date on which the project infrastructure is declared fully operational following successful completion of all acceptance tests, as certified in writing by the competent authority from the Government of Gujarat.

15	Default Notice	A written notice issued by one Party to the other specifying a default or breach of the Agreement.
16	GQTP	The Gujarat Quantum Transformation
17	Law	all applicable laws, acts, rules, regulations, notifications, by-laws, directives, ordinances, orders, and instructions having the force of law, as enacted or issued by the Central Government of India, the Government of Gujarat, or any statutory or regulatory authority thereof.
18	OEM	The Original Equipment Manufacturer — the entity that has designed, developed, and manufactured the quantum hardware items proposed by the Bidder. Where the Bidder is itself the OEM, both terms refer to the same entity.
19	QKD System	A Quantum Key Distribution system comprising a transmitter unit and a receiver unit capable of generating and distributing cryptographic key material over optical fibre using the quantum mechanical properties of photons, with information-theoretic security.
20	QRNG	A Quantum Random Number Generator — a hardware device generating true randomness from a quantum physical process (photon arrival time, vacuum fluctuations, or equivalent quantum optical phenomenon). Pseudo-random or algorithmically seeded generators do not satisfy this definition regardless of statistical output properties.
21	Termination Notice	A written notice issued by one Party to the other for termination of the Agreement.
22	Host Institution	The institution designated by DST, Gujarat to host the Quantum Communication Lab, conduct of the Faculty Development Programme, and related programme activities under the Gujarat Quantum Transformation Programme (GQTP).

1.3 Fact Sheet

SL No.	Item	Description
1.	Project Owning Agency	Directorate of ICT and e-Governance (Department of Science & Technology), Govt. of Gujarat
2.	Tender Inviting Authority	Managing Director Gujarat Informatics Limited (GIL) Block No. 2, 2nd Floor, C & D Wing, Karmayogi Bhavan, Sector - 10 A, Gandhinagar - 382010 Gujarat, India
3.	Job Requirement	Appointment of a System Integrator for Establishment, Implementation, Operations and Maintenance of the Quantum Communication Laboratory & Design and Execution of Faculty Development Programme under Gujarat Quantum Transformation Programme for the Government of Gujarat.
4.	Method of Selection	Quality and Cost Based Selection (QCBS) methodology shall be used for selection of the Successful Bidder from among the technically qualified bidders.
5.	Proposal Security/Earnest Money Deposit (EMD)	INR 20,00,000/- (INR Twenty Lakhs only) either through online mode <u>OR</u> By a Bank Guarantee (as per format attached in Annexure-15 of RFP) and should be valid for 180 days from the due date of the RFP.
6.	Availability of RFP Documents	RFP Document shall be available as per GeM Portal.
7.	Last Date for Download of RFP	As per GeM Bid norms

8.	Last date for Submission of Pre-Bid Queries	Two days before pre-bid meeting date, time 15.00 PM All the pre-bid queries should be received on or before the prescribed date and time, through email only with subject line as follows: <i>“GQTP: Quantum Communication Lab – Query - PBQ”</i> The same should be submitted as per the format prescribed in Annexure-5. The Pre-Bid queries to be sent to the following email id: Designated Contact person: Vivek Satasia Designation: Assistant Director (IT) Contact email id: adict24-dit@gujarat.gov.in icto79-dit@gujarat.gov.in gm-tech@gujarat.gov.in dgmtech-gil@gujarat.gov.in mgrhninfra1-gil@gujarat.gov.in
9.	Pre-Bid Conference Time, Date and Venue	As mentioned in GeM Bid: As per GEM Pre-Bid Meeting date and venue: As per GEM ● Offline: Conference Room, Gujarat Informatics Ltd. Block No. 2, 2nd Floor, C & D Wing, Karmayogi Bhavan, Gandhinagar. ● Online: Meeting link for the pre-bid meeting will be shared with the Bidders submitting the pre-bid queries.
10.	Date of Publishing of Responses to pre-bid queries corrigendum by Tender Inviting Authority	As per decision of committee Note: The Tender Inviting Authority shall not be obligated to respond to any or all the queries. The Tender Inviting Authority may, at its sole discretion, choose to publish responses to the pre- bid queries and/or any corrigendum on GeM Portal.

11.	Last date and time for proposal submission (On or before)	GeM Bid date: As per GEM Proposals shall be uploaded in the format and mode as provided for in the GeM Portal for this RFP and shall be signed by the authorized signatory of the Bidder.
12.	Submission of EMD and Letter of Authorization (Physical hard copy submission)	As per GeM Bid norms Bidders shall submit the original signed and stamped hard copy of the Letter of Authorization along with the EMD in a sealed envelope titled “Authorization Letter & EMD – Quantum Communication Lab” To the office of: Designated Contact person: Shri. Kalpesh Patel Designation: Joint Director (IT) Address: Directorate of ICT and e-Governance, Block No. 2, 2nd Floor, Karmayogi Bhavan, Sector - 10 A, Gandhinagar – 382010, Gujarat, India. Scanned Copy and duly signed and stamped Authorization Letter need to be uploaded on the GEM portal under a separate cover as provided above. If the Authorization Letter and EMD are not received by the prescribed date and time, the Proposal submitted by the Bidder shall be liable to be rejected.
13.	Pre- Qualification and Technical Bid Opening- Time, Date and Venue	As per GeM Bid Norms
14.	Date for Technical Presentation by Bidders	To be communicated later to the Bidders who qualify the Pre- Qualification Stage of evaluation.
15.	Language of Proposal Submission	Proposals should be submitted in English language only
16.	Project Duration	Project Duration: 5 years 3 months Implementation Period: 3 months from the date of GeM Contract O&M Period: 5 years from the date of successful commissioning and acceptance of the Quantum Communication Lab (Go-live)

17.	Proposal Validity	Proposals shall be valid up to 180 (One Hundred and Eighty) days from the date of submission of bids.
18.	Currency	Currency in which the Bidders may quote the price and by which they will receive payment is INR only
19.	Name and Address for Communication	Designated Contact person: Shri. Vivek Satasia Designation: Assistant Director (IT) Address: Directorate of ICT and e-Governance, Block No. 2, 2nd Floor, Karmayogi Bhavan, Sector - 10 A, Gandhinagar – 382010, Gujarat, India. icto79-dit@gujarat.gov.in gm-tech@gujarat.gov.in dgmtech-gil@gujarat.gov.in mgrhninfra1-gil@gujarat.gov.in

Note:

1. The above dates, time and venue may be altered by the Tender Inviting Authority at its sole discretion after giving prior notice to the Bidders. Some of the information provided in the above Data Sheet is further elaborated in the subsequent sections of this RFP and the information provided in the Data Sheet and subsequent sections of this RFP are to be read in conjunction and are to be interpreted harmoniously.
2. The TENDERER reserves all the rights to cancel the process and reject any or all the proposals at any time.
3. No contractual obligation whatsoever does arise from the RFP document/process unless and until a formal contract is signed and executed between the TENDERER and the successful proposers.
4. The TENDERER disclaims any factual or other errors in the RFP document (the onus is purely on the individual proposers to verify such information) and the information provided therein are intended only to help the proposers to prepare a logical proposal.

2. Background

2.1. Gujarat's Position in India's Digital Economy

Gujarat is one of India's leading economic powerhouses, contributing nearly 8% to the nation's GDP and serving as a strategic hub for financial services, advanced manufacturing, logistics, and critical infrastructure. The State hosts several nationally significant assets, including the GIFT City International Financial Services Centre (IFSC), which is home to more than 400 regulated financial

entities, global banking units, and capital market institutions. Gujarat is also emerging as a key centre for India's semiconductor ecosystem through developments in Sanand and Dholera, while its defence manufacturing clusters in Vadodara and Rajkot are strengthening the country's strategic industrial capabilities. Additionally, the Dholera Special Investment Region (SIR), one of India's largest greenfield smart city initiatives, is being developed as a future-ready industrial and technology hub.

The concentration of such high-value, digitally interconnected, and strategically significant assets underscores the need for robust next-generation cybersecurity and secure communication infrastructure. In this context, Gujarat is uniquely positioned to lead the adoption of quantum-safe technologies and quantum communication capabilities, making it one of the highest-priority states in India for developing a resilient quantum-ready ecosystem and secure digital infrastructure for the future.

2.2. The Quantum Security Threat

The security of today's digital infrastructure is predominantly based on public-key cryptographic algorithms such as RSA and Elliptic Curve Cryptography (ECC), whose resilience relies on the computational difficulty of solving specific mathematical problems using classical computers. However, the advent of large-scale, fault-tolerant quantum computers presents a fundamental challenge to these cryptographic foundations. In 1994, Peter Shor demonstrated a quantum algorithm capable of factoring large integers and solving discrete logarithm problems exponentially faster than classical methods, thereby rendering widely deployed cryptographic standards such as RSA-2048 and conventional ECC vulnerable once cryptographically relevant quantum computers become operational.

Leading governments, standards bodies, and cybersecurity agencies worldwide—including those in India, the United States, and the United Kingdom—have recognized this emerging risk and have initiated transition programmes towards Post-Quantum Cryptography (PQC) and quantum-safe security frameworks. Current assessments indicate that cryptographically relevant quantum computers may become a reality within the next decade, necessitating proactive preparedness and migration planning today.

2.3. National Policy Mandates

The Gujarat Quantum Transformation Programme (GQTP) is aligned with the strategic vision of the Government of India to establish a robust and self-reliant quantum technology ecosystem. The Programme supports national priorities in research, innovation, indigenous technology development, secure digital infrastructure, and advanced workforce development, while enabling the adoption of emerging quantum technologies across government, academia, industry, and research institutions.

The implementation of GQTP is guided by the following national policies, missions, and regulatory frameworks:

National Quantum Mission (NQM): Approved by the Government of India to accelerate research, innovation, commercialization, and deployment of Quantum Computing, Quantum

Communication, Quantum Sensing & Metrology, and Quantum Materials & Devices. GQTP contributes towards building quantum infrastructure, skilled manpower, and indigenous capabilities in alignment with the objectives of the Mission.

National Education Policy (NEP) 2020: Promotes multidisciplinary education, emerging technology curricula, research-oriented learning, industry-academia collaboration, and future-ready skill development. The Faculty Development Programme (FDP), curriculum development, and training initiatives under GQTP are aligned with the principles of NEP 2020.

AICTE Model Curriculum for Quantum Technologies (QT-06): The academic deliverables under GQTP, including curriculum design, laboratory manuals, and Faculty Development Programmes, shall align with the AICTE QT-06 model curriculum and associated learning outcomes to facilitate adoption by higher educational institutions.

Digital India Programme: Supports the development of secure, resilient, and trusted digital public infrastructure. GQTP contributes by promoting quantum-safe communication technologies and strengthening cybersecurity readiness through Quantum Key Distribution (QKD) and Post-Quantum Cryptography (PQC).

Digital Personal Data Protection Act, 2023 (DPDPA): All software platforms, learning management systems, certification portals, and digital services developed under GQTP shall comply with applicable provisions of the DPDPA and other relevant data protection and privacy requirements.

Information Technology Act, 2000 and CERT-In Directions: All ICT infrastructure, software platforms, and information systems deployed under the Programme shall comply with applicable cybersecurity requirements, information security best practices, and incident reporting obligations.

Through these national policy mandates, the GQTP seeks to establish Gujarat as a leading destination for quantum research, secure communications, advanced skill development, innovation, and commercialization, while contributing to India's long-term vision of becoming a global leader in quantum technologies.

DST Report on Implementation of Quantum Safe Ecosystem in India (2026):

The Department of Science & Technology (DST), under the National Quantum Mission, has published the Report on Implementation of Quantum Safe Ecosystem in India, which provides a strategic roadmap for the phased adoption of quantum-safe cryptography across the country. The report recommends accelerated migration timelines for Critical Information Infrastructure (CII) sectors—including government, defence, power, telecommunications, transport, and banking & financial services—with progressive milestones leading to full migration, while prescribing phased transition timelines for other enterprises. It also emphasizes crypto-agility, cryptographic asset inventory, post-quantum cryptography (PQC) adoption, and quantum-safe testing and certification to strengthen India's cybersecurity resilience against future quantum threats.

Sectoral Regulatory Initiatives:

The DST roadmap further recommends that sectoral ministries and regulators—including the Reserve Bank of India (RBI), Securities and Exchange Board of India (SEBI), Department of Telecommunications (DoT), Central Electricity Regulatory Commission (CERC), and other competent authorities—develop sector-specific guidance, implementation roadmaps, and regulatory frameworks to facilitate the adoption of quantum-safe technologies and the migration of cryptographic systems within their respective domains. Accordingly, organizations operating in regulated sectors are expected to proactively assess quantum-related cybersecurity risks and

prepare for a phased transition to quantum-safe infrastructure in line with applicable regulatory guidance.

2.4. Gujarat's Footprints in Emerging Technologies: Foundation for Quantum Transformation

Gujarat has consistently demonstrated national leadership in the adoption and promotion of emerging technologies as a key enabler for achieving the vision of “Viksit Gujarat@2047”. The State has adopted a proactive approach towards technology-driven governance, innovation-led economic growth, and enhanced citizen service delivery by creating robust institutional, policy, and innovation ecosystems. To accelerate the adoption of Artificial Intelligence (AI) across governance and industry, the Government of Gujarat constituted a State-level AI Task Force comprising domain experts from academia, industry, healthcare, education, agriculture, and financial services. Based on its recommendations, the State approved the “Action Plan for Implementation of Artificial Intelligence (2025–2030)”, a comprehensive roadmap focused on six strategic pillars: data ecosystem, digital infrastructure, capacity building, research and development, start-up facilitation, and safe and trusted AI. The Action Plan aims to train over 2.5 lakh students, MSMEs, professionals, and government officials while fostering AI-led innovation and public service transformation. Furthermore, Gujarat has established an AI & Deep Tech Mission as a dedicated institutional mechanism to drive implementation and strengthen collaboration among government, academia, start-ups, and industry.

As part of its broader DeepTech vision, Gujarat has also established the AI Centre of Excellence (AI CoE) at GIFT City and supported the creation of the Indian AI Research Organisation (IAIRO), a national-scale public-private partnership platform for advanced AI research, innovation, intellectual property creation, capacity building, and industry collaboration. The State is further strengthening its innovation ecosystem through initiatives such as AI clusters, digital infrastructure expansion, advanced computing capabilities, start-up enablement programmes, and future-ready technology parks. These initiatives collectively reflect Gujarat’s commitment to becoming a leading destination for emerging technologies and provide a strong foundation for expanding into next-generation domains such as Quantum Technologies, Quantum-Safe Cybersecurity, Advanced Computing, and DeepTech innovation.

2.5. Gujarat's Response — The GQTP

With significant investments in semiconductor fabrication, electronics manufacturing, design innovation, and high-technology industries, Gujarat is well positioned to leverage quantum technologies to strengthen secure digital infrastructure, advanced manufacturing, research, and next-generation communication systems.

Quantum Communication technologies, particularly Quantum Key Distribution (QKD) and Quantum Random Number Generation (QRNG), are expected to play a critical role in enabling quantum-safe communications and strengthening cybersecurity for Government, strategic sectors, financial institutions, critical infrastructure, and future digital services. Establishing practical capabilities in these technologies is therefore essential for developing a skilled workforce, promoting academic research, and preparing institutions for the transition towards quantum-secure communication networks.

In parallel, the All India Council for Technical Education (AICTE) has introduced the Minor Degree in Quantum Technologies, including the QT-06: Quantum Communication course, to develop foundational knowledge and practical competencies among engineering students. Effective implementation of this curriculum requires suitably trained faculty members and access to modern laboratory infrastructure that enables experiential learning through demonstrations, simulations, and hands-on experimentation.

To support these national and academic initiatives, the Department of Science & Technology, Government of Gujarat proposes to establish a Quantum Communication Laboratory (QCL) equipped with modern Quantum Communication infrastructure, including Quantum Key Distribution (QKD) and Quantum Random Number Generator (QRNG) systems, supporting experimental equipment, simulation platforms, and associated IT infrastructure. The laboratory shall serve as a shared facility for faculty development, academic instruction, practical demonstrations, laboratory experimentation, and skill development in the field of Quantum Communication.

As part of this initiative, a structured Faculty Development Programme (FDP) shall also be conducted to train 30 faculty members from engineering institutions across Gujarat in the Quantum Communication domain. The FDP shall be aligned with the AICTE QT-06 curriculum and shall focus on developing the pedagogical and practical competencies required to effectively deliver the Quantum Communication course as part of the Minor Degree in Quantum Technologies. The programme shall combine theoretical instruction with extensive hands-on training using the Quantum Communication Laboratory, enabling faculty members to independently conduct laboratory sessions and mentor students in quantum communication concepts and applications.

Through this initiative, the Department seeks to establish foundational infrastructure and academic capabilities that will strengthen quantum education within the State, facilitate adoption of the AICTE Quantum Technologies curriculum, and contribute to the development of a skilled quantum-ready workforce capable of supporting future research, innovation, and industrial applications aligned with the objectives of the National Quantum Mission and Gujarat's vision for leadership in emerging technologies.

2.5.1 Vision

To establish Gujarat as a leading hub for quantum technologies by building a sustainable ecosystem for quantum communication, quantum-safe cybersecurity, research, innovation, skilling, and industry-academia collaboration, thereby enabling secure, resilient, and future-ready digital infrastructure for the State.

2.5.2 Objectives

The Gujarat Quantum Transformation Programme (GQTP) aims to establish Gujarat as a leading hub for quantum technologies by creating a comprehensive ecosystem for quantum education, skilling, research, innovation, and quantum-safe infrastructure development. The key objectives of the Programme are:

1. Build a Quantum-Ready Workforce

Develop a skilled talent pool comprising students, faculty members, researchers, government officials, industry professionals, and entrepreneurs through structured training, certification, and academic programmes in quantum technologies.

2. Establish Advanced Quantum Communication Infrastructure

Create state-of-the-art laboratory infrastructure to enable hands-on learning, experimentation, demonstration, and validation of quantum communication technologies, including Quantum Key Distribution (QKD), Quantum Random Number Generation (QRNG), and Post-Quantum Cryptography (PQC).

3. Promote Research, Innovation and Indigenous Technology Development

Facilitate applied research, innovation, and product development in quantum technologies by enabling collaboration among academia, industry, start-ups, research institutions, and government agencies.

4. Strengthen Quantum-Safe Cybersecurity Preparedness

Build institutional capabilities and awareness for addressing emerging quantum-era cybersecurity challenges through adoption, experimentation, and assessment of quantum-safe communication and post-quantum cryptographic technologies.

5. Develop Academic and Institutional Capacity

Support universities, technical institutions, and research organizations in integrating quantum technologies into academic curricula, faculty development programmes, laboratories, and research initiatives aligned with the National Quantum Mission.

6. Foster Start-up and Innovation Ecosystem Development

Encourage the growth of quantum technology start-ups, entrepreneurs, and innovators by providing access to infrastructure, mentorship, training, experimentation platforms, and collaborative opportunities.

7. Enable Industry-Academia-Government Collaboration

Create a collaborative platform that brings together government departments, academic institutions, industry partners, research organizations, and innovation ecosystems to accelerate the adoption and development of quantum technologies.

8. Facilitate Adoption of Emerging Quantum Technologies

Promote awareness, experimentation, and practical application of quantum communication, quantum-safe cybersecurity, quantum computing, and related technologies across strategic sectors.

9. Position Gujarat as a National Leader in Quantum Technologies

Leverage Gujarat's strengths in digital governance, financial services, advanced manufacturing, semiconductors, defence production, and innovation ecosystems to

establish the State as a leading destination for quantum technology education, research, innovation, and deployment.

10. Support India's National Quantum Mission and Viksit Bharat 2047 Vision

Contribute towards national priorities by strengthening India's quantum ecosystem, enhancing technological self-reliance, and building future-ready capabilities that support secure digital infrastructure and long-term economic growth.

2.5.3 Expected Long-Term Outcomes

The Gujarat Quantum Transformation Programme (GQTP) is envisioned as a strategic, long-term initiative to establish Gujarat as a leading hub for quantum technologies, quantum-safe cybersecurity, research, innovation, and workforce development. The programme is expected to deliver the following long-term outcomes:

- Quantum-Ready Workforce Development
- Strengthened Quantum Research and Innovation Ecosystem
- Institutional Capacity Building
- Advancement of Quantum-Safe Cybersecurity
- Industry and Start-up Enablement
- Academic Excellence and Curriculum Adoption
- Strategic Technology Leadership
- Sustainable Quantum Ecosystem
- Future-Ready Governance and Digital Infrastructure

Through these outcomes, GQTP aims to create enduring institutional, technological, and human capital assets that will support Gujarat's leadership in quantum technologies and contribute to India's broader vision for quantum innovation and secure digital transformation. These outcomes will also collectively support Gujarat's vision of becoming a globally competitive hub for DeepTech and Emerging Technologies under **Viksit Gujarat@2047**.

3. Instructions to bidders (ITB)

Proposals are invited by GIL on behalf of the Directorate of ICT and e-Governance (Department of Science & Technology), Government of Gujarat, to select an eligible System Integrator (SI) for **Quantum Communication Laboratory and Faculty Development Program under GQTP**. The selected bidder that may result from this RFP will be on-boarded for total contract period of **5 years and 3 months**, comprising:

- **3 months** for supply, installation, instrumentation, integration, testing, commissioning and acceptance of the Quantum Communication Lab
- **5 years** of Operations and Maintenance (O&M) support from the date of successful commissioning/Go-Live of the Quantum Communication Lab
- Upon successful Go-Live of the Quantum Communication Laboratory, the Selected System Integrator (SI) shall design, develop, and deliver the Faculty Development Programme (FDP) within **three (3) months**.

DIT reserves the right to extend the contract duration of the project on the terms and conditions stated in this RFP. Bidders are advised to note the eligibility and pre-qualifying criteria specified in the Instruction to Bidders of this bid document. The proposal Inviting Authority intends to select a bidder for establishment, implementation, operation and maintenance of the Quantum Communication Laboratory as well as design and execution of the Faculty Development Programme.

3.1. About this RFP

Tenders are invited from eligible, reputed, qualified Bidders for scope as detailed out in section on 'Scope of Work' in this RFP Document. This invitation to bid is open to all Bidders meeting the pre-qualification criteria mentioned in this RFP Document.

3.2. Purpose of RFP

The objective of this Request for Proposal (RFP) is to solicit comprehensive proposals from interested and qualified bidders for **Establishment, Implementation, Operations AND Maintenance of the Quantum Communication Laboratory & Design and Execution of the Faculty Development Programme under GQTP for the Government of Gujarat.**

The Department of Science & Technology (DST), Government of Gujarat, intends to establish a **Quantum Communication Laboratory and conduct a Faculty Development Programme under GQTP** as a strategic initiative to build state-wide capabilities in quantum technologies, quantum-safe cybersecurity, research, innovation, and advanced workforce development.

The purpose of this Request for Proposal (RFP) is to select a qualified **System Integrator for the Establishment, Implementation, Operations AND Maintenance of a state-of-the-art Quantum Communication Laboratory**, along with the **Design, Development and Execution of a Faculty Development Programme.**

The proposed initiative aims to create a sustainable platform for hands-on learning, experimentation, research, and innovation in quantum communication technologies, including Quantum Key Distribution (QKD), Quantum Random Number Generation (QRNG), Post-Quantum Cryptography (PQC), and emerging quantum computing applications. The initiative will support students, faculty members, researchers, government officials, start-ups, and industry stakeholders through structured training programmes, certification pathways, curriculum development, and research enablement.

Through this initiative, the Government of Gujarat seeks to:

- Build a skilled quantum-ready workforce and strengthen institutional capabilities in emerging quantum technologies.
- Promote applied research, innovation, and indigenous technology development in quantum communication and quantum-safe cybersecurity.
- Enable hands-on experimentation and practical understanding of quantum communication systems through laboratory infrastructure and simulation environments.

- Support academia, startups, researchers, and industry in developing quantum technology solutions and use cases.
- Facilitate adoption of quantum-safe communication and cybersecurity practices across government and strategic sectors.
- Establish a collaborative ecosystem involving academia, industry, startups, and government institutions aligned with the National Quantum Mission (NQM).
- Position Gujarat as a leading destination for quantum technology education, research, innovation, and future-ready digital infrastructure.

The selected System Integrator shall be responsible for delivering an integrated and sustainable quantum ecosystem that combines infrastructure, skilling, curriculum development, research enablement, and operational support, ensuring long-term value creation and strategic readiness for the State of Gujarat.

The selected System Integrator (SI) will play a critical role in enabling and supporting in realizing the vision and objectives of the GQTP.

3.3. Eligible Bidders

All the pre-qualification criteria must be met by the Bidder. The Bidder must have the proven capabilities to deliver the entire scope as mentioned in this RFP. The pre-qualification criteria may be referred to for details. In case any Bidder has undergone corporate restructuring (including merger, demerger, hive off, slump sale etc.), it may showcase credentials of its erstwhile current entity provided sufficient documentary proof is submitted with the proposal to evince that such credentials have accrued to/ transferred to/ are in the name of the Bidding entity and the Bidding entity is authorized to use such credentials. Notwithstanding the foregoing, credentials of the parent entity, holding entity, subsidiaries or affiliates etc. cannot be used (and shall not be considered).

3.4. Proposal Preparation Costs

The Bidder shall bear all costs incurred in connection with participation in the RFP process, including, but not limited to, costs incurred in the conduct of informative and other diligence activities, participation in meetings/discussions/presentations, preparation and submission of proposal, providing any additional information required by the Tender Inviting Authority to facilitate the evaluation process, and in negotiating a definitive contract or all such activities related to the proposal process.

3.5. Earnest Money Deposit (EMD)

The Bidders shall submit an Earnest Money Deposit (EMD) as bid security fee for the amount specified in the fact sheet provided in this RFP in the form of Demand Draft / Bank Guarantee from commercialized scheduled bank (As per format provided in **Annexure-15** of this RFP). EMD in any other form will not be accepted. EMD must remain valid for 180 (One Hundred and Eighty) days from the from the last date of submission of the Bid and the validity of the EMD should be extended in the event the last date of submission of the Bid is extended. No interest will be payable by Tender Inviting Authority on the EMD.

Copy of the EMD should be uploaded onto GeM Portal in the Proposal Cover for EMD and the hardcopy of the same shall be submitted as per guidelines mentioned in the Fact Sheet. 6

EMDs of all unsuccessful Bidders will be returned, without interest, at the earliest after expiry of the final proposal validity and on or before **the 15th day after the award of contract.**

The EMD of the successful Bidder will be returned, without interest, upon submission of Performance Bank Guarantee (of the amount and in the format specified in **Annexure-16** of this RFP) by the successful Bidder.

In case the EMD is not received by the stipulated deadline then the Tender Inviting Authority reserves the right to reject the proposal of the concerned Bidder forthwith and summarily without providing any opportunity for any further correspondence by the concerned Bidder.

The EMD may be forfeited:

- (a) If a Bidder withdraws the proposal or increases the quoted prices after opening of the proposal and during the period of proposal validity period or its extended period, if any
- (b) In the case of a Successful Bidder, if the Bidder fails to sign the Agreement in accordance with the terms and conditions (including timelines for execution of the Agreement) of this RFP or fails to furnish the Bank Guarantee in accordance with the terms and conditions (including timelines for furnishing PBG) of this RFP.
- (c) If the Bidder is found indulging in any corrupt, fraudulent, or other malpractice in respect of the proposal.
- (d) If the Bidder tries to influence the evaluation process
- (e) If there is a discrepancy between words and figures quoted by the Bidder and the Bidder does not accept that the amount in words prevails over amount in figure.
- (f) If the documents information provided by the Bidder during the proposal process is found to be incorrect, false, or misleading.

3.6. Commercial Proposal

The Bidder shall quote a single consolidated price covering the complete scope of work under this RFP, including the Establishment, Implementation, Operations AND Maintenance of the Quantum Communication Laboratory & Design and Execution of a Faculty Development Programme, and all other associated services required for successful implementation of the Quantum Communication Laboratory and Faculty Development Programme.

3.7. Pre-Bid Meeting and Clarifications

3.7.1 Bidders Queries

Any clarification regarding the RFP document and any other item related to this project can be submitted to Tender Inviting Authority as per the submission mode and timelines mentioned in the Fact Sheet. The pre-bid queries should be submitted in the format as mentioned in **Annexure – 5** of this RFP, along with name and details of the Bidder submitting the queries. Any requests for clarifications received after last date of submission of Pre-Bid Queries as mentioned in the Fact Sheet shall not be entertained by the Tender Inviting Authority. Further, the Tender Inviting Authority reserves the right to issue or not issue any responses/clarifications/corrigendum at its own discretion.

3.7.2 Responses to Pre-Bid Queries and Issue of Corrigendum

The Tender Inviting Authority will organize a Pre-bid Conference as mentioned in the Fact Sheet and may respond to any request for clarifications on, and/or modifications of this RFP. It may formally respond to the pre-bid queries after the Pre-Bid Conference as mentioned in the Fact Sheet. Only persons, duly authorized by the Bidder, will be allowed to participate in the pre-bid meeting. The authorized representatives should carry a valid proof of identification for verification before the commencement of the pre-bid conference. The Tender Inviting Authority will endeavour to provide timely response to all the queries. However, the Tender Inviting Authority makes no representation or warranty as to the completeness or accuracy of any response made in good faith, nor does it undertake to answer all the queries that have been posed by the Bidders. Any modifications of this RFP, which may be necessary because of the pre-bid conference or for any other reason, shall be made available by the Tender Inviting Authority exclusively through a corrigendum. Any such corrigendum shall be deemed to be incorporated into this RFP. However, in case of any such amendment of the RFP, the proposal submission date may be extended at the sole discretion of the Tender Inviting Authority. The Tender Inviting Authority may extend the last date and time for the submission of proposals, and the extended date will be displayed on the GeM portal. All clarifications and any other corrigendum notification issued by the Tender Inviting Authority after the issuance of this RFP, shall be published in the GeM Portal as mentioned in the Fact Sheet of this RFP.

3.7.3 Limitation of Liability

1. Subject to exceptions stated in the contract, the aggregate liability of the SI may be limited to the total contract value or such amount as specified in the final agreement.
2. However, limitation of liability shall ordinarily not apply to:
 1. Fraud
 2. Wilful misconduct
 3. Breach of confidentiality
 4. Data breach caused by SI negligence
 5. IPR infringement indemnity
 6. Or indemnity obligations to the extent specified in contract.
3. DST/DIT shall not be liable for indirect or consequential losses of the SI such as loss of profit or opportunity.

3.8. Proposal Validity Period

Proposal shall remain valid for the time mentioned in the Fact Sheet.

Tender Inviting Authority may request the Bidder(s) for an extension of the period of validity of the proposal up to 180 more days. The validity of the EMDs should also be suitably extended if called upon to do so by Tender Inviting Authority. Bidders will have the right to refuse to extend the validity of proposals beyond the said 180 days period and to withdraw the proposals. The request and the responses thereto shall be made in writing or email.

3.9. Submission of Proposal

A two-stage bid system will be followed for this RFP with a Cost Based Selection criterion among the qualified bidders. The two stages are:

- (a) Pre-Qualification and Technical Proposal Stage and
- (b) Commercial Proposal Stage

Note:

1. This RFP process will be administered through the GeM Portal. The Bidders are required to submit soft copies of their proposals electronically on the GeM. The instructions given below are meant to assist the Bidders in registering on the GeM Portal, preparing their proposals in accordance with the requirements defined in this RFP and submitting their proposals on the GeM Portal. More information for submitting the proposals online may be obtained on GeM Portal.
2. All the pages of the proposal must be sequentially numbered and must contain the list of contents with page numbers. Any deficiency in the documentation may result in the rejection of the proposal. Failure to submit the proposal on time could cause the proposal to be rejected. The Tender Inviting Authority will not accept delivery of the proposal by fax/e-mail or any other electronic/non-electronic means other than uploading on the GeM.
3. The Bidder should consider any corrigendum to this RFP document that may have been published before submitting their proposal.
4. The Bidders are requested to go through the RFP advertisement and this RFP carefully to understand the documents required to be submitted and the process to be followed as a part of the proposal. Any deviations may lead to rejection of the proposal. The proposal documents can generally be in the PDF/XLSX/RAR formats. The proposal documents may be scanned with 100 dpi with black and white option. All documents being submitted by the Bidder must be duly signed, stamped and sealed.
5. The Bidder should try to submit the proposal well before the last date to avoid any inconvenience at the last moment. The proposal submission date and time will be as mentioned in the "Fact Sheet", Section 1 of this RFP. The Bidder will not be allowed to submit

the proposal after the proposal submission time. The Bidder shall furnish, as part of its proposal, an EMD amount as mentioned in the Fact Sheet. The Bidder must select the payment option as "Offline" to pay the EMD as applicable and enter the details of the instrument. The Bidder shall seal the EMD envelope containing the original Demand Draft for Bank Guarantee. The Bidder shall mark its name and RFP reference number on the reverse of the Demand Draft or the Bank Guarantee before sealing the same. The address of the Tender Inviting Authority, Name and Address of the Bidder and the RFP Reference Number shall be marked on the envelope.

6. The Commercial Proposal shall be submitted by all Bidders strictly in the format prescribed in this RFP. Commercial Proposals submitted in any other format shall not be accepted.

7. Any queries relating to this RFP document and the terms and conditions contained therein should be addressed to the RFP Inviting Authority and the relevant contact person indicated in this RFP.

8. Important instructions:

(a) The proposal documents with enclosures sent through telex/email etc. and offers not submitted in the e-bid formats shall be summarily rejected.

(b) All information called for in the enclosed Annexure/ format shall be furnished against the respective columns in the forms. If the information is provided in a separate document, a reference to the same should be given against respective columns in such cases. If any query is not applicable, it shall be stated as "Not Applicable."

3.10. Proposal Submission Formats

Bidder shall submit their proposals in the format mentioned in the following sub-sections along with the complete compliance sheets as provided in Annexures of this RFP. Proposals not in the prescribed formats will be liable for rejection. If a format for a specific document is not provided for in this RFP, the document shall be submitted in a format that makes it legally valid and binding on the Bidder and that is acceptable to the Tender Inviting Authority. In any event, the Tender Inviting Authority shall have the right to seek clarifications, modifications etc. on the document submitted by the Bidder and the Bidder shall be obliged to provide such clarifications and modifications within the timelines specified by the Tender Inviting Authority.

3.10.1 Pre-Qualification Proposal Format

Pre-Qualification Proposal Format		
Sl No.	Section Heading	Details
1	Pre-Qualification proposal covering letter	As per format provided in Annexure-6 of this RFP
2	Profile of the Bidder	As per format provided in Annexure-7 of this RFP
3	Summary of Pre-Qualification Citations	Summary of Pre-Qualification Citations as per format provided in Annexure 12 .
4	Pre-Qualification Citations	Pre-Qualification citations table as mentioned in Annexure 12 with response and reference against each criterion
5	Self-Certificate for Non-Blacklisting clause by the Bidder	As per format provided in Annexure 9
6	No Deviation Certificate	As per format provided in Annexure 20
7	Bank Guarantee Format for EMD	Scanned Copy of EMD. As per format provided in Annexure 15
8	Turnover and Positive Net Worth	As per format provided in Annexure 8

Note: The hardcopies of Earnest Money Deposit (EMD) and Authorization Letter documents shall have to be sent to address as mentioned in the Fact Sheet within the time and date.

3.10.2 Technical Proposal Format

Technical Proposal Format		
	Section heading	Details
1	Technical Proposal covering letter	As per format provided in Annexure 6
2	Summary of Bidder's Experience	Summary of technical citations as per Format Provided in Annexure 12

3	Project Citations as per Experience	Citation needs to be provided as per format provided in Annexure 12
4	Curriculum Vitae (CV) of Key Personnel	CV's as per format provided in Annexure 18

3.10.3 Commercial Proposal Format

Commercial Proposal Format		
SL No.	Section heading	Details
1	Commercial Proposal Covering Letter	As per format provided in Annexure 6
2	Summary of Financial Proposal	As per format provided in Annexure 3

The Bidder must submit the Commercial Proposal in the formats specified in this section.

- (a) The Bidders shall quote for the entire scope of contract on an “overall responsibility” basis such that the total contract value covers all obligations of the Bidder mentioned in or to be reasonably inferred from the Bidding documents in respect of providing the product services.
- (b) Prices quoted by the Bidder shall remain firm during the entire contract period and shall not be subject to variation on any account except change in applicable tax rates. A proposal submitted with an adjustable price quotation will be treated as non-responsive and rejected.
- (c) The prices quoted shall be inclusive of transportation charges and all other expenses including but not limited to those related with the visits of Bidder's Personnel to various site(s) of the Tender Inviting Authority.
- (d) The prices/rates quoted shall be firm and final throughout the period of the validity of the offer and subsequently during the currency of the contract and shall not be subject to any variation/revision/upward modifications, on any account, whatsoever.
- (e) The Tender Inviting Authority reserves the right to review and negotiate the price payable, with the selected Bidder, to incorporate downward revisions as applicable and necessary, at any time during the period of Contract.

3.11. Language

The proposal should be submitted by the Bidders in English language only.

3.12. Authentication of Proposal

The Authorized Signatory representing the Bidder shall digitally sign all proposal documents uploaded on GeM Portal and submit physically signed and stamped scanned copies of EMD, and Letter of Authorization. The proposal should be accompanied by an authorization in the name of the signatory of the proposal. The authorization shall be in the form of a written Power of Attorney or a Board resolution in favour of the person submitting the proposal. All documents being submitted by the Bidder must be duly signed, stamped and sealed.

3.13. Amendment of Request for Proposal

At any time prior to the deadline for submission of the proposals, the Tender Inviting Authority, for any reason, may modify the RFP at its own initiative or in response to a clarification requested by a prospective Bidder, modify the proposal Document by an amendment/ corrigendum/ addendum. Such amendments shall be binding on the Bidders. Such amendments will be notified through the GeM Portal only.

To provide prospective Bidders reasonable time in which to take the amendment/ corrigendum/ addendum into account in preparing their proposals, the Tender Inviting Authority may, at its discretion, extend the last date for the receipt of proposals. The Tender Inviting Authority may at any time during the bidding process request the Bidder(s) to submit revised Technical/Commercial Proposals and/or Supplementary commercial proposals without thereby incurring any liability to the affected Bidder or Bidders.

3.14. Completeness of Response

The Bidders are advised to study all instructions, forms, terms, requirements and other information in the RFP documents carefully. Submission of the proposal shall be deemed to have been done after careful study and examination of this RFP document with full understanding of its implications. Each proposal response shall specify only a single solution which is cost effective and meets the RFP specifications, and it is the responsibility of the Bidder to decide the best suitable solution. The Bidder shall effectively communicate the solution offered and shall cover all the requirements as prescribed in the Request for Proposal (RFP).

Failure to comply with the requirements of this paragraph may render the proposal noncompliant and the proposal may be rejected. The Bidders must:

- (a) Include all documentation specified in this RFP.
- (b) Follow the format of this RFP and respond to each element in the order as set out in this RFP
- (c) Comply with all requirements as set out in this RFP.

The proposals shall be submitted strictly in accordance with the requirements and terms and conditions of this RFP. The Bidder shall submit a No Deviation Certificate as per the format mentioned in **Annexure-20**. The proposals with deviation(s) are liable for rejection.

3.15. Late Proposal

1. The proposals received after the due date and the specified time (including the extended period if any) for any reason whatsoever, shall not be entertained.
2. The proposals submitted by telex/telegram/fax/e-mail etc. shall not be considered.
3. The Tender Inviting Authority shall not be responsible for any delay or non-receipt/non-delivery of the documents.
4. The Tender Inviting Authority reserves the right to modify and amend any of the above-stipulated condition/criteria depending upon project priorities vis-à-vis urgent commitments.
5. Given that the proposal submission must be made online, it is advised that the Bidder takes all necessary precaution for the same, including submitting the proposal well in advance to avoid any last-minute hassles, ensuring that the names/formats of the files to be uploaded are as per the GeM Portal requirements.
6. Tender Inviting Authority shall not entertain any proposals which could not be uploaded or uploaded properly in the portal for whatsoever reasons.

3.16. Rejection of Proposal

1. The Tender Inviting Authority reserves the right to reject any or all proposals without assigning any reason thereof.
2. The Tender Inviting Authority also reserves the right to assess the Bidder's capabilities and capacity and accept any proposal under this RFP in full or in part without assigning any reason thereof. In either case, the decision of the Tender Inviting Authority shall be final and binding.
3. In the event of any assumptions, presumptions, key points of discussion, recommendation or any points of similar nature are submitted along with the proposals which amount to deviations in any form, the Tender Inviting Authority reserves the right to seek withdrawal of such assumptions, presumptions, key points of discussion, recommendation, or any points of similar nature by the Bidder.
4. If the Bidder does not withdraw such assumptions etc., the proposal may be rejected by Tender Inviting Authority.
5. If a discrepancy is found in a proposal, the same may be conveyed to the Bidder with target date up to which the Bidder has to send his acceptance on all concerned points. If the

Bidder does not agree to the decision of the Tender Inviting Authority, the proposal is liable to be rejected.

6. If the Bidder does not meet even one of the Pre-Qualification criteria separately, as mentioned in this RFP, the Bidder shall be disqualified, and the entire proposal shall be rejected.

7. The duly filled, signed, and stamped proposal shall be submitted to the GeM Portal. Proposals submitted by any other means like by Telex, Fax or e-mail shall not be entertained.

8. A proposal may be rejected at any stage of the evaluation processing till award of the contract if it is found that the Bidder has provided misleading information or has been blacklisted by any Government organization or has indulged in any malpractice/ unethical practice or submitted forged/tampered document/suppressed any material/substantial information/fact and had not honoured contractual obligation elsewhere.

9. If Bidder is found to exhibit a record of poor performance such as abandoning works, not properly completing the contractual obligations, inordinately delaying completion, or financial failures, etc. in any project in the preceding three years, it will result in the rejection of the Bidder's proposal by the Tender Inviting Authority.

10. Any effort by a Bidder to influence the Tender Inviting Authority's proposal evaluation, proposal comparison or contract award decisions may result in the rejection of the Bidder's proposal.

11. If the Bidder deliberately gives incorrect or misleading information in their proposal or wrongfully creates circumstances for the acceptance of the proposal, the Tender Inviting Authority reserves the right to reject such a proposal at any stage.

3.17. Disqualification

The proposal is liable to be disqualified in, inter alia, any of the following cases or in case the Bidder fails to meet the bidding requirements as indicated in this RFP.

3.17.1 Technical Rejection Criteria

1. Technical Proposal containing commercial details.
2. Revealing of Prices in any form or by any reason before opening the Commercial Proposal
3. Failure to furnish all information required by the proposal document or submission of a proposal not substantially responsive to the proposal document in every respect.
4. Bidders not quoting for the complete Scope of Work as indicated in the Proposal

documents, addendum (if any) and any subsequent information given to the Bidder.

5. The Bidder's proposal is conditional and has deviations from the terms and conditions of RFP.
6. The information submitted in the Technical Proposal is found to be misrepresented, incorrect or false, accidentally, unwittingly or otherwise, at any time during the processing of the contract (no matter at what stage) or during the tenure of the contract including the extension period, if any
7. If the proposal does not conform to the timelines indicated in the proposal
8. Failure to adhere to the Submission Forms specified for Technical Proposal response.
9. Proposal that is not accompanied by required documentation as required for prequalification or is non-responsive to the terms and condition and stipulated herein or does not conform to the Submission Forms specified for Pre-Qualification Proposal response.
10. Proposals without power of authorization and any other document consisting of adequate proof of the ability of the signatory to bind the Bidder.
11. If the proposal is received after the due date and time
12. If the proposal is submitted with lesser validity period
13. In case any if one Bidder submits multiple proposals or if common interests are found in two or more proposals of Bidders, the Bidder/s are likely to be disqualified, unless additional proposals/proposals are withdrawn upon notice immediately.

3.17.2 Commercial Rejection Criteria

1. Incomplete Commercial Proposal
2. Commercial Proposals that do not conform to the Commercial Proposal format.
3. The prices quoted by the Bidder do not include all statutory taxes and levies applicable.
4. Commercial Proposals in any currency other than Indian Rupees.
5. If there is an arithmetic discrepancy in the Commercial Proposal calculations the Tender Inviting Authority shall rectify the same. If the Bidder does not accept the correction of the errors, its proposal may be rejected.
6. During validity of the proposal, or its extended period, if any, the Bidder increases its quoted prices.

3.18. Fraud and Corrupt Practices

1. The Bidders and their respective officers, employees, agents, and advisers shall observe the highest standard of ethics during the selection process. Notwithstanding anything to the contrary contained in this RFP, the Tender Inviting Authority shall reject a proposal without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "Prohibited Practices") during the selection process. In such an event, the Tender Inviting Authority shall, without prejudice to its any other rights or remedies, forfeit and appropriate the EMD or PBG.
2. Without prejudice to the rights of the Tender Inviting Authority under Clause above and the rights and remedies which the Tender Inviting Authority may have under the Agreement, if a Bidder is found by the Tender Inviting Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the selection process, or after the issue of the **GEM Contract**, such Bidder shall not be eligible to participate in any tender or RFP issued by Tender Inviting Authority during a period of 3 years from the date such Bidder is found by Tender Inviting Authority to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.
3. For the purposes of this Section, the following terms shall have the meaning hereinafter respectively assigned to them:
 - (a) "Corrupt Practice" means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the selection process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Tender Inviting Authority who is or has been associated in any manner, directly or indirectly with the selection process or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Tender Inviting Authority shall be deemed to constitute influencing the actions of a person connected with the selection process); or (ii) save as provided herein, engaging in any manner whatsoever, whether during the selection process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the Award or the Agreement, who at any time has been or is a legal, financial or technical consultant/adviser of the Tender Inviting Authority in relation to any matter concerning the Project.

(b) “Fraudulent Practice” means a misrepresentation or omission of facts or disclosure of incomplete facts, to influence the selection process.

(c) “Coercive Practice” means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person’s participation or action in the selection process.

(d) “Undesirable Practice” means (i) establishing contact with any person connected with or employed or engaged by the Tender Inviting Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the selection process; or (ii) having a Conflict of Interest; and

(e) “Restrictive Practice” means forming a cartel or arriving at any understanding or arrangement among the Bidders with the objective of restricting or manipulating a full and fair competition in the selection process.

3.19. Conflict of Interest

Any party involved in the preparation of this RFP will not be allowed to bid. Further, any Bidder who has or anticipates any conflict of interest with any of its current assignments while performing work under this RFP, shall notify the same to Tender Inviting Authority with a mitigation plan, within at most 3 weeks of publication of this RFP and the Tender Inviting Authority may decide whether to allow such Bidder to bid or not.

3.20. Right to Terminate the Selection Process

The Tender Inviting Authority may terminate the RFP process at any time and without assigning any reason. The Tender Inviting Authority makes no commitments, express or implied, that this process will result in a business transaction with anyone. The Tender Inviting Authority will not be liable in any way to any person in case of termination of this Bid process except that if the EMD has been received from the Bidder prior to such termination, the EMD will be returned (without any interest) as promptly as possible to the respective Bidders.

3.21. Non-Conforming Proposals

A proposal may be construed as a non-conforming proposal and ineligible for consideration if

(a) It does not comply with the requirements of this RFP.

(b) The proposal appears to be “canned” presentations of promotional materials that do not follow the format required under this RFP or do not appear to address the requirements of the solution.

3.22. Selection Process for Bidder

3.22.1 Preliminary Examination of Proposal

The Tender Inviting Authority will examine the proposals to determine whether they are complete, whether the documents have been properly signed and whether they are generally in order. Any proposals found to be non-responsive for any reason or not meeting any criteria specified in this RFP, will be rejected by the Tender Inviting Authority, and shall not be included for further consideration.

Initial proposal scrutiny will be held, and the proposals will be treated as non-responsive, if the Bidder fails to meet/clarify any of the below mentioned points:

- (a) Not submitted in the format as specified in this RFP document.
- (b) Received without the Letter of Authorization (Power of Attorney)
- (c) Received without EMD
- (d) Found with suppression of details.
- (e) Submitted with incomplete information, subjective, conditional offers and partial offers.
- (f) Submitted without the documents required under this RFP.
- (g) Non-compliant with any of the clauses mentioned in this RFP.
- (h) Bid Validity and EMD validity lesser than that prescribed in this RFP.

3.22.2 Clarification on Proposal

During the proposal evaluation, Tender Inviting Authority may, at its discretion, seek clarifications or ask the Bidders to make technical presentations on any aspect(s) from any or all the Bidders. The request for clarification and the response shall be in writing, and no change in the price or substance of the proposal shall be sought, offered, or permitted.

3.22.3 Evaluation Process

The Tender Inviting Authority shall evaluate the responses to this RFP and scrutinize the supporting documents documentary evidence. Inability to submit the requisite supporting documentary evidence, may lead to rejection. The decision of the Tender Inviting Authority in the evaluation of proposals shall be final. No correspondence will be entertained outside the process of evaluation with the Tender Inviting Authority. During the Proposal Evaluation, Tender Inviting Authority reserves the right to reject any or all the proposals. Each of the responses/proposals shall be evaluated as per the criteria and requirements specified in this RFP.

The Purchaser will evaluate bids submitted via the Portal to select a System Integrator for Establishment, Implementation, Operations AND Maintenance (5 Years of O&M) for Quantum

Communication Lab & Design and Execution of a Faculty Development Programme, in accordance with this Request for Proposal (RFP).

3.22.3.1 Proposal Evaluation Committee (PEC)

The Purchaser shall constitute a Proposal Evaluation Committee (PEC), chaired by the Competent Authority to evaluate the proposals submitted under this RFP. The PEC will:

- (a) Assess compliance with the Eligibility Criteria (Section **3.23.1**) and Technical Evaluation Criteria (Section **3.23.2**).
- (b) Verify all supporting documentation, and may seek written clarifications where necessary, without materially altering bid contents.
- (c) Evaluate Financial Proposals of technically qualified bidders to identify the most advantageous bid.
- (d) Recommend selection of a single bidder, based on the combined technical and financial evaluation, as per the method of selection defined in the RFP.
- (e) Reject non-responsive, incomplete, or conditional proposals that fail to meet minimum RFP requirements.

The PEC may request clarifications on Technical Proposals within a reasonable timeframe. Clarifications must comply with RFP requirements, and no changes to quoted prices or bid substance are permitted without PEC approval. Failure to respond or non-compliant clarifications may lead to bid rejection.

The evaluation process comprises three stages:

Stage 1: Pre-Qualification

- The PEC will verify compliance with Pre- Qualification Criteria (Section **3.23.1**), including submission of all mandatory documents.
- Bids missing required documents or failing any eligibility conditions will be disqualified.
- Eligible Bidders proceed to technical evaluation.

Stage 2: Technical Evaluation

- The PEC will evaluate Technical Proposals as per the Technical Evaluation Criteria (Section **3.23.2**).
- Bidders meeting the minimum technical score threshold of **70 marks or more** in technical evaluation stage will be deemed technically qualified and proceed to financial evaluation.
- Non-responsive or conditional Technical Proposals will be rejected.

Stage 3: Financial Evaluation

- The bidders will submit their financial bids through GeM Portal in the prescribed format (**Annexure 3**). The bidder should submit the financial bid in the financial section only. The financial bid submitted along with the technical proposal/bid will be summarily rejected.

- The Tenderer will constitute a Bid Evaluation Committee to evaluate the responses of the bidders.
- This document is confidential and intended solely for the use of the individuals or entities addressed.
- The Bid Evaluation Committee constituted by the Tenderer shall evaluate the responses to the RFP and all supporting documents/ documentary evidence. Inability to submit requisite supporting documents / documentary evidence, may lead to rejection.
- The decision of the Bid Evaluation Committee in the evaluation of responses to the RFP shall be final. No correspondence will be entertained outside the process of evaluation by the Committee.
- The Bid Evaluation Committee may ask for communication with the Bidders to seek clarifications on their proposals online through GeM.
- The Bid Evaluation Committee reserves the right to reject any or all proposals on the basis of any deviations.
- Each of the responses shall be evaluated as per the criteria and requirements specified in this RFP.
- This RFP shall be governed by the Quality and Cost Based Selection (QCBS) methodology. The bids shall be evaluated based on a combination of technical and financial scores in accordance with the evaluation criteria specified in this RFP

Combined Technical-Commercial Evaluation Process

For all qualified bidders whose Commercial Bids have been opened, GIL shall undertake a combined techno-commercial evaluation in accordance with the procedure prescribed on the GeM Portal.

A **Combined Score** shall be determined based on the Technical and Commercial scores, with a weightage of **70% for the Technical Bid and 30% for the Commercial Bid**.

The individual bidder's Technical Score shall be normalized using the following formula:

$$T_n = T_b / T_{max} \times 100$$

Where:

- **T_n** = Normalized technical score of the bidder under consideration
- **T_b** = Absolute technical score of the bidder under consideration
- **T_{max}** = Maximum absolute technical score obtained by any bidder

The **Financial Score** of a bidder shall be calculated as:

$$F_n = \{(\text{Commercial Bid of L1} \div \text{Commercial Bid of the Bidder}) \times 100\}$$

The proposals shall thereafter be ranked based on their combined Technical and Financial Scores, applying the following weightages:

- **T = 0.70** – Weight assigned to the Technical Bid
- **P = 0.30** – Weight assigned to the Financial Proposal

The **Final Score (S)** shall be calculated as follows:

$$\text{Final Score (S)} = T_n \times T + F_n \times P$$

The **Combined Score** shall be determined based on the weighted Technical and Commercial

Scores. The bidder obtaining the **highest Combined Score (H1)** shall be considered the successful bidder.

3.23. Evaluation Criteria

3.23.1 Pre-qualification Criteria

The bidder must meet all the Pre-Qualification Criteria specified in this tender document. Bids not meeting any of the prescribed eligibility conditions or lacking the required supporting documentary evidence may be treated as non-responsive and liable for rejection.

Documentary evidence in support of the eligibility criteria shall be submitted along with the bid. Mere submission of self-declarations without supporting documents may not be considered sufficient unless specifically permitted under the respective criterion.

Bids may be submitted either:

- directly by the Original Equipment Manufacturer (OEM) / Technology Provider; or
- through an authorised partner, system integrator, distributor, or reseller duly authorised by the OEM / Technology Provider through a valid Manufacturer's Authorisation Form (MAF) or Authorisation Letter.

In such cases, the OEM / Technology Provider shall confirm technical support, supply assurance, warranty obligations, and availability of products and services for the duration of the contract. However, DST-Gujarat shall recognise only one legal entity as the contracting party for all contractual obligations under the RFP.

Sr. No	Criteria	Supporting documents needed
1	The bidder should be a Registered Company (registered under the Indian Companies Act, 1956 or Indian Companies Act, 2013)/LLP Act in India. The bidder should have been in operation for at least five financial years	The Bidder should submit below documents - a) Copy of certification of incorporation issued by competent authority / registration Certificate b) Copy of PAN card c) Copy of GST registration.
2	The bidder should have a minimum average annual turnover of INR 10 Crore during the last 3 (three) financial years with positive net worth as on 31st March 2026.	The Bidder shall submit the following documents as proof of financial eligibility: a) Copies of the audited Balance Sheets and audited Profit & Loss Statements for each of the last three (3) financial years ending on 31st March 2026.

		b) A certificate issued by the Statutory Auditor or Chartered Accountant (CA) certifying the Bidder's annual turnover and net worth for each of the last three (3) financial years ending on 31st March 2026.
3	The Bidder should have successfully executed and completed, during the last five (5) years in India, at least Three (3) projects each of value not less than INR 1 Crore involving the deployment, integration, commissioning and/or operation of Quantum Communication Systems, QKD, QRNG, Quantum Communication Laboratories, or associated quantum communication infrastructure for Government, PSU, Academic institution, Research Institution or any private entity in India during the last 5 years.	The Bidder shall submit the following documents for each project cited in support of the eligibility criteria: a) Copy of the Work Order / Purchase Order / Contract Agreement issued by the client. b) Completion Certificate, Go-Live Certificate, Client Sign-off, or any other documentary evidence demonstrating successful completion or operationalization of the project. c) Project Citation in the prescribed format, including project details and client references such as Organization Name, Contact Person, Designation, Contact Number, and Email ID, wherever available.
4	The Bidder shall have a minimum of three (3) years of operational experience in Quantum Communication Technologies as on the bid submission date and shall demonstrate that its core quantum communication technology research or development or engineering and hardware manufacturing capabilities are established and operated from facilities located in India. In case the Bidder is a Start-up, it shall possess a valid DPIIT Start-up Deep Technology Recognition Certificate.	The Bidder shall submit the following documents as evidence of compliance with the above eligibility criterion: a) Copy of the first Work Order / Purchase Order / Contract Agreement issued by the client. b) Self-certification on company letterhead confirming engagement in Quantum Technologies for a minimum period of three (3) years, duly signed by an authorized signatory. c) Self-certification on the Bidder's letterhead, providing details of quantum technology products, solutions, research activities, patents, publications, deployments,

		laboratories, or commercial implementations undertaken by the Bidder during the last three (3) years. The Bidder shall submit a copy of the valid DPIIT Start-up Recognition Certificate along with the bid in case of start-up.
5	The Bidder shall have successfully deployed and commissioned at least one Quantum Key Distribution (QKD) system for a client in India. The deployed QKD system shall have remained operational for a minimum period of Two (2) years prior to the bid submission date.	a) Copy of the first Work Order / Purchase Order / Contract Agreement issued by the client. b) Client certificate on official letterhead confirming commissioning date; ongoing operational status
6	The Bidder shall have successfully deployed and commissioned at least one QRNG system for a client in India.	a) Copy of the first Work Order / Purchase Order / Contract Agreement issued by the client. b) Client certificate on official letterhead confirming commissioning date.
7	The Bidder shall possess a deployable Post-Quantum Cryptography (PQC) SDK or programming platform that supports • ML-KEM (FIPS 203) — Module-Lattice-Based Key-Encapsulation Mechanism • ML-DSA (FIPS 204) — Module-Lattice-Based Digital Signature Algorithm • SLH-DSA (FIPS 205) — Stateless Hash-Based Digital Signature Algorithm	Self-certification on company letterhead confirming adherence to mentioned standards, duly signed by an authorized signatory

8	The Bidder should have at least 10 full-time professionals on payroll with skills in quantum domain as on the bid submission date. Of these, at least five (5) professionals shall have demonstrated hands-on experience in Quantum Communication, including QKD, QRNG, quantum optics/photonics, or related quantum communication systems, with experience in deployment, integration, testing, commissioning, operation, or maintenance of such systems.	a) PF/ESIC details of all such employees on payroll, and A self-declaration on its letterhead listing the professionals engaged in relevant roles, including their skills and designations; A certificate to the effect signed and stamped by company's HR
9	The Bidder shall hold minimum 1 granted Domestic/International patent in the field of quantum communication, quantum cryptography.	a) Patent Certificate/Certificate of Grant and official patent registry details. b) Complete patent specification/claim details and proof of ownership/authorisation shall be submitted.
10	The bidder should not be blacklisted, debarred or under suspension by any Central or State Government Authority / PSU / BFSI / Listed company within India in last 5 Years, with no pending debarment proceedings.	Certificate of Undertaking for Non-blacklisting as per Annexure-9.

11	The Bidder should not have any pending proceedings, investigations, or cases against it under the Income- Tax Act, 1961, the Prevention of Money Laundering Act, 2002 (PMLA), or any other applicable financial crime laws in India, including but not limited to the Prevention of Corruption Act, 1988, as of the Bid submission deadline.	Self-declaration duly signed by the authorized signatory on company letterhead as per Annexure 2.
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3.23.2 Technical Evaluation Criteria

The Purchaser shall evaluate the Technical Bids of the Bidders who meet the Eligibility requirements to determine whether the Technical Bids comply with the requirements laid down below. Bids that are not in accordance with the requirements are liable to be disqualified at the Purchaser's discretion.

Sr. No.	Technical Evaluation Criteria	Max. Marks	Supporting Documents
1.	Average Annual Turnover during the last three financial years. Average annual turnover of ₹10 to 20 Crore – 5 Marks Average annual turnover > ₹20 Crore – 10 Marks	10	a) Copies of the audited Balance Sheets and audited Profit & Loss Statements for each of the last three (3) financial years ending on 31st March 2026. b) A certificate issued by the Statutory Auditor or Chartered Accountant (CA) certifying the Bidder's annual turnover and net worth for each of the last three (3) financial years ending on 31st March 2026.
2.	Experience in Establishment of Quantum Communication Projects: Experience in successfully establishing, integrating, commissioning and operationalising Quantum Communication projects involving the specified technologies/components. A. QKD System – 15 Marks At least 1 qualifying QKD deployment	35	a) Copy of the Work Order / Purchase Order / Contract Agreement issued by the client. b) Completion Certificate, Go-Live Certificate, Client Sign-off, or any other documentary evidence demonstrating successful completion or operationalization of the project. c) Project Citation in the prescribed format, including project details and client references such as Organization Name, Contact Person, Designation, Contact Number, and Email ID, wherever available.

	B. QRNG – 10 Marks At least 1 qualifying QRNG deployment C. PQC Platform – 5 Marks D. QKD Simulation Platform – 5 Marks		
3.	Presentation The bidder shall make a comprehensive technical presentation before the Evaluation Committee, demonstrating the maturity, preparedness, technical capability and relevance of its proposed approach for establishment and operation of the Quantum Communication Laboratory and execution of the Faculty Development Programme. The presentation shall cover the following components in detail: 1. Quantum Technology Experience & Capability demonstration in alignment to the RFP objectives 2. Quantum Communication Laboratory Design & Architecture 3. Faculty Development Programme Structure & Academic Delivery Methodology 4. O&M, Support & Sustainability Strategy 5. Gujarat Quantum Skills and Capacity-Building Roadmap, Innovation, Value-Added Proposition	25	
4.	Faculty Development Programme (FDP) / Quantum Technology Training Experience – Experience in designing and delivering structured training/FDPs involving Quantum Technology, Quantum	10	Work Order/Contract/Letter of Award along with Completion Certificate/Client Certificate. Programme details, including number of participants and subject/domain, should be provided.

	Communication, QKD, QRNG, quantum optics/photonics or related areas.		
5.	Patents in Quantum Technology / Quantum Communication A. Granted Indian Patents – 5 Marks At least 1 relevant granted Indian patent B. Granted International Patents – 5 Marks At least 1 relevant granted international patent	10	Patent Certificate/Certificate of Grant and official patent registry details. Complete patent specification/claim details and proof of ownership/authorisation shall be submitted.
6.	The Bidder shall have full-time professionals on its payroll having relevant experience in Quantum Technology with demonstrated hands-on experience in Quantum Communication, including QKD, QRNG, quantum optics/photonics, or related quantum communication systems. A. 5 – 30 such professionals – 5 Marks B. More than 30 such professionals – 10 Marks	10	a) PF/ESIC details of all such employees on payroll, and b) A self-declaration on its letterhead listing the professionals engaged in relevant roles, including their skills and designations; A certificate to the effect signed and stamped by company's HR
Total		100	

Additional Notes for Technical Evaluation

- Only completed and commissioned projects shall be considered.
- Experience claimed by the Bidder shall be supported by Work Order/Purchase Order, Completion or Go-Live Certificate, and Client Reference.
- In case the Bidder is an authorised system integrator of an OEM, experience of the OEM may be considered only where supported by a valid Manufacturer's Authorisation Form (MAF) and evidence of the Bidder's implementation role.
- Projects executed outside India shall not be considered unless specifically permitted in the RFP.
- Marks shall be awarded only for documentary evidence submitted with the bid.

4. Award of Contract

4.1. Notification of Award

On Completion of Techno Commercial evaluation of bids, GIL will determine the H1 Bidder based on the marks obtained through Technical and Commercial. Contract for “Establishment, Implementation, Operations and Maintenance of the Quantum Communication Laboratory & Design and Execution of Faculty Development Programme” will be awarded to H1 bidder.

However, GIL shall be under no obligation to accept the lowest price bid or any other offer received in response to this Tender notice and shall be entitled to reject any or all offers including those received late or incomplete offers without assigning any reason whatsoever.

Note:

1. All details and the supportive documents for the above should be uploaded in the GeM bid.
2. Any bid failing to meet any of the required pre-qualification criteria shall be disqualified.
3. A Board Resolution or Power of Attorney granting the signatory full legal authority to execute the bid on behalf of the Bidder.
4. All certificates requested in the RFP should be valid as on date of bid submission.
5. All annexures as sought in this bid should be complete as per the information requested.
6. Sub-contract is not allowed in this bid.
7. The eligibility evaluation will be carried out based on the criteria mentioned in the tender document. All those bidders who matches all the pre-qualification criteria will be called for the presentation cum demonstration Evaluation.

4.2. Performance Bank Guarantee (PBG)

4.2.1 The Successful Bidder shall at his own expense submit to Tender Inviting Authority unconditional, irrevocable and continuing Performance Bank Guarantee (PBG) from banks, in the format prescribed in Annexure 16, payable on demand, for the due performance and fulfilment of the contract by the Bidder. The proceeds of the PBG shall be payable to the Tender Inviting Authority as compensation for any loss (including loss of opportunity, time or cost, etc.) resulting from the Supplier's/ Bidder's failure to comply with its obligations under the Contract.

4.2.2 The PBGs shall be submitted within fifteen (15) working days from the date of notice of award of the contract/work order, or at the time of signing/issuing of the contract/work order whichever is earlier.

4.2.3 Consequent to the issuance of this Order, the Successful Bidder is required to furnish a Performance Bank Guarantee (PBG) amounting to 5% of the total contract value in the name of Directorate of ICT & e-Governance.

4.2.4 PBG shall be invoked by Tender Inviting Authority in the event the Bidder:

(a) Fails to perform the responsibilities and obligations as set out in this RFP to the complete satisfaction of Tender Inviting Authority including failure to comply with exit management responsibilities.

(b) Misrepresentations of facts/information submitted to Tender Inviting Authority.

4.2.5 The PBG shall be valid till satisfactory completion of Operations & Maintenance Phase

and for a period of 180 days beyond the date of completion of all contractual obligations.

4.2.6 The PBG may be discharged/returned by Tender Inviting Authority upon being satisfied that there has been due performance of the obligations of the Bidder under the contract. However, no interest shall be payable on the performance bank guarantee.

4.2.7 In the event of the Bidder being unable to service the contract for whatever reason, Tender Inviting Authority would invoke the PBG.

4.2.8 Tender Inviting Authority shall also be entitled to make recoveries from the Bidder's bills, performance bank guarantee, or from any other amount due to him, an equivalent value of any payment made to him due to inadvertence, error, collusion, misconstruction, or misstatement.

4.2.9 In case the project is delayed beyond the project schedule as mentioned in RFP, the performance bank guarantee shall be accordingly extended by the Bidder till completion of scope of work.

4.2.10 On satisfactory performance and completion of the order in all respects and duly certified to this effect by the Project Coordinator, Contract Completion Certificate will be issued and the PBG will be returned to the Bidder.

4.3. Failure to agree with the Terms and Conditions of the RFP

Failure of the successful Bidder to agree with the Terms & Conditions of the RFP shall constitute sufficient grounds for the annulment of the award, in which event Tender Inviting Authority may award the contract to the next best value Bidder or call for new proposals. In such a case, Tender Inviting Authority shall invoke the PBG and/or forfeit the EMD.

The Bidder at no point of time can excuse themselves from any claims by the Tender Inviting Authority whatsoever for their deviations in conforming to the terms and conditions, payment schedules, the timeframe for implementation, etc. as mentioned in RFP document.

4.4. Termination

4.4.1 Termination for Default: Tender Inviting Authority may terminate the contract in whole or part with thirty (30) days' written notice if the Selected Bidder fails to deliver services or meet obligations within the specified timelines or any extensions granted, or fails to perform other contractual obligations. Tender Inviting Authority may procure alternative services, and the Bidder shall be liable for any excess costs incurred.

4.4.2 Termination for Insolvency: Tender Inviting Authority may terminate the contract immediately without compensation if the Selected Bidder becomes bankrupt or insolvent, without prejudice to Tender Inviting Authorities accrued rights or remedies.

4.4.3 Termination for Convenience: Tender Inviting Authority may terminate the contract, in whole or part, at any time with thirty (30) days' written notice for its convenience. Tender Inviting Authority will pay undisputed invoices for tasks completed by the Bidder up to the termination date.

4.5. Exit Management Plan

The SI shall provide DIT or its nominated agency with a recommended Exit Management plan ("Exit Management Plan") within 15 days from effective date of the Agreement, which shall deal with at least the following aspects of Exit Management in relation to the Agreement as a whole and in relation to the Project Implementation, and the Operation and Management SLA.

- (a) A detailed program of the transfer process that could be used in conjunction with an Incoming SI including details of the means to be used to ensure the continuing provision of the Services throughout the transfer process or until the cessation of the Services and of the management structure to be used during the transfer.
- (b) Plans for the provision of contingent support to DIT, and Incoming SI for a reasonable period after the transfer.
- (c) The SI shall re-draft the Exit Management Plan annually thereafter to ensure that it is kept relevant and up to date.
- (d) Each Exit Management Plan shall be presented by the SI to and approved by DIT or its nominated agencies for their agreement on the Exit Management Plan.
- (e) The terms of payment as stated in the Terms of Payment Schedule include the costs of the SI complying with its obligations under this Schedule.
- (f) In the event of termination or expiry of Agreement, and Project Implementation, each Party shall comply with the Exit Management Plan.
- (g) During the Exit Management period, the SI shall use its best efforts to deliver the Services.
- (h) Payments during the Exit Management period shall be made in accordance with the Terms of Payment Schedule.
- (i) This Exit Management Plan shall be furnished in writing to DIT or its nominated agencies within 15 days from the Effective Date of Agreement.

4.6. Intellectual Property Rights

4.6.1 The TENDERER shall be entitled to all intellectual property and other proprietary rights including, but not limited to, patents, copyrights, and trademarks, with regard to processes, inventions, ideas, know-how, or documents and other materials which the Bidder has developed for the operationalization & instrumentation of the lab under this RFP and which bear a direct relation to or are produced or prepared or collected in consequence of, or during the course of, the performance of services under this RFP, and the Bidder acknowledges and agrees that such documents and other materials

constitute works made for hire for the TENDERER.

4.6.2 At the request of TENDERER, the Bidder shall take all necessary steps, execute all necessary documents and generally assist in securing all such proprietary rights and transferring or licensing them to the TENDERER in compliance with the requirements of the applicable law and this RFP.

4.6.3 All IPR in relation to project documents, assets, resources, designs, drawings, estimates, recommendations, etc. shall vest with the TENDERER, and the bidder shall not use any such for any other purpose.

4.6.4 Hardware products, simulation platforms, QKD systems, PQC , and QRNG remain the sole IP of the bidder.

4.7. Data Sovereignty

All data generated, collected, processed, or stored under the Gujarat Quantum Transformation Programme (GQTP), including laboratory operational data, QKD and QRNG system logs, software platform data, training and certification records, curriculum and learning content, research data, user information, audit logs, configuration data, and all associated programme records, shall be stored and processed only on servers physically located within India.

The Selected System Integrator (SI) shall ensure compliance with applicable Government of India data residency requirements and shall submit a written Data Residency Declaration at the time of contract signing. No programme data shall be transferred, processed, or stored outside India without the prior written approval of DIT, DST, Gujarat and applicable statutory or regulatory permissions.

4.8 Governing Law & Dispute Resolution

This Agreement and any dispute arising out of or in connection with it or its subject matter will be governed by the laws of India.

Any dispute arising out of this Agreement shall first be referred to the senior officer/executives of each Party for an amicable solution.

In the event the Dispute is not resolved amicably within 60 (sixty) days from date of notice, such Dispute shall be finally decided by reference to arbitration. Such arbitration shall be held in accordance with the provisions of the Arbitration and Conciliation Act, 1996 and the rules made pursuant thereto including any amendment and / or modifications of the said Act and rules from time to time.

The arbitral tribunal shall comprise of 3 (three) arbitrators. Bidder and DIT will each nominate an arbitrator, and the third arbitrator shall be jointly appointed by the 2 (two) arbitrators so nominated, and in the event of disagreement between the 2 (two) arbitrators, the appointment shall be made in accordance with the Arbitration and Conciliation Act, 1996.

The seat and venue of arbitration shall be Gandhinagar/Ahmedabad, Gujarat. The arbitration

proceedings shall take place in English. The arbitration award rendered shall be final and binding on the Parties.

4.9 Force Majeure

4.9.1 Notwithstanding anything contained in the tender, the Service Provider shall not be liable for liquidated damages or termination for default, if and to the extent that, it's delays in performance or other failures to perform its obligations under the agreement is the result of an event of Force Majeure.

4.9.2 For purposes of this clause, "Force Majeure" means an event beyond the control of the service provider and not involving the service provider's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchase either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

4.9.3 If a force Majeure situation arises, the service provider shall promptly notify DIT in writing within 10 days of such conditions and the cause thereof. Unless otherwise directed by DIT in writing, the service provider shall continue to perform its obligations under the Contract as far as it is reasonably practical and shall seek all reasonable alternative means for performance not prevented by the Force Majeure.

5. Scope of Work

5.1. High-Level Responsibilities and End-to-End Accountability

The Selected System Integrator (SI) shall be responsible for the Establishment, Implementation, Operations and Maintenance of the Quantum Communication Laboratory and Design & Execution of a Faculty Development Programme under GQTP for the Government of Gujarat.

The scope of work shall comprise the two programme pillars and associated support services as defined in this RFP.

The responsibilities of the Selected System Integrator (SI) shall include, but not be limited to, the following:

- Conduct site assessment, laboratory planning, infrastructure requirement assessment, and coordination with the designated host institution for successful implementation of the project.
- Design, supply, installation, testing, commissioning, and maintenance of the Quantum Communication Lab infrastructure, including Quantum Key Distribution (QKD) and Quantum Random Number Generator (QRNG) systems.
- Provision, hosting, operation, maintenance, and support of software platforms, including QKD simulation and Post-Quantum Cryptography (PQC) programming platforms.

- Design and delivery of Faculty Development Programmes (FDP), training programmes, workshops, and other capacity-building activities.
- Operation, support, preventive maintenance, corrective maintenance, software/firmware upgrades, and technical assistance for all hardware and software components throughout the contract period.
- Submission of project reports, progress updates, utilization reports, and other documentation as required by the tenderer.
- Compliance with all Service Level Agreements (SLAs), project milestones, security requirements, and performance obligations specified in this RFP.

The Selected System Integrator shall be fully responsible and accountable for the successful implementation and operation of all components covered under this RFP.

5.2. Programme Pillars

5.2.1 Pillar 1: Quantum Communication Laboratory

5.2.1.1 Infrastructure Deployment

1. Quantum Key Distribution (QKD)

The Selected System Integrator (SI) shall supply, install, configure, test, and commission a Quantum Key Distribution (QKD) system comprising a transmitter unit (Alice) and a receiver unit (Bob), capable of demonstrating secure quantum key exchange over the designated communication channel.

QKD System Specifications:

Parameter	Minimum Requirement
Country of manufacture	India — indigenously designed and manufactured
Type approval	TEC India Equipment Type Approval for the proposed model
Standards compliance	ETSI GS QKD 004, 011, 014 (current versions)
QKD protocol	Differential Phase Shift (DPS) — mandatory; BB84 additionally preferred
Security model	Information-theoretic; finite-key analysis documented and available
Authentication	Wegman-Carter universal hashing on classical channel
Privacy amplification	Universal hashing; hardware-implemented
Error correction	Cascade or LDPC; reconciliation efficiency ≥ 0.95
Operating wavelength	1310 nm or 1550 nm
Compatible fibre	ITU-T G.652D or G.655
Maximum channel loss budget (P2P)	≥ 20 dB
Maximum P2P range	≥ 100 km on G.652D
QBER at 50 km (stable	$\leq 2.5\%$

channel)	
Secure key generation rate at 50 km	≥ 10 kbps
Key delivery API	ETSI GS QKD 014 REST API — mandatory; live and verified at commissioning
Network management	SNMP v3 and/or NETCONF/YANG
Hybrid mode	QKD + PQC combined key operation documented

The Selected System Integrator (SI) shall be responsible for the installation, configuration, optical alignment, calibration, testing, and commissioning of the Quantum Key Distribution (QKD) system. The SA shall measure, validate, and document the Quantum Bit Error Rate (QBER) over the deployed dark fibre connection and integrate the ETSI GS QKD 014-compliant REST API with the designated network management environment of the lab. The system shall successfully demonstrate live quantum key generation and key exchange during Acceptance Testing as per the acceptance criteria defined in this RFP.

2. Quantum Random Number Generation (QRNG)

The Selected System Integrator (SI) shall supply, install, integrate, configure, test, and commission one Quantum Random Number Generator (QRNG) unit capable of generating true quantum randomness for cryptographic, research, and educational applications.

QRNG Specifications:

Parameter	Minimum Requirement
Entropy source	True quantum physical process — photon arrival time, vacuum fluctuations, or equivalent quantum optical phenomenon. Pseudo-random or algorithmically seeded generators excluded.
Country of manufacture	India — indigenously designed and manufactured
Output rate	≥ 100 Mbps continuous
Min-entropy per output bit	≥ 0.999 (NIST SP 800-90B compliant conditioning)
Certification 1	NIST SP 800-90B — full evaluation (not preliminary or draft); issued specifically for the proposed model
Certification 2	AIS-31 Class PTG.2 or higher; issued specifically for the proposed model
Physical interface	USB 3.0 and/or PCIe Gen 3 or higher
Software API	REST API and/or PKCS#11 compliant library
OS compatibility	Linux kernel 5.x+; Windows Server 2019+; Windows 10+
Health monitoring	Hardware-level continuous entropy source health test; automatic output suppression on degradation; alarm to management interface
Start-up entropy availability	< 30 seconds from cold power-on
Operating temperature	10°C–35°C

The Selected System Integrator (SI) shall be responsible for the installation, configuration, integration, testing, and commissioning of the QRNG unit. The SA shall verify successful API integration, conduct randomness validation as per NIST SP 800-90B standards, and demonstrate the operational status and health monitoring functionality of the QRNG system during Acceptance Testing.

3. Quantum Communication Hardware - Optical Alignment Components

The Selected System Integrator (SI) shall supply all optical components, accessories, and consumables required for the installation, integration, testing, and commissioning of the Quantum Key Distribution (QKD) system. This shall include, but not be limited to, fibre connectors, FC/APC-terminated patch cords/jumpers, optical alignment accessories, and other associated materials. The SI shall also provide all optical testing and measurement equipment necessary for system installation, optical alignment, calibration, performance validation, and successful commissioning of the QKD system.

4. Auxiliary Photonic & Quantum Optics Equipment

The System Integrator shall supply, deliver, install, inventory, integrate, calibrate, test and commission and demonstrate the complete Supporting Laboratory Infrastructure required for hands-on quantum-optics experimentation aligned to the lab infrastructure and AICTE QT-06 course.

The infrastructure shall be delivered as pre-configured kits as listed in Table - 1 below with single-vendor accountability, in the same installation window as the QKD and QRNG hardware, with combined acceptance testing.

The equipment shall be fully compatible with the proposed Quantum Key Distribution (QKD) System, Quantum Random Number Generator (QRNG), and associated software platforms, and shall enable hands-on experimentation, demonstrations, laboratory exercises, faculty training, research activities, and performance validation as envisaged under this RFP.

Table 1: Experimental Kits

Sr.	Kit	Key Components	Quantity
1.	Laser Source Kit	635 nm single-mode laser;	1
		780 nm single-mode laser	1
2.	Photon Detection Kit	2× Single Photon Detectors (SPD);	2
		Si-photodiodes;	2
		TDC Card (≤ 100 ps resolution);	1
		CCD camera;	1
3.	Beam Splitter Kit	50:50 NP BS @ 780 nm	1
		50:50 NP BS @ 635 nm	1

		Polarising Beam Splitter (PBS, extinction ratio $\geq 1000:1$)	1
4.	Polarisation Optics Kit	Linear Polarizer; Half-Wave Plate (HWP); Quarter-Wave Plate (QWP) — achromatic, AR-coated	1 set per bench
5.	Mirror & Lens Kit	Silver mirrors (1", $R_{avg} > 97.5\%$)	6
		plano-convex lenses (25 & 50 mm, BK7, AR-coated)	4
		micrometer slit	1
		wire mesh (2D grating)	1
		25 mm translation stage	
6.	Attenuation & Filter Kit	ND filters, OD 0.5 $\rightarrow$ 4.0; wavelength range 400–1100 nm	Assorted set
7.	Mounts & Positioning Kit	Posts, post holders, Lmounts; kinematic mirror mounts; rotation mounts (Vernier scale); clamping forks; circular base mounts	Full lot, $\times 3$ benches
8.	Measurement & Characterisation Kit	Power meter + sensor (Si/InGaAs); white light source (broadband); polarimeter (Stokes parameters)	1 set
9.	Data Acquisition & Control Kit	DAQ Card (PCIe/USB); BNC coaxial cables	1 set per bench
10.	Optical Infrastructure Kit	Optical breadboards, 600 $\times$ 900 mm, M6 grid, 25 mm spacing	3 $\times$ (one per bench: BB1, BB2, BB3)
11.	Accessories & Safety Kit	Laser safety goggles (635 & 780 nm); screwdriver set; lens cleaning tissue	1 lot per bench

The scope of the Selected SI shall also include the supply, installation, configuration, integration, testing, and commissioning of all hardware components specified in Table 2 below, conforming to the minimum technical specifications prescribed therein, along with all associated passive components, accessories, cables, connectors, mounting hardware, and any other ancillary IT, networking, electrical, and laboratory infrastructure required for the successful installation, operation, integration, and commissioning of the Quantum Communication Laboratory.

Physical Bench Experiments and QT-06 Curriculum Alignment

The Auxiliary Photonic & Quantum Optics Equipment supplied under this RFP shall be configured and integrated as a complete experimental platform capable of supporting the

demonstration and hands-on conduct of the **six (6) physical bench experiments** specified below.

The Selected SI shall ensure that the supplied kits, components, accessories, measurement and data-acquisition equipment, and associated laboratory infrastructure are collectively capable of enabling the experiments through the supplied configuration and, where applicable, reconfiguration of the same components.

The experiments shall be aligned with the relevant **competency areas of the AICTE QT-06 curriculum**, as specified below:

Sr. No.	Physical Bench Experiment	Relevant QT-06 Competency Area
1	Laser Characterization & Photon Counting	Source characterisation; Detector calibration
2	Polarization State Preparation & Measurement	Qubit encoding; BB84 basis preparation and measurement
3	Hanbury-Brown-Twiss (HBT)	Single-photon verification; Photon statistics
4	Quantum State Tomography	Qubit/channel certification; Density-matrix estimation
5	Mach-Zehnder Interferometer	Phase-encoded QKD; Interferometric stability
6	Single Slit & 2D Diffraction	Coherence; Spatial-mode / free-space fundamentals

The Selected SI shall demonstrate all six (6) experiments during Site Acceptance Testing (SAT) and commissioning, using the supplied laboratory equipment and demonstrating relevant measurements, data acquisition, analysis, and results.

The Selected SI shall provide experiment-wise laboratory manuals/protocols covering the experimental setup, procedure, observations, analysis, expected results, safety precautions, and the corresponding AICTE QT-06 competency area, suitable for faculty training and subsequent academic use.

The Selected SI shall ensure that the experimental configurations are sufficiently documented to enable the Host Institution to reproduce the experiments independently following commissioning and training.

Table 2: Supporting IT Infrastructure

Sr.	Item	Minimum Specification	Remarks
1.	Server — Application Host	28-core Xeon Gold-class or equivalent; 32 GB ECC RAM; 1.2 TB SAS/NVMe; hardware RAID; dual redundant PSU;	

		Ubuntu 22.04/RHEL 8+; 3-yr onsite warranty	
2.	Network Switch — 24-port GbE	24× GbE + 4× SFP uplink; ≥52 Gbps switching; 802.1Q VLAN; 802.1X; jumbo frames	
3.	Server Rack Enclosure	18U min; ≥500 kg load; ≥60% perforated doors; lockable	
4.	UPS — Facility Grade	Min 3 kVA capacity online double conversion; pure sine wave; battery backup duration ≥30 min backup at full load	SI to specify: minimum VA/W rating, battery backup duration (minimum 30 minutes at full load), input voltage range, and bypass mode requirements.
5.	Structured Cabling (Cat 6A)	Cat6A (not Cat5e/6) throughout; TIA-568-C.2 compliant patch panels and cords	
6.	Dark Fibre (Alice–Bob, Phase 1 lab internal)	ITU-T G.652D single-mode; 50 km; FC/APC (≥60 dB return loss); OTDR test report required (require spool for testing arrange by bidder)	
7.	Routers	High-capacity edge router (Minimum 8 × 1GbE Ethernet ports with dual SFP/SFP-capable WAN uplinks; minimum routing throughput and IPsec VPN throughput sufficient to support the 100 Mbps Internet link, with no performance degradation)	

The SI shall ensure that all equipment is complete in all respects, fully integrated, operational, and commissioned with all necessary accessories, cables, connectors, mounting hardware, software drivers, calibration certificates, documentation, and installation services required for successful operation.

5.2.1.2 Quantum Software Platforms

1. QKD Simulation Platform

The Selected SI shall provide, deploy, configure, and maintain a Quantum Key Distribution (QKD) Simulation Platform hosted on a local server installed at the designated host institution. The platform shall serve as the primary learning, training, and experimentation environment for the Faculty Development Programme (FDP), certification programmes, training tracks, and other academic and research activities.

QKD Simulation Platform Specifications:

Parameter	Minimum Requirement
Deployment	Local server installation
Concurrent sessions	≥ 30 independent simultaneous sessions
Protocol coverage	BB84 (with and without decoy states); E91 (CHSH S-parameter output); Differential Phase Shift (DPS); BBM92; SARG04; quantum teleportation simulation; quantum dense coding simulation — all in fully interactive simulation mode
QKD system operational interface simulation	Software simulation of a live commercial QKD system's configuration, key monitoring, alarm management, and key rate display — functional without physical QKD hardware
Eavesdropping simulation	Intercept-resend attack with quantitative QBER elevation demonstrable
Session logging	Per-user: protocol parameters, QBER, key rates, timestamps; export capability
Uptime SLA	≥ 99.5% monthly
Platform status at bid submission	Fully operational and independently accessible — not to be developed post-award

2. Post-Quantum Cryptography (PQC) Platform

The Selected Agency (SA) shall establish, configure, and maintain a locally hosted Post-Quantum Cryptography (PQC) Software Development Kit (SDK) environment on the host institution's server infrastructure. The platform shall support learning, experimentation, algorithm implementation, performance evaluation, and research activities related to quantum-safe cryptography.

PQC Platform Specifications:

Parameter	Minimum Requirement
Deployment	Local server installation required
Concurrent sessions	≥ 30 independent simultaneous sessions
ML-KEM (FIPS 203)	All parameter sets: ML-KEM-512, ML-KEM-768, ML-KEM-1024

ML-DSA (FIPS 204)	All parameter sets: ML-DSA-44, ML-DSA-65, ML-DSA-87
SLH-DSA (FIPS 205)	Minimum two parameter sets
Programming language	Python 3.x minimum
Hybrid TLS	Classical + ML-KEM hybrid TLS demonstrable
Performance benchmarking	Built-in timing for all algorithm operations
Platform status at bid submission	Fully operational — not to be developed post-award

5.2.1.3 Host Institution Support Infrastructure

The Quantum Communication Laboratory (QCL) shall be established at a Host Institution identified by the Department. To facilitate installation and operation of the laboratory, the Host Institution shall provide only the facility and utility infrastructure specified in the below Table. These items are limited to civil, electrical, and institutional infrastructure and shall be made available, prior to commencement of installation activities by the Selected System Integrator (SI).

Except for the infrastructure specified in this section, all other hardware, software, laboratory instrumentation, networking equipment, optical components, passive infrastructure, accessories, tools, consumables, and ancillary equipment required for implementation of a complete, fully functional, and operational Quantum Communication Laboratory shall be supplied, installed, integrated, tested, and commissioned by the Selected System Integrator (SI).

The Host Institution shall facilitate the following infrastructure:

- Dedicated laboratory space and associated civil works;
- Laboratory furniture and fixtures;
- Heating, Ventilation and Air Conditioning (HVAC) system capable of maintaining the prescribed environmental conditions;
- Electrical infrastructure meeting the requirements specified by the Selected System Integrator (SI), including dedicated power supply, distribution, earthing, grounding, and associated electrical provisions;
- Dedicated Internet connectivity as specified in this RFP.

Sr. No.	Infrastructure	Description
1	Laboratory Space and Civil Works	Approximate 5,000 sq. ft of Dedicated laboratory space and associated civil works suitable for establishment of the Quantum Communication Laboratory

2	Laboratory Furniture and Fixtures	Laboratory benches, workstations, storage cabinets, chairs, and other standard laboratory furniture
3	HVAC System	Controlled laboratory environment maintaining temperature of 20–25°C (±2°C) , or as recommended by the OEM, for reliable operation of the laboratory equipment. SA to specify during site survey: maximum temperature variation across optical bench; humidity range; air circulation requirements; minimum cooling capacity etc.
4	Electrical Infrastructure	Electrical infrastructure meeting the Selected System Integrator (SI)'s approved electrical load analysis, including dedicated power supply, distribution, earthing, grounding, and power quality requirements necessary for the Quantum Communication Laboratory
5	Internet Connectivity	Dedicated Internet connectivity with a minimum bandwidth of 100 Mbps symmetric or higher for software platforms, remote support, and training activities

The SI shall, within **30 days of designation of the Host Institution**, conduct a site assessment and submit a detailed **Electrical Load Analysis Report** covering the proposed Quantum Communication Laboratory. The report shall specify, at a minimum:

- Total connected electrical load (kW);
- Power quality and voltage requirements;
- Dedicated electrical circuits required for quantum optical and laboratory equipment;
- Earthing and grounding requirements;
- Any other electrical provisions necessary for safe and reliable operation of the laboratory.

The Host Institution shall facilitate electrical infrastructure in accordance with the specifications submitted by the Selected System Integrator (SI) and approved by the DIT. The SI shall be responsible for verifying the adequacy of the electrical infrastructure prior to installation and shall promptly notify the DIT of any deficiencies that may affect successful commissioning of the laboratory.

5.2.2 Pillar 2: Faculty Development Programme (FDP)

The Selected System Integrator (SI) shall design and deliver a structured Faculty Development Programme (FDP), including course content, practical laboratory sessions, assessments, and certification, for a cohort of **30 faculty members** from universities and academic institutions.

Minimum Specifications for FDP:

- The FDP shall comprise a minimum of the below modules covering, but not limited to:
 - o Fundamentals of Quantum Mechanics and Quantum Optics
 - o Quantum Information Theory
 - o Quantum Key Distribution (QKD) Protocols, including BB84, E91, DPS, and BBM92
 - o Quantum Communication Networks
 - o Post-Quantum Cryptography (PQC), including ML-KEM, ML-DSA, and SLH-DSA
 - o Quantum Communication Hardware and System Implementations
 - o Emerging Trends and Current Research Frontiers in Quantum Communication Technologies
- The FDP shall include a **minimum of 50 contact hours** comprising instructor-led lectures, demonstrations, laboratory sessions, discussions, and assessments.
- The FDP shall include a minimum of **16 hands-on practical sessions**, including live experiments and demonstrations using the Quantum Key Distribution (QKD) system, Quantum Random Number Generator (QRNG), PQC, simulation platforms, and other laboratory infrastructure deployed under the project.
- The FDP curriculum shall be fully aligned with the **AICTE QT-06 Model Curriculum for Quantum Technologies**. The Selected System Integrator (SI) shall submit a detailed module-wise mapping of course outcomes and learning objectives against the AICTE QT-06 framework as part of the Technical Proposal.
- The FDP shall include a **Capstone Assessment** wherein each faculty participant shall independently conduct and deliver a supervised laboratory session of at least 45 minutes' duration. The session shall be evaluated by the Selected System Integrator (SI)'s designated trainer(s) based on predefined assessment criteria finalized in consultation with the tenderer.
- The Faculty Development Programme (FDP) shall be completed within **3 (three) months** from the date of commissioning of the Quantum Communication Lab. Upon successful completion of the programme, including fulfilment of attendance, practical training, assessment, and certification requirements, participants shall be awarded a Faculty Development Programme (FDP) Certificate.

Deliverables for FDP:

Upon successful completion and certification of the Faculty Development Programme (FDP), the Selected System Integrator (SI) shall provide each certified faculty member with the following output package:

- **Faculty Certification:** An FDP certificate issued by the DIT, Department of Science & Technology (DST), Government of Gujarat.

- **Faculty Teaching Kit:** A complete set of training materials comprising all programme modules in editable presentation format (PowerPoint or equivalent), including detailed speaker notes, reference material, and teaching guidance for classroom delivery.
- **Laboratory Manual:** A comprehensive laboratory manual covering all prescribed experiments, demonstrations, and practical exercises aligned with the AICTE QT-06 framework and executable using the laboratory infrastructure deployed under the project. The manual shall include experiment objectives, procedures, observations, expected outcomes, safety guidelines, and assessment criteria.
- **Assessment Resources:** A structured assessment package comprising question banks, assignments, quizzes, practical evaluation steps, and model solutions to support teaching, learning, and student evaluation activities.
- **Faculty Resource Package:** Supporting documentation, implementation guidelines, recommended reading materials, and curriculum mapping documents to enable faculty members to independently deliver quantum technology courses and laboratory sessions within their institutions.
- **Faculty Selection for Trainings:** The Selected System Integrator (SI) shall establish a train-the-trainer framework whereby FDP-certified faculty members are evaluated and empanelled for delivery of training programmes.

5.3. Manpower and Resource Requirements

The Selected System Integrator (SI) shall deploy suitably qualified and experienced personnel possessing demonstrable expertise in quantum technologies and related domains for execution of the project. Details of all key personnel proposed for the project shall be furnished in **Annexure-18** of the Technical Proposal.

The key personnel proposed by the SI shall be considered for evaluation and project execution purposes and shall not be replaced, reassigned, or substituted during the contract period without prior written approval of DIT, DST Gujarat. In the event of any approved replacement, the SI shall ensure deployment of personnel possessing equivalent or higher qualifications and relevant experience, subject to the approval of DIT, DST Gujarat.

Role	Minimum Qualification	Deployment Period	Engagement
QKD Installation Engineer (2 nos.)	M.Tech/B.Tech in Photonics, Electronics & Communication Engineering (ECE), Physics, or equivalent discipline with a minimum of 3 years' experience in QKD hardware installation, optical alignment, QBER characterization, system integration, testing, and commissioning.	Full-time during installation, integration, testing, and commissioning of the QKD system (from deployment to successful commissioning). Post-commissioning remote technical support shall be provided during the warranty and O&M period, as required.	Included in Installation & Commissioning pricing (Annexure 3, Item B6)
FDP Master Trainer (2 nos.)	M.Tech/Ph.D. in Quantum Information, Quantum	Full-time during the design, development,	Included in FDP pricing (Annexure 3, Item B5)

	Technologies, Physics, ECE, or related discipline with a minimum of 3 years' experience in designing and delivering Faculty Development Programmes (FDPs), quantum training, and AICTE QT-06 aligned curriculum.	and delivery of the FDP. Post-certification mentoring and academic guidance shall be provided during the programme period, as required by DIT.	
Onsite Support Engineer (1 no.)	B.Tech in ECE, Physics, Photonics, or equivalent discipline with a minimum of 2 years' experience in quantum laboratory operations, including troubleshooting of QKD, QRNG, and associated laboratory infrastructure.	Deployed onsite for 30 minimum person-days (or as specified in the RFP) during the warranty/O&M period, based on DIT requirements, for preventive maintenance, corrective maintenance, technical support, and troubleshooting.	Priced per person-day (Annexure 3, Item B7)

5.4. Security, Compliance and Audit

5.4.1 Cybersecurity Requirements

- All platforms (QKD simulation platform, PQC platform, or any software platform) shall be hosted on local server or Gujarat State Data Centre or MeitY-empanelled Cloud Service Providers or equivalent GoI/GoG approved infrastructure.
- The Selected System Integrator (SI) shall implement industry-standard encryption mechanisms, including TLS 1.3 or higher, for securing all data communications between hardware, software platforms, cloud services, APIs, and user interfaces throughout the project lifecycle.
- The Selected System Integrator (SI) shall ensure that all programme data, participant information, assessment records, certification data, laboratory logs, research data, and any other information generated, processed, or maintained under the Gujarat Quantum Transformation Programme (GQTP) shall be stored, processed, and retained exclusively within the territory of India. No such data shall be hosted, transferred, replicated, backed up, or stored on servers or data centres located outside India.

5.4.2 Post-Quantum Cryptography Readiness

The Selected System Integrator (SI) shall ensure that all software platforms and digital services deployed under the Gujarat Quantum Transformation Programme (GQTP) are designed with quantum-safe migration considerations and support future adoption of Post-Quantum Cryptography (PQC) standards.

- The Selected System Integrator (SI) shall implement hybrid TLS mechanisms combining classical cryptographic algorithms with ML-KEM or equivalent approved Post-Quantum

Cryptography (PQC) algorithms for securing data in transit across cloud platforms and services within twelve (12) months of commissioning.

5.4.3 Access Control

The Selected System Integrator (SI) shall implement and maintain a comprehensive access control framework across all platforms, systems, and infrastructure deployed under the Gujarat Quantum Transformation Programme (GQTP).

The framework shall include, at a minimum, the following requirements:

- **Role-Based Access Control (RBAC):** Access to all GQTP platforms shall be governed through role-based access controls. At a minimum, the following user roles shall be supported:
 - **DST Gujarat / DIT Administrators:** Full administrative and monitoring access.
 - **Selected System Integrator (SI) Personnel:** Operational and system management access as per assigned responsibilities.
 - **Host Institution Coordinators:** Access for course administration, learner management, and programme coordination.
 - **Learners and Participants:** Access limited to enrolled courses, learning content, assessments, and certification records.
- **Physical Access Control:** Access to the Quantum Communication Laboratory and associated infrastructure shall be restricted to authorized personnel only. The SA shall establish, maintain, and periodically update a physical access register from the date of commissioning.
- **Secure Remote Access:** Remote access to Quantum Key Distribution (QKD) systems, administrative consoles, and management interfaces shall be protected through Multi-Factor Authentication (MFA) and other appropriate security controls.
- **Department Oversight Access:** The designated Nodal Officer(s) of DST Gujarat shall have read-only access to all monitoring dashboards, reporting systems, administrative portals, audit logs, and incident management systems at all times for monitoring, review, and governance purposes.
- **Access Audit and Review:** The SA shall maintain detailed access logs and conduct periodic reviews of user privileges to ensure compliance with approved access control policies and security requirements.

5.4.4 Audit Requirements

DST Gujarat reserves the right to conduct, or engage a third party to conduct, technical, operational, financial, security, or compliance audits of any component of the Gujarat Quantum Transformation Programme (GQTP) at any time during the contract period, subject to a minimum notice period of seven (7) days.

The Selected System Integrator (SI) shall maintain complete and accurate records relating to the implementation and operation of the GQTP for a minimum period of one (1) year, or for such longer period as may be prescribed by applicable Government policies. Such records shall include, but not be limited to:

- Training programmes conducted, attendance records, assessments, and certifications issued.
- Equipment maintenance records, preventive and corrective maintenance logs, calibration certificates, and Quantum Bit Error Rate (QBER) monitoring records.
- Financial records relating to training programmes, certification activities, and associated revenue streams, where applicable and permissible under the terms of this RFP.

The SA shall ensure that all records are securely maintained, protected from unauthorized access, and remain accessible throughout the record retention period. Upon request by DST Gujarat, the SA shall make available any project-related records, reports, logs, supporting documents, or audit evidence within five (5) business days.

5.4.5 Compliance Obligations

The Selected System Integrator (SI) shall ensure that all activities, deliverables, systems, platforms, infrastructure, training programmes, and services implemented under the Gujarat Quantum Transformation Programme (GQTP) comply with applicable laws, regulations, standards, policies, and guidelines issued by the Government of India and the Government of Gujarat.

At a minimum, the SA shall comply with the following:

- **Digital Personal Data Protection Act, 2023 (DPDPA)** and any amendments, rules, or guidelines issued thereunder.
- **Information Technology Act, 2000**, including subsequent amendments, rules, and notifications.
- **CERT-In Directions and Guidelines** relating to information security, cyber incident reporting, vulnerability management, and cybersecurity compliance, as amended from time to time.
- **General Financial Rules (GFR), 2017**, Government of Gujarat procurement policies, and other applicable statutory and regulatory requirements.
- **AICTE Guidelines, National Education Policy (NEP) 2020**, and other applicable academic regulations for all curriculum development, training, certification, and academic deliverables.
- **ETSI standards and specifications** applicable to Quantum Key Distribution (QKD) systems and associated interfaces, as prescribed under this RFP.

The SA shall remain responsible for monitoring regulatory updates and ensuring continued compliance with all applicable requirements throughout the contract period.

5.5. Testing and Commissioning

5.5.1 Acceptance Testing

Test	Component	Criteria
QKD system SAT	Transmitter + Receiver	Live key exchange on installed dark fibre; QBER $\leq$ 2.5% over 4-hour continuous measurement; ETSI GS QKD 014 API verified;

		72-hour QBER stability test results submitted; Secure key generation rate ≥ 10 kbps at 50 km.
QRNG SAT	QRNG unit	NIST SP 800-90B test suite executed on installed hardware; min-entropy ≥ 0.999 ; API connectivity verified; health monitoring demonstrated
Platform SAT	QKD Simulation Platform	30 simultaneous sessions verified; all protocols accessible; eavesdropping simulation demonstrated
Platform SAT	PQC Platform	30 simultaneous sessions; ML-KEM, ML-DSA, SLH-DSA all parameter sets accessible
Experiment demonstration	QT-06 experiments	All experiments demonstrable live before DIT technical committee; results within expected ranges per SI's Lab Manual

5.5.2 User Acceptance Testing (UAT)

Upon successful completion of all testing, validation, and commissioning activities by the Selected System Integrator (SI), a User Acceptance Testing (UAT) phase of fourteen (14) days shall be conducted by the DIT, Department of Science & Technology (DST), Government of Gujarat or its designated representatives.

The UAT process shall include the following:

- DIT, DST Gujarat may nominate up to ten (10) authorized users for conducting UAT of the deployed platforms, applications, and systems.
- The SI shall provide all necessary support, documentation, access credentials, and technical assistance required for completion of UAT.
- Any Priority-1 (P1) and Priority-2 (P2) defects identified during UAT shall be rectified by the SA within five (5) business days from the date of reporting.
- Any Priority-3 (P3) defects identified during UAT shall be rectified by the SA within ten (10) business days from the date of reporting.
- The SA shall submit defect resolution reports and evidence of corrective actions for review by DIT, DST Gujarat.

The UAT shall be deemed successfully completed only when:

- No unresolved Priority-1 (P1) or Priority-2 (P2) defects remain open.
- All identified Priority-3 (P3) defects have either been resolved or have accepted workarounds approved by DST Gujarat.
- A formal UAT Completion and Acceptance Certificate is issued by DST Gujarat.

Go-Live declaration and final acceptance of the respective deliverable(s) shall be subject to successful completion of UAT and issuance of written acceptance by DIT, DST Gujarat.

5.5.3 Go-Live Criteria

The respective project component(s) shall be declared Go-Live only upon successful completion of the following minimum requirements and issuance of acceptance by DST Gujarat:

- Successful completion of Site Acceptance Testing (SAT) and written acceptance of the Quantum Key Distribution (QKD) system by DIT, DST Gujarat.
- Successful completion of Site Acceptance Testing (SAT) and written acceptance of the Quantum Random Number Generator (QRNG) system by DIT, DST Gujarat.
- Successful completion of Site Acceptance Testing (SAT) and written acceptance of all software platforms, including the QKD Simulation Platform, Post-Quantum Cryptography (PQC) Platform.
- Successful demonstration and validation of all prescribed QT-06 laboratory experiments and practical exercises. The demonstration records and experiment logs shall be duly documented and acknowledged by the designated representatives of DST Gujarat.
- Completion of Vulnerability Assessment and Penetration Testing (VAPT) by a CERT-In empanelled agency, or written approval from DST Gujarat for deferred closure of identified observations subject to an approved remediation plan and timelines.
- Submission and acceptance of all required documentation, including Standard Operating Procedures (SOPs), user manuals, system administration guides, laboratory manuals, maintenance procedures, training materials, and other project deliverables specified under this RFP.
- Successful completion of User Acceptance Testing (UAT) and issuance of written acceptance by DST Gujarat.

Go-Live approval shall be granted only after all applicable criteria have been satisfactorily met and formally accepted by DST Gujarat.

5.5.4 Sign-off Procedures

The acceptance and sign-off of each project deliverable shall be carried out in accordance with the following procedure:

- The Selected System Integrator (SI) shall submit a Delivery Note along with a compliance checklist and supporting evidence demonstrating that the applicable acceptance criteria, specifications, and deliverable requirements defined under the RFP have been satisfactorily fulfilled.
- The submitted deliverable shall be reviewed by the designated Technical Committee of DST Gujarat. The review may include physical inspection, demonstrations, testing, validation, and document verification, as applicable. Hardware and laboratory-related deliverables may require in-person inspection, while curriculum, training, documentation, and academic deliverables may be evaluated through document review and validation.
- Upon successful verification and acceptance of the deliverable, a formal Acceptance Certificate shall be issued by DST Gujarat. The Acceptance Certificate shall be signed by the designated Nodal Officer of DST Gujarat for all deliverables.

- For laboratory infrastructure, hardware deployment, and other host institution-specific deliverables, the Acceptance Certificate shall additionally be endorsed by the Head/Director of the designated Host Institution.
- Release of milestone-linked payments shall be subject to issuance of the corresponding Acceptance Certificate and fulfilment of all acceptance requirements specified under the RFP.

5.6. Deliverables

Code	Deliverable	Acceptance Criteria
D01	Site survey report and laboratory fit-out specification	Signed off by DIT
D02	Quantum Key Distribution (QKD) system installed, aligned, commissioned; QBER $\leq 3.0\%$; ETSI GS QKD 014 API live and verified	Live key exchange on installed dark fibre; QBER $\leq 3.0\%$ over 4-hour measurement; API endpoint verified; calibration documentation submitted
D03	Supporting Laboratory Infrastructure Kit (11 kits) and Other Supporting infra as mentioned in section 5.2.1.1(4) Table 1 and Table 2 — delivered, installed, inventoried, integrated	Supporting Infrastructure SAT passed; ≥ 6 physical experiments demonstrated live; delivery register countersigned; warranty documentation submitted;
D04	QRNG installed, commissioned, API live; NIST SP 800-90B suite executed; ≥ 15 tests pass	NIST results documented; API connectivity verified; health monitoring demonstrated
D05	QKD Simulation Platform — 30-user licences active; all protocols accessible; session logging verified	30 simultaneous sessions verified by DIT; all protocols and QKD interface simulation accessible
D06	PQC Programming Platform — 30-user licences active	ML-KEM, ML-DSA, SLH-DSA all parameter sets accessible; concurrent session test passed
D07	All 6 QT-06 physical-bench experiments operational	Live demonstration to DIT Technical Committee; experiment log signed (per SAT criteria, Section 5.5.1)
D08	FDP Cohort 1 — 30 faculty certified; all output packages delivered; faculty equipped to deliver the QT-06 Minor	Attendance register; capstone records; certificates issued; slide decks, lab manuals, assessment banks, and QT-06 Minor teaching agendas delivered
D09	Onsite support (30 person-days) completed	30 person-days onsite confirmed
D10	O&M and Support — ongoing from Month 4	Licence renewals; firmware updates; preventive and corrective maintenance per SLA; Report covering hardware uptime, QBER trend, NIST logs (Annually)

5.7. Programme Planning and Timelines

5.7.1 Project Planning

Within **Thirty (30) days** from the date of issuance of the Work Order, the Selected System Integrator (SI) shall prepare and submit a comprehensive **Project Implementation Plan** for review and approval by the Directorate of Information Technology (DIT), Department of Science & Technology (DST), Government of Gujarat.

The Project Implementation Plan shall serve as the baseline document for project execution and shall govern implementation, monitoring, reporting and milestone tracking throughout the contract period. The Selected System Integrator (SI) shall commence implementation activities only after approval of the Project Implementation Plan by DIT.

The PMIP shall include, at a minimum, the following:

A. Project Planning

- Executive summary and implementation methodology.
- Detailed Work Breakdown Structure (WBS) covering all project activities and deliverables.
- Project governance structure, including key personnel, roles, responsibilities, reporting hierarchy, and escalation matrix.
- Resource deployment plan, indicating proposed deployment of technical experts, trainers, and support personnel.
- Communication and stakeholder engagement plan.

B. Quantum Communication Laboratory Implementation Plan

The implementation plan for the Quantum Communication Laboratory shall include:

- Site readiness assessment and compliance checklist for the designated Host Institution.
- Laboratory layout and deployment plan.
- Procurement, delivery, logistics, and inventory management plan for all hardware, software, and supporting infrastructure.
- Installation, configuration, integration, testing, and commissioning methodology for the Quantum Communication Laboratory.
- Network architecture, connectivity, and security implementation plan.
- Factory Acceptance Testing (FAT), Site Acceptance Testing (SAT), and commissioning procedures.
- Documentation submission schedule, including technical manuals, configuration documents, asset registers, warranty documentation, and as-built drawings.
- Project closure, Knowledge transfer and laboratory handholding plan.

C. Faculty Development Programme (FDP) Implementation Plan

The Faculty Development Programme implementation plan shall include:

- Training schedule aligned with the AICTE QT-06 Quantum Communication curriculum.
- Detailed curriculum delivery plan, including theoretical sessions, laboratory demonstrations, and hands-on practical exercises.
- Faculty assessment, evaluation, and certification methodology.
- Training material development and documentation plan.

D. Project Management

- Risk Management Plan, including project risk register, risk assessment, mitigation measures, contingency plans, and ownership.
- Quality Assurance (QA) and Quality Control (QC) Plan covering inspection, testing, commissioning, acceptance, and documentation.
- Operations and Maintenance (O&M) Plan covering preventive maintenance, corrective maintenance, spare management, warranty support, service levels, and escalation procedures.

E. Performance Management

- Key Performance Indicators (KPIs) and monitoring methodology.
- Deliverable acceptance strategy.
- Milestone tracking mechanism.

5.7.2 Project Monitoring and Reporting

The Selected System Integrator (SI) shall establish an effective project monitoring and reporting mechanism throughout the implementation and Operations & Maintenance period to ensure timely execution of activities, achievement of milestones, and compliance with the requirements of this RFP.

DIT may nominate a Project Monitoring Committee (PMC) or any authorized representatives to periodically review the progress of the project. The Selected System Integrator (SI) shall provide all necessary information, documentation, demonstrations, and presentations required for such reviews.

A. Progress Monitoring

The Selected System Integrator (SI) shall continuously monitor project progress against the approved Project Implementation Plan and shall maintain records relating to:

- Deliverable-wise implementation status.
- Milestone achievement.
- Procurement and delivery status.
- Installation and commissioning progress.
- Faculty Development Programme progress.
- Risks, issues, and mitigation measures.
- Change requests and approvals.
- Compliance with project timelines.

B. Reporting Requirements

The Selected System Integrator (SI) shall submit the following reports to DIT:

Report	Frequency	Contents
Inception Report	Once	Approved Project Implementation Plan including implementation methodology, project schedule, resource deployment and governance structure
Fortnightly Progress Report	Every Two Weeks	Activity completed, ongoing activities, milestone status, issues, risks, planned activities

Monthly Progress Report	Monthly	Overall project progress, deliverable status, milestone achievement, procurement status, installation progress, FDP progress, KPI status, photographs, and action plan for the next month
Commissioning Report	On completion of commissioning	Installation records, FAT/SAT results, acceptance test reports, calibration reports, asset register, as-built documentation, and commissioning certificate
FDP Completion Report	After completion of each FDP batch	Attendance, training material, assessments, feedback analysis, certificates issued, photographs, and recommendations
Yearly O&M Report	Yearly during O&M	Preventive maintenance activities, incidents, SLA compliance, support requests, corrective maintenance, system availability, and recommendations, Software and Firmware updates
Final Project Completion Report	At project completion	Summary of implementation, deliverables achieved, asset inventory, warranty details, knowledge transfer completed, lessons learnt, and project closure documentation

5.7.3 Site Assessment

Within thirty (30) days from the date of issuance of the Work Order (WO), the Selected System Integrator (SI) shall conduct detailed site surveys of host institutions identified and arranged by DIT, DST Gujarat.

Based on the site assessment, the SA shall submit a Fit-Out Feasibility Report covering, at a minimum:

- Laboratory space availability, layout, and dimensional assessment.
- Existing electrical and power infrastructure assessment.
- Heating, Ventilation, and Air Conditioning (HVAC) assessment.
- Network and communication infrastructure assessment.
- Civil, electrical, networking, and other infrastructure modifications required for laboratory establishment.
- Faculty and institutional readiness for programme implementation.

The feasibility reports shall include recommendations regarding site suitability, infrastructure readiness, and implementation requirements for establishment of the Quantum Communication Lab and associated programme components.

5.7.4 Detailed Implementation Timelines

Milestone	Milestone Description	Target Timeline	Associated Deliverables
M01	GEM Contract Award & Project Initiation	T + 0 Days	—

M02	Host Institution designated: Site Survey, Laboratory Planning and Host Institution Readiness	T + 30 Days	D01
M03	Quantum Communication Laboratory Hardware, Supporting Laboratory Infrastructure and Auxiliary Equipment Installed & Commissioned	T + 75 Days	D02, D03, D04
M04	Software Platforms Deployed and Ready for Use	T + 75 Days	D05, D06, Platform access credentials issued.
M05	Integrated Quantum Communication Laboratory Operational and All Experiments Demonstrated	T + 90 Days	D07, Site Acceptance Testing (D-02, D-03, D-04, D-05), Commissioning certified by DIT
M06	Faculty Development Programme Completed, Onsite support (30 person-days) completed	T + 180 Days	D08, D09
M07	Operations & Maintenance Support (Annual, as per Contract Period)	Month 4 Onwards	D10

Phase-wise Implementation Roadmap:

Phase	Timeline	Key Activities
Phase 1 – Mobilization & Planning	Month 1	- GEM Work Order, Mobilization & Implementation Plan (MIP) - Project Governance & Project Management Plan (PMP) - Site Survey at host institution and Fit-Out Feasibility Reports - Host Institution Finalization - Power & network readiness by host institution
Phase 2 – Quantum Communication Lab Setup, Testing and Commissioning	Month 2-3	- Procurement, Supply, installation, configuration and commissioning of QKD, QRNG, Experimental Kits, Supporting IT Infrastructure - Deployment of QKD Simulation and PQC software platforms - Operationalization of Integrated Quantum Communication Laboratory - Demonstration of All QT-06 Experiments - SAT, Integration Testing, API validation, QKD live key exchange, QRNG validation - UAT and Go-Live

		Planning of Faculty Development Programme
Phase 3 – Faculty Development Programme	Month 4-6	- Faculty Development Programme (FDP) - Knowledge Transfer
Phase 4 – Operations & Sustainability	4th Month onwards	O&M, Helpdesk, Preventive Maintenance, Software Updates, Sustainability Activities

5.8. Knowledge Transfer and Sustainability

5.8.1 Documentation Requirements

Document	Deadline	Format
System Architecture Document (QKD, QRNG, network, platforms)	T + 60 days	PDF + editable source
Laboratory Setup Manual (physical layout, cable routing, equipment placement)	At commissioning	PDF + editable source
QKD System Operations Manual	At commissioning	PDF + editable source
QRNG Operations Manual	At commissioning	PDF + editable source
Cloud Platform Administrator Guide	T + 90 days	PDF + editable source
Operations Manual if any	T + 90 days	PDF + editable source
GQTP Programme Report	Each year end	PDF

All project documents shall be version-controlled, dated, and maintained in an up-to-date manner. The Selected System Integrator (SI) shall submit revised versions of any affected documents to DST Gujarat within fifteen (15) days of any material change to the project, systems, processes, or deliverables.

5.8.2 Standard Operating Procedures

The Selected System Integrator (SI) shall develop, implement, maintain, and periodically update Standard Operating Procedures (SOPs) for all laboratory operations, programme management activities, system administration functions, and maintenance processes

At a minimum, the following SOPs shall be prepared and submitted to Host Institution/DIT, DST Gujarat:

Laboratory Operations SOPs

The SA shall develop SOPs covering the operation, monitoring, maintenance, and safe usage of the Quantum Communication Lab infrastructure, including:

- Quantum Key Distribution (QKD) system startup, shutdown, operation, and routine health monitoring procedures.

- Quantum Bit Error Rate (QBER) monitoring, performance assessment, fault identification, and degradation response procedures.
- Equipment calibration, verification, preventive maintenance schedules, and maintenance record management.
- Dark fibre testing, fault detection, troubleshooting, and fault localization procedures.
- Quantum Random Number Generator (QRNG) operation, entropy validation, health monitoring, and performance verification procedures.
- Laboratory safety protocols, including laser safety, electrical safety, equipment handling, access control, and emergency response procedures.

Programme Operations SOPs: Training cohort scheduling and enrolment; examination administration and invigilation; assessment moderation and appeals.

The SI shall establish SOPs governing training, certification, learner management, including:

- Training programme planning, cohort scheduling, enrolment management, and attendance tracking.
- Examination administration, invigilation, assessment conduct, and result processing.
- Assessment moderation, evaluation review.

Incident and Maintenance SOPs

The SA shall establish SOPs for operational support, incident management, and maintenance activities, including:

- Incident classification, escalation, response, resolution, and reporting procedures for Priority-1 (P1), Priority-2 (P2), Priority-3 (P3), and Priority-4 (P4) incidents.
- Preventive, corrective, and emergency maintenance procedures for laboratory infrastructure, hardware, software platforms, and supporting systems.
- System backup, restoration and disaster recovery.
- Security incident handling, reporting, remediation, and post-incident review procedures.

All SOPs shall be submitted to DST Gujarat within sixty (60) days of commissioning. The SOPs shall become effective only upon approval by the designated DST Gujarat Nodal Officer.

All SOPs shall be version-controlled, reviewed periodically, and updated as necessary throughout the contract period. Updated versions shall be submitted to DST Gujarat for record and approval.

5.8.3 Operational & Refresher Training

The Selected System Integrator shall plan for administrator trainings as per the solution implemented. Below is an indicative list of trainings that SI may need to conduct online/offline subject to approval by the Tenderer.

Training Programme	Proposed Duration	Timeline
QKD System Operations Training	3 days	At commissioning
QRNG Operations Training	1 day	At commissioning
QKD & PQC Platforms Training	2 days	At commissioning

Experimental Kits – Operation Training	1 day	At commissioning
Refresher Training for Faculties	1 day	Once during O&M

5.8.4 Sustainability Roadmap

The Selected System Integrator (SI) shall prepare and submit a comprehensive Five-Year Sustainability Roadmap for the Gujarat Quantum Transformation Programme (GQTP) within ninety (90) days from the date of commissioning.

The Sustainability Roadmap shall, at a minimum, address the following aspects:

A. Technical Sustainability

- Technology refresh and upgrade roadmap for Quantum Key Distribution (QKD), Quantum Random Number Generator (QRNG), software platforms, and associated laboratory infrastructure.
- Strategy for maintaining compliance with evolving quantum technology standards, cybersecurity requirements, and applicable certifications.
- Software maintenance, enhancement, security update, and platform modernization roadmap.
- Strategy for expanding the technical spectrum by adding new devices to the lab in order to provide an enhanced Quantum Communication focused training and exposure.

B. Institutional Capacity Building

- Capacity-building plan for the host institution to progressively assume operational responsibilities.
- Knowledge transfer framework, including training of faculty, laboratory personnel, and technical staff.
- Roadmap for enabling the host institution to independently manage routine laboratory operations, training activities, and programme administration by the third year of operation.

C. Post-Contract Continuity

- Business continuity and transition plan to ensure uninterrupted operation of the Quantum Communication Lab, Faculty Development Programme, and associated platforms upon completion or non-renewal of the contract.
- Handover strategy covering infrastructure, software platforms, data, documentation, operational procedures, and institutional knowledge.
- Measures to ensure continuity of learner services, certification verification, and laboratory operations during the transition period.

The Sustainability Roadmap shall be reviewed periodically and updated, if required, during the contract period in consultation with DIT, DST Gujarat.

5.9. Operations And Maintenance

The Selected System Integrator (SI) shall provide comprehensive Operations and Maintenance (O&M) support for all hardware, software platforms, laboratory infrastructure, applications, and associated systems deployed under the Gujarat Quantum Transformation Programme (GQTP) for a period of five (5) years from the date of commissioning.

The O&M services shall include preventive maintenance, corrective maintenance, technical support, software updates, security patches, system monitoring, incident management, performance optimization, and all activities necessary to ensure continuous, reliable, and efficient operation of the deployed infrastructure and services throughout the contract period.

5.9.1 Annual Maintenance Contract (AMC)

The Annual Maintenance Services shall include, but not be limited to, the following:

- Scheduled preventive maintenance of all laboratory equipment, quantum communication systems, servers, networking components, and supporting infrastructure in accordance with OEM recommendations and industry best practices as mentioned in section 5.9.2.
- Corrective maintenance and fault rectification for all hardware, software, and integrated systems to ensure uninterrupted operation and compliance with the Service Level Agreements (SLAs) specified in this RFP.
- Supply, replacement, repair, and installation of defective components, spare parts, accessories, consumables, and other items required for restoration of normal operations, at no additional cost to the Department during the AMC period.
- Firmware upgrades, software updates, security patches, bug fixes, and version upgrades necessary for maintaining system functionality, security, compatibility, and performance.
- Periodic calibration, health checks, diagnostics, and performance verification of quantum communication equipment, including QKD and QRNG systems, wherever applicable.
- Remote and onsite technical support, troubleshooting, incident management, and resolution of operational issues.
- Maintenance of service records, equipment history, calibration reports, maintenance logs, and support documentation for audit and review purposes.
- Proactive monitoring and maintenance of all deployed platforms and systems to ensure availability, reliability, and operational readiness throughout the contract period.

The SA shall ensure that all hardware, software, and laboratory infrastructure remain fully functional, supported, and operational during the AMC period and shall be solely responsible for maintaining the performance levels prescribed under the RFP and applicable Service Level Agreements (SLAs).

5.9.2 Preventive Maintenance

During the O&M Period, the SI shall carry out scheduled Preventive Maintenance Visits (PMVs) to ensure continued operational readiness, reliability, and optimum performance of the Quantum Communication Laboratory.

The SI shall, at a minimum:

- a) Conduct **one (1) preventive maintenance visit every quarter** (i.e., four visits per year) throughout

- the Operations & Maintenance Period;
- b) Perform comprehensive inspection, preventive maintenance, health checks, and functional verification of all hardware, software, and supporting laboratory infrastructure supplied under the Contract;
 - c) Verify the operational performance of the Quantum Key Distribution (QKD) System, Quantum Random Number Generator (QRNG), supporting photonic experimental kits, software platforms, and associated IT infrastructure;
 - d) Inspect optical components and fibre connectivity, clean optical interfaces where required, verify alignment, and carry out calibration and performance validation in accordance with the OEM's recommended procedures;
 - e) Verify software functionality, licences, security patches, firmware updates, and system configuration;
 - f) Recommend replacement of worn-out consumables or defective components covered under warranty and carry out such replacement at no additional cost to the Purchaser;
 - g) Submit a detailed Preventive Maintenance Report (PMR) after each visit, documenting observations, maintenance activities performed, calibration results, issues identified, corrective actions undertaken, recommendations, and the operational status of each system.

The Preventive Maintenance Visits shall be notified ≥ 7 days in advance or planned in consultation with the Host Institution outside 09.00 to 18.00 IST business hours to minimise disruption to scheduled academic and training activities.

Component	Frequency	Key Activities
QKD system — full inspection	Quarterly	Optical alignment; QBER baseline; connector inspection; firmware check
QKD system — QBER calibration	Monthly	Calibration; key generation rate verification
QRNG unit	Quarterly	Entropy source health; NIST SP 800-22 test run; API connectivity check
Software platforms	Monthly	Security patch; backup verification; performance review

5.9.3 Corrective Maintenance

- a) **On-Call Technical Support:** The SI shall provide unlimited on-call corrective maintenance support, including remote diagnostics and onsite support, throughout the Warranty and Support Period, without any restriction on the number of incidents or service requests raised by the Department or the Host Institution.
- b) **Onsite Technical Support:** Wherever feasible, the SI shall initially undertake remote diagnostics and troubleshooting. Where remote resolution is not possible, suitably qualified service personnel shall be deputed to the Host Institution within the timelines specified under the SLA.
- c) **Incident Reporting:** All corrective maintenance activities, incident resolution actions, equipment failures, service requests, and restoration measures shall be recorded in the Programme Incident Management Register and reported as part of the Monthly SLA and Performance Report submitted to DIT, DST Gujarat.
- d) **Repair and Replacement:** For failures or malfunction of Quantum Key Distribution (QKD) systems and associated hardware components covered under warranty or Annual

Maintenance Contract (AMC), the Selected System Integrator (SI) shall undertake repair or replacement of the affected components at no additional cost to DIT, DST Gujarat.

- e) **Critical Spares and Consumables:** The SI shall maintain an adequate inventory of critical spare parts and consumables at the host institution to support timely restoration of services and minimize operational downtime. At a minimum, the onsite spare inventory shall include optical fibre jumpers, FC/APC connectors, and other critical components identified by the SI as having extended procurement or replacement lead times.
- f) **Continuity of Laboratory Operations:**
 - i. Where any faulty equipment or component is required to be sent offsite for repair, replacement, calibration, or OEM servicing, the SI shall provide a temporary replacement, workaround, or equivalent operational capability to ensure continuity of laboratory operations, training programmes, and research activities.
 - ii. In cases involving offsite repairs, the SI shall restore the affected functionality through a temporary or alternate arrangement within five (5) business days from the date of fault reporting, subject to applicable SLA requirements.
- g) **OEM Support & Contractual Responsibility:** Where specialized OEM intervention is required, the SI shall coordinate with the respective OEM and remain solely responsible for ensuring compliance with all contractual obligations, response timelines, and service levels specified under this RFP. Any delay or deficiency on the part of the OEM shall not relieve the SI of its obligations under the Contract.
- h) **Incident Closure:** Upon completion of each corrective maintenance activity, the SI shall submit a Service Completion Report detailing the root cause of the incident, corrective actions undertaken, components repaired or replaced, firmware or software updates applied (if any), functional verification results, and recommendations to prevent recurrence. The incident shall be considered closed only after confirmation by the Host Institution that the affected functionality has been satisfactorily restored.
- i) **Maintenance Records and Documentation:** The SI shall maintain records of all maintenance activities, spare part replacements, repair histories, warranty claims, and service interventions for audit, monitoring, and compliance purposes.

5.9.4 Annual License Renewal

The annual license subscription, support, and maintenance for the QKD Simulation Platform and PQC Platform beyond the initial contract period shall be renewed in accordance with the commercial rates and terms specified by the Selected System Integrator (SI) in Annexure–3 (Table C) of the Financial Proposal.

5.9.5 Helpdesk

The Selected System Integrator (SI) shall establish, operate, and maintain a dedicated Helpdesk and Technical Support Service for all systems, platforms and laboratory infrastructure.

The Helpdesk shall comply with the following minimum requirements:

- **Service Availability:** The Helpdesk shall be operational from **09:00 hrs to 18:00 hrs IST**, on all days of the week.
- **Support Channels:** The SA shall provide multiple support channels, including:
 - o Dedicated support telephone number;
 - o Dedicated support email address;
- **Incident Logging and Tracking:** All incidents, service requests, complaints, and support tickets shall be recorded, tracked, and managed through a centralized incident management system.
- **Response Time:** The Helpdesk shall acknowledge all support requests and incident tickets within **two (2) hours** during the defined support hours.
- **Escalation Management:** Any Priority-1 (P1) incident that remains unresolved shall be escalated to the designated Programme Manager or authorized representative of the SI within **four (4) hours** of ticket registration.
- **Department Access:** DIT, DST Gujarat shall be provided read-only access to the incident management and ticketing system at all times for monitoring, audit, reporting, and governance purposes.
- **Reporting:** The SI shall maintain complete records of all incidents, service requests, escalations, response times, resolution times, and closure status, and shall include the same in the Monthly SLA and Performance Reports submitted to DST Gujarat.

5.9.6 Upgrade Support

The Selected System Integrator (SI) shall ensure that all hardware, software platforms, and associated systems deployed under the Gujarat Quantum Transformation Programme (GQTP) remain updated, secure, and aligned with evolving technology standards throughout the contract period.

- **Firmware Updates:** Firmware updates released by the Original Equipment Manufacturer (OEM) for the Quantum Key Distribution (QKD) system, Quantum Random Number Generator (QRNG), and other associated hardware components shall be evaluated, tested, and deployed within thirty (30) days of their availability. Critical security patches and security-related firmware updates shall be applied within seven (7) days of release or as per OEM recommendations, whichever is earlier.
- **Software Platform Upgrades:** The SA shall ensure that all software platforms, including the QKD Simulation Platform, Post-Quantum Cryptography (PQC) Platform are regularly maintained and upgraded. All version upgrades shall preserve the integrity, availability, and accessibility of existing course content, learner records, certification data, and historical information. The SA shall provide DST Gujarat with at least thirty (30) days' prior notice before implementing any major software upgrade or platform enhancement.
- **Standards and Algorithm Updates:** The SA shall monitor developments in relevant quantum technology, cybersecurity, academic, and cryptographic standards, including updates issued by NIST, AICTE, MeitY, CERT-In, ETSI, and other recognized standards bodies. Any changes requiring updates to algorithms, curriculum content, training materials, software platforms, or laboratory procedures shall be assessed and implemented within ninety (90) days of notification, wherever applicable.
- **Gap Reporting:** In the event that any newly issued standard, guideline, or regulatory requirement cannot be implemented within the prescribed timeline, the SA shall notify

DST Gujarat within seven (7) days of becoming aware of such requirement, along with a gap assessment, risk analysis, and proposed remediation plan.

6. Service Level Agreement

6.1 SLA

A Service Level Agreement (SLA) for **Quantum Communication Lab** serves as a formal contract between a service provider (or vendor) and the customer, DIT, Government of Gujarat. It clearly defines the specific minimum performance standards and quality of service that the provider guarantees for the **Quantum Communication Lab**.

6.2 SLA Purpose

The primary purpose of the SLA is to set clear expectations regarding **availability, performance, functioning, and support**. It outlines measurable metrics, the methods used for monitoring those metrics, and the remedies or penalties that the provider must offer if the guaranteed service levels are not met. The SLA transforms abstract service promises into concrete, accountable commitments, providing legal recourse and ensuring operations continuity for the lab.

The SLA framework shall ensure:

- Continuous operations of Quantum Components installed
- Reliable operation of software
- Timely resolution of incidents
- Delivery of training, certification, and curriculum milestones
- Achievement of defined program outcomes and KPIs
- Sustainable operation and support of the quantum ecosystem

6.3 Definitions

- **Business Hours:** 09:00 hrs. to 18:00 hrs.
- **Business Days:** All Working Days (Monday to Saturday).
- **Scheduled Operation Time:** The Quantum Key Distribution (QKD) System, Quantum Random Number Generator, QKD Simulation Platform, and Post-Quantum Cryptography (PQC) Platform shall be available for operation during business hours on all working days.
- **Operational Readiness:** means the time for which the system shall be fully operational and available during all scheduled sessions. Operational readiness applies to all SLAs requiring availability.

Operational Readiness (%) =

(Number of scheduled sessions in which the system was fully functional ÷ Total scheduled sessions) × 100

- **Downtime:** Cumulative duration during Scheduled Operation Time when a system is completely unavailable, from the time the incident is logged by Host Institution/DIT or detected by monitoring tools (wherever applicable) until full restoration'

6.4 Security Incident Management

The Selected System Integrator (SI) shall ensure that all hardware, software, firmware, and network components supplied under the Project are configured and commissioned in accordance with industry-recognized cybersecurity and secure configuration practices.

Following commissioning and handover of the Quantum Communication Laboratory (QCL), the Host Institution shall be responsible for the day-to-day operation, administration, user management, and physical security of the laboratory.

During the Warranty and Operations & Maintenance (O&M) period, the SI shall provide on-call technical support to investigate, diagnose, and rectify security incidents attributable to the hardware, software, firmware, configuration, or services supplied under the Contract.

The SI shall:

- provide technical assistance upon receipt of a security-related incident reported by the Department or the Host Institution;
- investigate and identify the root cause of the reported incident;
- restore the affected system or component within the applicable SLA timelines, where the incident is attributable to the SI's scope of work;
- provide security patches, firmware updates, configuration corrections, or other remedial measures necessary to address identified vulnerabilities in the supplied systems;
- submit a Root Cause Analysis (RCA) report, along with corrective and preventive actions, within five (5) Business Days of resolution of a Critical Security Incident.

Any security incident determined to have resulted from defects in the supplied solution, negligent configuration, failure to implement agreed security controls, or failure of the SI to provide timely corrective support shall constitute an SLA breach and may attract penalties in accordance with the Service Level Agreement (SLA) and other provisions of the Contract.

6.5 Interpretation & General Instructions

6.5.1 The SLA parameters specified in this RFP shall be measured and monitored at the frequency prescribed against each respective SLA parameter (e.g., per incident, milestone-based, monthly, or quarterly). Compliance with the prescribed service levels shall be reviewed periodically by the Department. Failure of the Selected System Integrator (SI) to achieve the specified SLA targets shall constitute an SLA breach and may attract penalties or other contractual remedies in accordance with the provisions of this RFP and the Contract.

6.5.2 Depending on the nature of the non-compliance, penalties may be expressed as a percentage of the applicable milestone payment, Equipment/Implementation Cost (EQI), Capital Expenditure (CAPEX), or as fixed monetary deductions, as specified in the SLA matrix.

6.5.3 Purchaser can take appropriate action including termination of the contract if –
(a) the cumulative penalties imposed on the Contractor exceed 20% of the total Work Order value during the entire contract period; **or**

(b) during the O&M phase, the penalties imposed on the Contractor in any single month exceed 30% of the applicable quarterly O&M Fees, calculated on a pro-rata monthly basis.

6.5.4 Root cause analysis (RCA) should be prepared for all cases of P1 and P2 incidents causing service unavailability or disruption. The bidder can work with OEM to provide the RCA. In case the RCA establishes that the breach on SLA was on account of service issues, the bidder would be liable for the applicable penalty.

The RCA shall be submitted to DIT, DST Gujarat within five (5) Business Days from restoration of the affected service, or within such other timeline as may be specified by DIT, DST Gujarat. The RCA shall, at a minimum, identify the incident, root cause, impact, chronology of events, corrective actions undertaken, and measures proposed to prevent recurrence.

The SI shall maintain a Corrective and Preventive Action (CAPA) tracker for all such incidents, clearly identifying the corrective/preventive actions, responsible person, target completion date, current status, and closure date. The SI shall track such actions to closure and report their status as part of the applicable Monthly SLA and Performance Report.

Where the RCA establishes that the SLA breach or service disruption was attributable to service deficiencies, system failure, inadequate maintenance, or any other reason attributable to the SI, the SI shall be liable for the applicable SLA penalty, notwithstanding any involvement of the OEM.

6.5.5 For certain incidents, RCA may be carried out by Purchaser (or Purchaser appointed agency).

6.5.6 The Selected System Integrator (SI) shall ensure that all software components and hardware components (where applicable) supplied under the Project provide appropriate health monitoring, diagnostics, event logging, and fault reporting capabilities necessary for operation, maintenance, and troubleshooting. Where such monitoring or diagnostic utilities are provided by the Original Equipment Manufacturer (OEM), the SI shall configure them appropriately and provide documentation and operational guidance to the Host Institution as part of the commissioning and handover process. The SI shall provide the Host Institution with access to relevant monitoring interfaces and system logs and shall utilise such information while providing remote or on-site technical support during the Warranty and O&M period.

6.5.7 The minimum service levels that need to be measured and adhered to are detailed in section 6.7. Bidders can propose to adhere to higher service levels than stated below and additional parameters to strengthen their technical proposal.

6.5.8 SLA treatment shall be based on the root cause analysis and accordingly the SLA

treatment shall be given to the ticket for the issue.

6.6 Incident Severity Classification

Severity	Definition	Examples
P1 — Critical	Complete unavailability of any system	QKD system not generating keys; platform inaccessible to all users; QRNG API down; QBER spike >11% with no known cause
P2 — High	Core functionality unavailable for a significant user segment; QBER sustained at 5–11%	Specific QKD protocol simulations inaccessible; PQC algorithms returning errors; QRNG health alarm sustained
P3 — Medium	Minor functionality impacted; workaround available	Single experiment producing unexpected output; degraded platform response time
P4 — Low	Cosmetic or documentation issues	UI display anomaly; documentation errors

6.7 SLA Matrix

SN	Parameter	Target	Measurement Period	Penalty for Non-Compliance
1	Delay in Implementation Milestone	As per the targets mentioned in section 5.7.4	Weekly	0.5% of milestone payment per week (max 10%)
2	QKD System Operational Readiness	≥ 99.0% per month	Monthly	99.0→98.0%: 2% of EQI; 98.0→95.0%: 5% of EQI; <95.0%: 10% of EQI
3	QBER (stable channel, dark fibre operational)	≤ 2.5%	Weekly	2.5%–5.0%: corrective action plan within 24 hours; >5.0%: P2 incident
4	Secure key generation rate at operational distance	≥ 10 kbps	Weekly	Below target for more than 3 consecutive days: P2 incident
5	QRNG API availability	≥ 99.5% per month	Monthly	<99.5→99.0%: 2% of EQI; <99.0→97.0%: 5% of EQI; <97.0%: 10% of EQI
6	QKD simulation platform availability	≥ 99.5% per month	Monthly	<99.5→99.0%: 2% of EQI; <99.0→97.0%: 5% of EQI; <97.0%: 10% of EQI
7	PQC programming platform availability	≥ 99.5% per month	Monthly	<99.5→99.0%: 2% of EQI; <99.0→97.0%: 5% of EQI; <97.0%: 10% of EQI
8	P1 incident —	≤ 4 hours	Per incident	₹5,000 per hour

	response time			beyond target
9	P1 incident — resolution time	≤ 8 hours	Per incident	₹5,000 per hour beyond target
10	P2 incident — response time	≤ 8 hours	Per incident	₹2,000 per hour beyond target
11	P2 incident — resolution time	≤ 24 hours	Per incident	₹2,000 per hour beyond target
12	P3 incident — resolution time	≤ 48 hours	Per incident	₹1000 per day beyond target
13	P4 incident — resolution time	≤ 5 business days	Per incident	₹1000 per day beyond target
14	FDP Cohort 1 delivery on schedule	FDP shall be completed within 3 months from successful commissioning/Go-Live of lab	Per deliverable	0.5% of CAPEX per week of delay; capped at 5% of CAPEX
15	Platform session data isolation	100%	Per audit	Verified breach: immediate remediation at SA cost within 24 hours

Capping of Penalties

1. The penalties levied during the Implementation Phase shall be capped at Ten percent (10%) of the applicable milestone payment for the respective deliverable. The SLA penalties levied during the Operations and Maintenance (O&M) Phase shall be capped at fifteen percent (15%) of the applicable quarterly O&M payment.
2. If the cumulative penalties in any review period exceed twenty-five percent (25%) of the applicable milestone payment or quarterly O&M payment, as applicable, the Department may, without prejudice to any other rights available under the Contract:
 - a. issue a Notice for Corrective Action;
 - b. invoke the Performance Bank Guarantee (PBG), wholly or partially;
 - c. suspend pending payments until satisfactory corrective measures are implemented;
 - d. initiate proceedings for termination of the Contract in accordance with the provisions of the Agreement.
3. If the Selected System Integrator fails to meet the prescribed service levels or contractual obligations resulting in penalties exceeding fifteen percent (15%) of the applicable milestone payment or quarterly O&M payment for three (3) consecutive review periods, the Department may treat such failure as a material breach of contract and may invoke the Performance Bank Guarantee, terminate the Contract, or exercise any other contractual remedies available.

4. The imposition of SLA penalties shall not limit the right of DIT, DST Gujarat to seek additional remedies available under the contract in cases of persistent non-performance, material breach, or failure to meet critical service obligations.
5. Any delay arising due to unforeseen circumstances or reasons attributable to the Client, duly justified and documented, shall not be counted against the timelines or penalized at the Bidder's end.

6.8 SLA in breach of Supply of Manpower

6.8.1 Availability of the min required manpower should be 100%. The agency has to implement the attendance system and share the attendance report of each person deployed as part of team on monthly basis with the host institution and DIT.

6.8.2 The agency is not allowed to replace those resources whose profile has been submitted at the time of Technical Presentation if done.

6.8.3 Further in the event where the bidder is not able to retain the resources quoted in the bid, replacement of a profile by the agency, only one replacement per technical profile with equal or higher qualification and experience would be permitted. Replacement resource should have an overlap, with the outgoing resource, of 30 days for proper knowledge transfer.

6.8.4 Prior Intimated Leave of absence will be allowed: If a resource proceeding on leave or becoming absent is replaced with a resource approved by authority, then such substitution will not be treated as absence.

7. Payment

7.1 Payment Terms

The Bidder must accept the payment terms proposed in the tender. The financial offer submitted by the Bidder must be in conformity with the payment terms proposed in the tender. Any deviation from the proposed payment terms would not be accepted. The Purchaser shall have the right to withhold any payment due to the Bidder, in case of delays or defaults on the part of the Bidder. Such withholding of payment shall not amount to a default on the part of the purchaser.

- (a) All the Payments shall be made in Indian Rupees.
- (b) No advance payments will be made.
- (c) Taxes, as applicable, will be deducted /paid as per the prevalent rules and regulations.
- (d) The Bidder must submit the invoice raised to the authority with proper

supporting.

(e) Any penalties and/or liquidated damages, as applicable, for delay and non-performance, as mentioned in this bidding document, will be deducted from the payments for the respective deliverables.

(f) The selected proposer's request for payment shall be made to the purchaser in writing, accompanied with the supporting documents describing, as appropriate, the services performed, and by the required documents submitted pursuant to general conditions of the contract and upon fulfilment of all the obligations stipulated in the Contract.

(g) The payment will be made for services availed by the purchaser. The purchaser will not pay or is not bound to pay for services not procured/ availed by them.

(h) Bidder shall not be entitled to charge any additional costs on account of any items or services or by way of any out-of-pocket expenses, including travel, boarding and lodging etc.

(i) Documents required, whichever applicable along with documents for desired deliverables, to be submitted to the department for Payment (in Triplicate).

(j) DIT reserves the rights to conduct all kind of inspection under the project scope.

(k) In case of disputed items, the disputed amount shall be withheld and will be paid only after settlement of the dispute.

(l) The payment will be done after deducting penalty if any as per this RFP within 30 days of submission of the undisputed invoices raised to client (with all required supporting documents) or receipt of written clarifications on the invoice sought by the purchaser whichever is later, after duly complying all the guidelines of this RFP and subsequent agreement.

(m) Please note Payment shall be released only after execution of Service Level Agreement (SLA) and submission of PBG.

(n) Taxes, as applicable, will be deducted/paid as per the prevalent rules and regulations.

7.2 Payment Milestone

The scope of work is divided in different areas, and the payment would be linked to delivery and acceptance of each area as explained below:

Milestone	Milestone Description	Payment (% of Table B CAPEX)
M01	GEM Contract Award & Project Initiation	-
M02	Host Institution designated: Site Survey, Laboratory Planning and Host Institution Readiness	5
M03	Quantum Communication Laboratory Hardware, Supporting Laboratory Infrastructure and Auxiliary Equipment Installed & Commissioned	35
M04	Software Platforms Deployed and Ready for Use	10
M05	Integrated Quantum Communication Laboratory Operational and All Experiments Demonstrated	40
M06	Faculty Development Programme Completed	10
M07	Operations & Maintenance Support (Annual, as per Contract Period)	Yearly

Additional Notes:

1. O&M payment is linked to SLA compliance and performance reports.
2. Penalty/LDs (as discussed earlier) apply to delays in the implementation stage.
3. All deliverables shall be reviewed and accepted by DIT and third-party reviewers (if any) before payment is processed.
4. All payments will be subject to tax deductions as per applicable laws

8. Annexures & Formats

8.1 Annexure 1: Format for Bid Securing Declaration

(To be submitted on the Letterhead of the responding firm)

To,
Directorate of ICT & e-Governance ("DIT")
2nd Floor, Block-2, Karmyogi Bhavan, Sector 10A,
Gandhinagar, Gujarat 382010

Whereas <<Name of the Bidder>> (hereinafter called 'the Bidder') has submitted the bid

for submission of RFP # <<RFP Number for <<Name of the assignment>> (hereinafter called “the Bid”) to DIT/GIL (hereinafter called ‘the Purchaser’).

I/We hereby accept that I/We will not withdraw or modify our bid during the bid validity period (180 days from submission date). I/We understand that on violation of this declaration, I/We may be penalised with suspension for participation in future for a period of up to one year.

Yours sincerely,

Authorised Signatory Name:

Designation:

Seal:

Date:

8.2 Annexure 2: Undertaking Confirming No Pending Litigation

(To be submitted on the Letterhead of the responding firm)

To,

Directorate of ICT & e-Governance ("DIT")
2nd Floor, Block-2, Karmyogi Bhavan, Sector 10A,
Gandhinagar, Gujarat 382010

Dear Sir,

I/We confirm that as of the bid submission date, neither [Name of company/ corporation/ firm] nor any of its key managerial personnel, including but not limited to the Chief Executive Officer (CEO), Chief Financial Officer (CFO), Chief Marketing Officer (CMO), Directors, or other officers with significant managerial responsibilities, are subject to any pending proceedings, investigations, or cases under the Income- Tax Act, 1961, the Prevention of Money Laundering Act, 2002 (PMLA), the Prevention of Corruption Act, 1988, or any other applicable financial crime or anti-corruption laws in India.

I/We further confirm that I/we shall promptly notify GIL/DIT in writing of any such proceedings, investigations, or cases that may arise during the term of the contract, should we be selected.

It is hereby confirmed that I/we are entitled to act on behalf of [Name of company/ corporation/ firm] and empowered to sign this document as well as such other documents, which may be required in this connection.

Authorised Signatory (Bidder) Name:

Designation:

Seal:

Date:

8.3 Annexure 3: Format for Financial Bid

This table is just for information explaining how to fill price, Bidder need to submit quote in following format only, don't submit it with technical document.

Table-A: Financial Bid

Sr #	Scope of Deliverables	Qty	Total Amount
1	Complete delivery of Project (GQTP) as per Scope of Work (Section 5) including setup, commissioning, training, O&M, software licences, hardware AMC, and supp006Frt for the entire project duration (Total of Table B + Table C)	1	XXXX
Total			XXXX

Table-B: CAPEX (Each item listed in the table shall, at a minimum, comply with the specifications prescribed under Section 5 of the RFP)

Sr#	Particulars of Payment	Measurement Unit	Quantity	Unit Price	Total Price
B	CAPEX				
B1	Quantum Key Distribution System — transmitter unit (Alice) + receiver unit (Bob)	Set	1		
B2	Quantum Random Number Generator	Set	1		
B3	Server-hosted QKD Simulation Platform — Annual Licence, 30 concurrent users	User-year	30		
B4	Server-hosted PQC Programming Platform — Annual Licence, 30 concurrent users	User-year	30		
B5	Faculty Development Programme —50 hours, QT-06 aligned; 1 cohort; inclusive of all master trainer costs, materials, certifications, etc.	Per cohort delivery	1		
B6	Installation, Testing and Commissioning — QKD system optical alignment, Alice–Bob dark fibre connection, QBER characterisation, ETSI GS QKD 014 API integration; QRNG installation, API configuration, NIST test suite execution; QKD simulation and PQC platform activation;	Lump sum	1		

	acceptance testing support				
B7	Onsite Technical Support Engineer — post-commissioning on-site support at host institution	Person day	30		
B8	Supporting Laboratory Infrastructure Kit — 11 pre-configured optical laboratory kits as per Section 5.2.1.1 sub-section 4 Table 1 ; supplied, installed, inventoried, integrated, and commissioned; To support ≥6 hands-on QT-06-mapped experiments; 1-year comprehensive warranty	Lot	1		
B9	Server – Application Host: 28-core Xeon Gold-class or equivalent; 32GB ECC RAM; 1.2TB SAS/NVMe Storage; Dual Redundant PSU; OS Ubuntu 22.04/RHEL 8+; 5 year onsite warranty	Unit	1		
B10	Network Switch — 24-port GbE (4× SFP uplink ports; ≥52 Gbps switching capacity; 802.1Q VLAN support; 802.1X support; jumbo frames support)	Unit	1		
B11	Server Rack Enclosure (18U min, ≥500 kg load; ≥60% perforated doors; lockable)	Unit	1		
B12	Facility-grade UPS (Min 3 kVA online double conversion; pure sine wave; ≥30 min backup at full load)	Unit	1		
B13	Dark Fibre (ITU-T G.652D single-mode; FC/APC (≥60 dB return loss))	Kilometre	50		
B14	High-capacity Edge Router	Units	2		
Total					

Table-C: OPEX — ANNUAL RECURRING

AMC and licence renewals (contractually binding; payable quarterly as EQI)

Sr#	Particulars of Payment	Measurement Unit	Quantity	Unit Price	Total Price
C	OPEX				
C1	QKD Simulation Platform — annual licence renewal (30 concurrent users)	User-year	30		
C2	PQC Programming Platform — annual licence renewal (30 concurrent users)	User-year	30		
C3	Annual Maintenance Contract — QKD system (transmitter + receiver);	Annual	1		
C4	Annual Maintenance Contract — QRNG;	Annual	1		
C5	AMC for supporting Infra	Annual	unit		
	Total Annual OPEX (per year, month 4 onwards)				
Total					

Table D – Manpower Rate Card (for change requests beyond defined scope — not included in contract value evaluation)

Sr#	Particulars of Manpower	Quantity	Unit Price/Month
1.1	Senior QKD Systems Engineer (M.Tech/PhD /ECE; minimum 5 years direct QKD hardware experience)	1	
1.2	QKD/QRNG Systems Engineer (B.Tech/M.Tech; minimum 3 years quantum hardware lab operations)	1	
1.3	FDP Master Trainer / Curriculum Developer (M.Tech/PhD Quantum Information or Physics; QT-06 delivery experience)	1	
1.4	PQC Implementation Engineer (M.Tech/B.Tech CS/Cryptography; ML-KEM/ML-DSA hands-on)	1	
1.5	Laboratory Support Technician (B.Tech ECE/Physics; optical lab experience)	1	

Note:

- a) The Bidder should read the complete RFP carefully and quote for the price **inclusive of all taxes and duties** in the financial bid. Any changes in Govt. Taxes/ Duties would be applicable as on actual at the time of invoice processing.
- b) Bidder has to consider Table-A (Table b + Table c) during financial submission over

GEM portal. Table-D shall not be considered for financial submission.

c) The financial offer submitted by the Bidder must be in conformity with the payment terms proposed in the tender.

d) The currency or currencies in which payments shall be made to the selected proposer under this Contract shall be Indian Rupees (INR) only.

e) The successful bidder has to submit applicable manpower rates in Table D. Price mentioned in Table D shall be used by the department for need of manpower on requirement basis.

f) The Bidder shall have to upload the detail BOM with price breakup for all quoted components along with financial bid on GEM. The price breakup should be detailed with Item description, Part/Sub-part code, License type, licensing model, quantity, unit price, total price, etc. of the quoted product. The successful Bidder will have to submit price breakup after being selected as L1 as per proforma in the RFP.

g) The prices quoted in the BOM shall be binding on the Bidder for the entire Contract Period and shall constitute the basis for supply and payment of the respective items. No substitution, change, replacement, or variation in the quoted Make/Model/Part Number or specifications shall be permitted without the prior written approval of the Purchaser. Any such substitution, where approved, shall be of equal or superior specifications and without any additional cost or financial implication to the Purchaser. The successful Bidder shall submit the final price breakup after being selected as L1, as per the proforma prescribed in the RFP.

h) All remittance charges will be borne by the selected bidder or proposer.

i) The Bidder shall quote the total five (5) year Operations and Maintenance (O&M) cost under Table C Total (OPEX) at a value not less than twenty percent (20%) of the total CAPEX cost quoted under Table-B (CAPEX). Any O&M quote below the prescribed minimum shall be considered non-responsive.

8.4 Annexure 4: Resource Qualification

Minimum Qualification of the resources:

Sr#	Profile	Education	Work Experience
1	QKD Installation Engineer (2 nos.)	M.Tech or B.Tech in Photonics, Electronics and Communication Engineering, or Physics	Minimum 3 years hands-on QKD hardware installation and commissioning experience. Direct experience with: single-photon optical alignment; QBER characterisation; FC/APC fibre connector handling and OTDR proficiency; ETSI GS QKD 014 API integration. Must have commissioned minimum 1 QKD system in a field or laboratory environment.
2	FDP Master Trainer (2 nos.)	M. Tech or PhD in Quantum Information Science, Physics, or Electronics and Communication Engineering	Minimum 3 years Faculty Development Programme delivery at academic institutions. Demonstrated delivery at NAAC-accredited institutions. Hands-on proficiency with QKD simulation platforms and PQC programming environments. Working knowledge of AICTE QT-06 framework.

3	Onsite Support Engineer (1 no.)	B.Tech in Electronics and Communication Engineering or Physics	Minimum 2 years in quantum laboratory operations or optical communications field support. Proficiency in: routine QKD QBER calibration; QRNG health monitoring and API verification; optical fibre testing and fault localisation; software platform first-level support.
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Note: -

In addition to meeting the minimum qualification criteria specified for the proposed manpower resources, the bidder shall submit the Curriculum Vitae (CV) of each proposed resource in the prescribed format provided in **Annexure-18** of this RFP. The CVs must clearly demonstrate compliance with the required qualifications, experience, and relevant certifications as mentioned in the RFP.

Only those CVs submitted in the specified format shall be considered for evaluation. The bidder shall ensure that all information furnished in the CVs is true and verifiable. Any misrepresentation may lead to disqualification of the bid.

Any additional manpower required beyond the resources specified under the scope of work shall be provided at the same rate card as quoted for the implementation phase, subject to a maximum variation of **5% per annum**.

8.5 Annexure 5: Prebid Clarification Format

(Submit via email to adict24-dit@gujarat.gov.in with subject: "Prebid Query: GQTP - << Bidder Company Name >> | << bid number >>")

Bidder's Request for Clarification			
	Name of Organization submitting request	Name & position of Person submitting request:	Address of organization including phone, fax, email points of contact
#	Bidding Document Reference (Clause/Page)	Content of RFP requiring Clarification	Points of Clarification required
1			
2			
3			

8.6 Annexure 6: Proposal Covering Letter

(On Bidder's letterhead, duly signed by Authorized Signatory)

Tender Ref No:

To,
Directorate of ICT & e-Governance ("DIT")
2nd Floor, Block-2, Karmyogi Bhavan, Sector 10A,
Gandhinagar, Gujarat 382010

Ref: RFP for XXXXXXXXXXXXXXXX

Dear Sir,

We (Name of the bidder) hereby submit our proposal in response to notice inviting tender date And tender document no. xxxxxxxxxx Dated: dd/mm/yyyy and confirm that:

1. All information provided in this proposal and in the attachments, is true and correct to the best of our knowledge and belief.
2. We shall make available any additional information if required to verify the correctness of the above statement.
3. Certified that the period of validity of bids is 180 days from the last date of submission of proposal, and
4. We are quoting for all the items (including services) as per the financial bid format Annexure-3 in the RFP.
5. We the Bidder are not under a declaration of Ineligibility for corrupt or fraudulent practices or blacklisted by any of the Government agencies.
6. We have an office in the state and relevant documents for the same are attached. We undertake that if the local presence is not there in the state, that we shall establish an office at Gandhinagar/ Ahmedabad, within 45 days from the date of the award of contract.
7. GIL/Directorate of ICT & e-Governance may contact the following person for further Information regarding this tender: -
 - a. Name & Designation:
 - b. Full address of office

c. Email ID & Contact No.

8. We are uploading our Response to the RFP (Eligibility, technical and financial bid documents) as per the instructions set out in this RFP.

Yours sincerely,

Authorized Signature (in Full and Initials) Name and Title of Signatory:

Name of Firm:

Address:

Email Address:

Telephone number & Fax:

8.7 Annexure 7: Format for General Information

SL. No	Particulars	Details	Documentary evidence to be included
1.	Name of the Bidder	Name: (Mention the type of entity: Private limited I Partnership Proprietors hip)	Incorporation Certificate
2.	Country of Registration		Incorporation Certificate
3.	Address of the corporate headquarters and its branch office(s), if any, in India		NA
4.	Date of incorporation and commencement of business	DD/MM/YYYY	
5.	List of current directors		NA
6.	Other key management personnel		Details to be submitted
7.	Brief description of the Company including details of its main lines of business.		Company Profile
8.	Details of the individual (s) who will serve as the point of contact/communication within the Company:	Name: Designation: Address: Mobile Number: E-Mail Address:	NA
9.	PAN details (Company & Director)		Copy of the PAN card
10.	GST Registration No.		GST registration certificate
11.	ISO Certification	Details	Certificates
12.	EPFO	Details	
13.	ESIC	Details	

14.	Balance Sheet/ Profit & Loss/ Audit Reports/ Income Tax Return Submission/ CA Certificate 2023-24, 2024-25, 2025-26	Details	CA certificate from Chartered Accountant / Statutory Auditor
15.	Project (Work Order/ Agreement/ Certificate)	Details	Work order, Agreement, Completion certificate from the client.

Signature

Name: _____

Designation: _____

Company Seal Company _____

Date: _____

8.8 Annexure 8: Format for Financial Summary of the Bidder

(Same should be furnished by the Chartered Accountant / Statutory Auditor on their letter head)

Average Annual Turnover of the Bidder (from works related to deployment, commissioning, integration, and O&M of Quantum Technologies, Quantum Communication Systems, Quantum Computing Infrastructure, Quantum Laboratories, Quantum Research Facilities, Post-Quantum Cryptography (PQC) Platforms, or similar advanced technology infrastructure like QKD, QRNG)

S. No	Financial Year	Annual Turnover (INR)
1	FY 2023 – 2024	

2	FY 2024 - 2025	
3	FY 2025 - 2026	
	[Average Annual Turnover]	[indicate sum of above divided by 3]

Note: Bidders are required to provide data for last three years ending 31st March 2026. Audited Balance Sheets are also required to be submitted for the same.

UDIN No: __

Certificate from the Statutory Auditor

Note:

1. The Bidder shall submit audited annual reports (financial statements: balance sheets, profit and loss account, notes to accounts etc.) in support of the financial data duly certified by statutory auditor/s. In case, the company does not have a statutory auditor/s, it shall be certified by the chartered accountant that ordinarily audits the annual financials of the company.

2. Certificate(s) from the statutory auditors specifying the Turnover of the Bidder for FY 2023-24, FY 2024-25 and FY 2025-26. For the purpose of this RFP, net worth shall mean the sum of subscribed and paid-up equity share capital and reserves from which shall be deducted the sum of revaluation reserve, miscellaneous expenditure not written off and reserves not available for distribution to equity shareholders.

8.9 Annexure 9: No Blacklisting

(To be printed on INR 300/- Stamp Paper)

Date:

To,
Directorate of ICT & e-Governance ("DIT")
2nd Floor, Block-2, Karmyogi Bhavan, Sector 10A,
Gandhinagar, Gujarat 382010

Sir,

In response to the Tender Ref. No. _____ dated
_____ for "(Name of RFP).", as

an Owner/Partner/Director of _____,
I/We hereby declare that presently our Company/Firm ___ is having unblemished record and is not declared ineligible for corrupt and fraudulent practices either indefinitely or for a particular period of time by any State/ Central Government/PSU.

We further declare that presently our Company/Firm _____ is not blacklisted and not declared ineligible for reasons other than corrupt and fraudulent practices by any State/Central Government/PSU on the date of bid submission.

If this declaration is found to be incorrect then without prejudice to any other action that may be taken, my/ our security may be forfeited in full and the tender if any to the extent accepted may be cancelled.

Yours sincerely,

Authorized Signature (in Full and Initials)

Name and Title of Signatory: Name of Firm:

Address:

Email Address:

Telephone number & Fax:

8.10 Annexure 10: Not Terminated, Not Being Insolvent or Bankrupt

(To be printed on INR 300/- Stamp Paper)

Date:

To,
Directorate of ICT & e-Governance ("DIT")
2nd Floor, Block-2, Karmyogi Bhavan, Sector 10A,
Gandhinagar, Gujarat 382010

Sir,

In response to the Tender Ref. No. _____ dated _____
for“(Name of RFP).”, as an Owner/Partner/Director of _____,
I/We hereby declare that presently our Company/Firm __:

a. has not been terminated by any Government/Semi-Government or Public

Authority or Public Institution in India or abroad, before the completion of respective Contract period for which it has executed the project or in process of execution of such project, on account of its poor performance, delay or abandonment of work by it.

b. is not insolvent, in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, not be declared defaulter by any financial institution, not have its business activities suspended and must not be the subject of legal proceedings for any of the foregoing reasons.

c. does not have, and their directors and officers do not have, been convicted of any criminal offence related to their professional conduct or the making of false statements or misrepresentations as to their qualifications to enter into a procurement contract within a period of three years preceding the commencement of the procurement process, or not have been otherwise disqualified pursuant to debarment proceedings.

If this declaration is found to be incorrect then without prejudice to any other action that may be taken, my/ our security may be forfeited in full and the tender if any to the extent accepted may be cancelled.

Yours sincerely,

Authorized Signature (in Full and Initials) Name and Title of Signatory:

Name of Firm: Address:

Email Address: Telephone number & Fax:

8.11 Annexure 11: Director and Partners not involved in any criminal offence.

Date:

To,
Directorate of ICT & e-Governance ("DIT")
2nd Floor, Block-2, Karmyogi Bhavan, Sector 10A,
Gandhinagar, Gujarat 382010

Sir,

I/We _____, hereby declare that our directors and officers convicted of any criminal offence related to their professional conduct or the making of false statements or misrepresentations as to their qualifications to enter a procurement

contract within a period of three years preceding the commencement of the procurement process, or not have been otherwise disqualified.

Yours sincerely,

Authorized Signature (in Full and Initials) Name and Title of Signatory:

Name of Firm:

Address:

Email Address:

Telephone number & Fax.

8.12 Annexure 12: Format for Showcasing Experience

Date:

To,
Directorate of ICT & e-Governance ("DIT")
2nd Floor, Block-2, Karmyogi Bhavan, Sector 10A,
Gandhinagar, Gujarat 382010

A. Project Summary Sheet:

Sr. No	Name of the Project	Completion Date	Project Duration	Project Cost	Client Name & Contact number or Email Address
1.					
2.					

Note: Add rows as required

B. Project Citation

(To be submitted for each project as per the table above)

S. No	Aspect	Details
-------	--------	---------

1	Name of the Project	
2	Name of Client	
3	Start Date and End Date	DD/MM/YYYY to DD/MM/YYYY
4	Project Duration	
5	Project Cost	
6	Current Stage	
7	Client Contact Number & Email Address	Yes/No
8	Documentary Evidence being submitted	Choose from: ▪ Work order ▪ Letter of Invitation / Award ▪ Agreement ▪ Completion Certificate
9	Project Scope (In Brief)	<Project Scope highlighting all components as asked in this bid>

Note: Each project profile must be duly supported by documentary evidence from the client side like Work Order, Agreement, and Completion Certificate for being considered for marking. Projects without evidence may be rejected. Bidders are advised to highlight relevant sections of the documentary evidence for quick reference of the Authority. Only eligible projects (as per terms & conditions provided in RFP) shall be considered for marking.

Yours sincerely,

Authorized Signature (in Full and Initials) Name and Title of Signatory:

Name of Firm:

Address:

Email Address:

Telephone number & Fax.

8.13 Annexure 13: Format for Land Border on Bidder's Letterhead

Date:

To,

Directorate of ICT & e-Governance ("DIT")
2nd Floor, Block-2, Karmyogi Bhavan, Sector 10A,
Gandhinagar, Gujarat 382010

Sub: Undertaking as per Office Memorandum No.: F. No.6/18/2019-PPD dated 23.07.2020 published by Ministry of Finance, Dept. of Expenditure, Public Procurement division

Ref: Bid Number:

I have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India. I certify that we as a bidder are not from such a country or, if from such a country, these quoted products OEM has been registered with competent authority. I hereby certify that these quoted products & its OEM fulfills all requirements in this regard and is eligible to be considered for procurement for Bid number__

Sl No	Item Category

In case I'm supplying material from a country which shares a land border with India, I will provide evidence for valid registration by the competent authority, otherwise GIL/DIT Dept. reserves the right to take legal action on us.

Yours sincerely,

Authorized Signature (in Full and Initials) Name and Title of Signatory:

Name of Firm:

Address:

Email Address:

Telephone number & Fax.

8.14 Annexure 14: Format for MAF on OEM's Letterhead (if applicable)

Date:

To,

Directorate of ICT & e-Governance ("DIT")
2nd Floor, Block-2, Karmyogi Bhavan, Sector 10A,
Gandhinagar, Gujarat 382010

Ref: Bid Number:

Subject: MAF Authorization. Dear Sir,

We, M/s XXXXXX Manufacturing make do hereby authorize XXXXXX to submit a bid and sign the contract with you against above mentioned tender.

No:

Bid Number: XXXXX

We authorized the XXXX for the following modules/products:

No.	Item Description	Make	Model	UOM

We hereby confirm that the offered Product in the referenced RFP will be provided unconditionally with a back-to-back warranty, maintenance, support services and parts availability etc. for proposed product etc. available for the period of eight years from FAT through M/s. XXXX.

Sign and Stamp of Authorized person.

8.15 Annexure 15: Bank Guarantee format for Earnest Money Deposit

To,

Directorate of ICT & e-Governance ("DIT")
2nd Floor, Block-2, Karmyogi Bhavan, Sector 10A,
Gandhinagar, Gujarat 382010

Whereas ----- (here in after called "the Bidder") has submitted its bid dated ----- in response to the Tender no: xxxxxxxxxxxxxxxxxxxx for

KNOW ALL MEN by these presents that WE _____ having

our registered office at ----- (hereinafter called "the

Bank") are bound unto the _____, GIL in the sum of -----

- for which payment well and truly to be made to GIL, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this day of ----- 2026.

THE CONDITIONS of this obligation are:

The EMD may be forfeited, In case of a Bidder if:

- 1) The bidder withdraws its bid during the period of bid validity.
 - a. The Bidder does not respond to requests for clarification of their Bid.
 - b. The Bidder fails to co-operate in the Bid evaluation process.
 - c. The bidder, fails to furnish Performance Bank Guarantee in time.
- 2) The bidder fails to Sign the contract in accordance with this RFP
- 3) The bidder is found to be involved in fraudulent and corrupt practices

We undertake to pay to the GIL up to the above amount upon receipt of its first

written demand, without GIL having to substantiate its demand, provided that in its demand GIL will specify that the amount claimed by it is due to it owing to the occurrence of any of the above-mentioned conditions, specifying the occurred condition or conditions.

This guarantee will remain valid up to 9 months from the last date of bid submission. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the GIL and further agrees that the guarantee herein contained shall continue to be enforceable till the GIL discharges this guarantee. The Bank shall not be released of its obligations under these presents by any exercise by the GIL of its liability with reference to the matters aforesaid or any of them or by reason or any other acts of omission or commission on the part of the GIL or any other indulgence shown by the GIL or by any other matter or things.

The Bank also agrees that the GIL at its option shall be entitled to enforce this Guarantee against the Bank as a Principal Debtor, in the first instance without proceeding against the SELLER and notwithstanding any security or other guarantee that the TENDERER may have in relation to the SELLER's liabilities.

Dated at _____ on this _____ day of _____ 2026.

Signed and delivered by

For & on Behalf of

Name of the Bank & Branch & Its official Address with seal

Approved Bank: All Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative & Rural Banks (operating in India having branch at Ahmedabad/ Gandhinagar) as per the G.R. no. FD/MSM/e - file/4/2024/2859/D.M.O. Date: 01/05/2025 issued by Finance Department or further instruction issued by Finance department time to time.

8.16 Annexure 16: Performance Bank Guarantee

(To be stamped in accordance with Stamp Act)

Ref: Bank Guarantee No.

Date:

To
Directorate of ICT & e-Governance ("DIT")
2nd Floor, Block-2, Karmyogi Bhavan, Sector 10A,
Gandhinagar, Gujarat 382010

Dear Sir,

WHEREAS(Name of Bidder) hereinafter called "the Bidder" has undertaken, in pursuance of Agreement dated, (hereinafter referred to as "the Agreement for "RFP for XXXXXXXXXXXX" (**Tender No. xxxxxxxxxxxxxxxxxxxx Dated: xx.xx.xxxx**) for the DIT (DST), Government of Gujarat.

AND WHEREAS it has been stipulated in the said Agreement that the Bidder shall furnish a Bank Guarantee ("the Guarantee") from a scheduled bank for the sum specified therein as security for implementing PROJECT.

1. WHEREAS we _____ ("the Bank", which expression shall be deemed to include its successors and permitted assigns) have agreed to give the Directorate of ICT & e-Governance ("DIT") the Guarantee:

THEREFORE, the Bank hereby agrees and affirms as follows:

The Bank hereby irrevocably and unconditionally guarantees the

payment of all sums due and payable by the Bidder to DIT under the terms of their Agreement dated

_____.

Provided, however, that the maximum liability of the Bank towards DIT under this Guarantee shall not, under any circumstances, exceed _____ in aggregate.

2. In pursuance of this Guarantee, the Bank shall, immediately upon the receipt of a written notice from DIT in that behalf and without delay/demur or set off, pay to DIT any and all sums demanded by DIT under the said demand notice, subject to the maximum limits specified in Clause 1 above. A notice from DIT to the Bank shall be sent by Registered Post (Acknowledgement Due) at the following address:

Attention Mr. _____.

3. This Guarantee shall come into effect immediately upon execution and shall remain in force for a period of months from the date of its execution. The Bank shall extend the Guarantee for a further period which may be mutually decided by the bidder and DIT.

The liability of the Bank under the terms of this Guarantee shall not, in any manner whatsoever, be modified, discharged, or otherwise affected by:

- Any change or amendment to the terms and conditions of the Contract or the execution of any further Agreements.
- Any breach or non-compliance by the Bidder with any of the terms and conditions of any Agreements/credit arrangement, present or Future, between Bidder and the Bank.

4. The BANK also agrees that DIT at its option shall be entitled to enforce this Guarantee against the Bank as a Principal Debtor, in the first instance without proceeding against the BIDDER and notwithstanding any security or other guarantee that DIT may have in relation to the Bidder's liabilities.

5. The BANK shall not be released of its obligations under these presents by reason of any act of omission or commission on the part of DIT or any other indulgence shown by DIT or by any other matter or thing whatsoever which under law would, but for this provision, have the effect of relieving the BANK.

6. This Guarantee shall be governed by the laws of India and the courts of Gandhinagar shall have jurisdiction in the adjudication of any dispute which may arise hereunder.

Dated this Day of.....,2026

Witness

(Signature)

(Signature)

(Name)

Bank Rubber Stamp

(Name)

(Official Address)

Designation with Bank

Stamp Plus, Attorney as per Power of Attorney No.

Dated:

Approved Bank: All Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative & Rural Banks (operating in India having branch at Ahmedabad/ Gandhinagar) as per the G.R. no.: FD/MSM/e - file/4/2024/2859/D.M.O. Date: 01/05/2025 issued by Finance Department or further instruction issued by Finance department time to time.

8.17 Annexure 17: Format for Power of Attorney

(To be provided in original on stamp paper of value required under law duly Signed by

'bidder') Dated:

POWER OF ATTORNEY

To Whomsoever It May Concern Know all men by these presents, we
constitute, appoint and authorize Mr./Ms./Mrs. _____ (name and
registered office address of the Bidder) do hereby (Name of the Person(s)), domiciled
at (Address), acting as
(Designation and the name of the firm), as Authorized Signatory and whose Signature
is attested below, as our attorney, to do in our name and on our behalf, all such
acts, deeds and things necessary in connection with or incidental to our Proposal
for award of Contract "[Name of Assignment]", vide RFP (Tender Document)
Document No. dated , issued by Directorate of ICT & e-Governance, including Signing
and submission of all documents and providing information and responses to
clarifications/enquiries etc. as may be required by Directorate of ICT & e-Governance
or any governmental authority, representing us in all matters before Directorate of
ICT & e-Governance, and generally dealing with DIT in all matters in connection with
our Proposal for the said Project. We hereby agree to ratify all acts, deeds and things
lawfully done by our said attorney pursuant to this Power of Attorney and that all
acts, deeds and things done by our aforesaid attorney shall and shall always be
deemed to have been done by us.

For (Name, Title and Address)

Accept (Attested Signature of Mr./Ms./Mrs.) (Name, Title and Address of the
Attorney)

Notes: To be executed by the Bidder - The mode of execution of the Power of
Attorney should be in accordance with the procedure, if any, laid down by the
applicable law and the charter documents of the executant(s) and when it is so
required the same should be under common seal affixed in accordance with the
required procedure. - Also, wherever required, the executant(s) should submit for
verification the extract of the charter documents and documents such as a resolution
/ power of attorney in favour of the Person executing this Power of Attorney for the
delegation of power hereunder on behalf of the executants(s).

8.18 Annexure 18: Curriculum Vitae (CV) Format

(Complete for each personnel declared in Section 5.3 and Annexure 4)

1. Proposed Position

(Only one candidate shall be nominated for each position)

2. Name of Firm

(Insert name of the bidding entity proposing the staff)

3. Name of Staff

4. Date of Birth

5. Nationality

6. Education

(List university/college degrees and other specialized education of the staff member, giving names of institutions, degrees obtained, and dates)

Degree	Institution	Country	Year	Field of Study

7. Membership in Professional Associations

8. Other Training and Certifications

9. Countries of Work Experience

10. Total professional experience (years)

11. Quantum technology relevant experience (years)

12. Direct QKD/QRNG hardware experience (Yes/No; describe)

13. Languages

(Rate proficiency from 1 to 5, where 5 = Excellent and 1 = Basic)

Language	Speaking	Reading	Writing
English			
Hindi			
Gujarati			
Other			

14. Employment Record

(Starting with present position, list in reverse order every employment held by the staff member)

From (MM/YYYY)	To (MM/YYYY)	Employer	Position Held	Description of Duties

15. Detailed Tasks Assigned

(List all tasks to be performed under this assignment)

16. Work Undertaken That Best Illustrates Capability to Handle the Tasks Assigned

(Provide information on the assignment, client, location, year, and role. Describe actual work performed that is relevant to the proposed role – max 2 projects.)

Project Title & Client	Location	Duration	Role	Description of Work

17. Summary of Technical Expertise

(Outline specific technical skills related to the assignment, e.g., BI tools, data engineering, project management, etc.)

18. Certification

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes my qualifications and experience. I understand that any willful misstatement described herein may lead to disqualification or dismissal.

Signature of the Staff Member

Date: _____

Authorized Representative of the Firm

(Name and Signature)

Date: _____

8.19 Annexure 19: Details of Tools/Software/Licenses Proposed by the Bidder

SN	Solution Component	Tools/Software Name	Type (COTS/Open Source/Customs)	OEM/Provider	No. of License Proposed

Instructions to Bidders:

- Fill separate rows for each tool/software being proposed.
- Indicate the type of solution: **Commercial Off-The-Shelf (COTS), Open Source**, or
- Custom-Built. Clearly specify licensing type and scope (user-based, server-based, enterprise-wide, etc.).
- Mention **“NA”** where any solution/component is **not separately required** or is **covered under another proposed tool**.
- Bidders must ensure that all tools/software are compatible with the on-premises hosting model and can be deployed at the Gujarat State Data Center.
- Mention if any of the tools are bundled as part of a platform suite.
- If proposing open-source tools, bidder must commit to providing enterprise-grade support.

8.20 Annexure 20: No-Deviation Citations

This is to certify that our offer is exactly in line with your RFP (including amendments) No. _____ dated _____. This is to expressly certify that our offer contains no deviation on Technical (including but not limited to Scope of Work, Functional Requirements Specification, and Technical Requirements Specification), Legal or Commercial aspects in either direct or indirect form.

(Authorized Signatory) Signature:

Name:

Designation:

Address:

Seal:

Date:

8.21 Annexure 21: Approach and Methodology

[It is required to present your write up for Technical Proposal covering all components as mentioned in this RFP.]

Various components under the Section can be divided into below components:

1. **Understanding of Scope of Work (SOW)**

In this sub-section the Bidder shall clearly state its understanding of the SOW and also highlight its important aspects. The Bidder may supplement various requirements of the SOW and also make precise suggestions if it considers this would bring more clarity and assist in achieving the objectives laid down in the SOW.

2. **Proposed Solution**

In this sub-section the Bidder shall clearly present the proposed solution – its framework, functional & technical architecture, key features, functionalities, technology stack, modularity, scalability, security aspects, compliance with different relevant standards, Security Architecture, Integration Framework, Data Privacy & Confidentiality provisions etc.

3. **Approach & Methodology for Implementation of Project**

In this sub-section you should explain your approach to the services, methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output. Section should highlight the problems being addressed and their importance, and explain the technical approach proposed to address them. Proposed methodology should be detailed and compatibility with the proposed approach should be highlighted.

The Bidder shall present a detailed approach and methodology covering:

- **Understanding of requirements** — Bidder's interpretation of objectives and how the proposed solution addresses each
- **QKD Laboratory Setup** — detailed methodology for QKD system installation
- **QRNG Installation and Verification** — methodology for QRNG installation, health monitoring setup
- **Software Platform Deployment** — approach for QKD simulation and PQC platform activation; concurrent session verification
- **FDP Delivery Methodology** — cohort structure, practical session design on live QKD hardware and QRNG, capstone assessment process
- **Commissioning Timeline** — week-by-week detailed plan from PO to Go-Live
- **Risk Management** — key risks specific to QKD hardware deployment, QRNG commissioning, and FDP delivery; along with mitigation strategy and plan
- **O&M Approach** — preventive maintenance schedule, QBER calibration methodology, QRNG health check procedures, spare parts management

- **Quality Assurance** — QA checkpoints for hardware installation, acceptance testing protocols, SLA monitoring approach

It should also cover other aspects as under:

- (a) In this part, deployment of global best practice, project governance, monitoring and challenges with respect to implementation can be exhibited.
- (b) The problems being addressed and their importance, and the approach that would be adopted can be addressed.
- (c) Various risks associated should be identified and presented along with appropriate mitigation strategy and plan.

(Authorized Signatory) Signature:

Name:

Designation:

Address:

Seal:

Date:

8.22 Annexure 22: Bill of Material (BOM)

(To be submitted on the Letterhead of the responding firm)

To,

Directorate of ICT & e-Governance ("DIT")
2nd Floor, Block-2, Karmyogi Bhavan, Sector 10A,
Gandhinagar, Gujarat 382010

Dear Sir,

We, _____ (Bidder Name), hereby confirm that we have proposed the following Bill of Material to the Tenderer in response to the RFP for

___:

Item Description	Make & Model	License type & Licensing Model	Specifications	Unit	Quantity	Warranty

We confirm that if any item, as per the RFP requirements, is not factored in the above-mentioned BOM or sizing of item/s as per BOM is inadequate / undersized, the same will be provided by us without any additional cost to the Tenderer.

(Authorized Signatory) Signature:

Name:

Designation:

Address:

Seal:

Date: